US Army Corps of Engineers
HUNTSVILLE ENGINEERING AND SUPPORT CENTER

FINAL

Defense Environmental Restoration Program
For
Formerly Used Defense Sites
Ordnance and Explosives

ARCHIVE SEARCH REPORT

FINDINGS

Hollister 12th Naval District Target No. 5

Hollister, CA
Project Number – J09CA111301

September 2002

Prepared by
US Army Corps of Engineers
ST. LOUIS DISTRICT

ARCHIVE SEARCH REPORT
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1 INTRODUCTION

1.1 AUTHORITY

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

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

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

1.2 SUBJECT

Hollister 12th Naval District Target No. 5 consisted of 440 acres near Hollister, CA located in San Benito County. The Navy built Hollister Bombing Target No. 5 as part of over thirty bombing and rocket targets within the 12th Naval District in California and Nevada during World War II. Target No. 5 was directly associated with Naval Auxiliary Air Station (NAAS) Hollister a few miles to the north-northwest, but was available for use by the dozens of subordinate Naval Air Station (NAS) activities under the 12th Naval District Air Bases at NAS Alameda. Use of Target No. 5 assumably began during the summer of 1943 after the order of possession in July and the signing of the lease on 1 August. Ordnance and explosive (OE) and chemical warfare material (CWM) related features of the former target included three target outlines for use primarily in dive bombing practice. The types of OE included practice bombs and possibly High Explosive bombs, though this was not confirmed. Following the war and disestablishment of NAAS Hollister, the site was declared of no further use to the Navy in January 1946 and the lease was canceled on 30 June 1946. Plate 1 in the report plates section shows the general location of the 12th Naval District Bomb targets and Plate 2 shows the general location of the site.

1.3 PURPOSE

The ASR compiles information obtained through historical research at various archives and records holding facilities, interviews with persons associated with Hollister 12th Naval District Target No. 5 and an inspection of the site. The search directs efforts towards determining possible use or disposal of OE and CWM on the former military establishment. The research places particular emphasis on establishing the types, quantities and areas of use and disposal. This process obtains information for use in developing recommendations for further action at the former Hollister 12th Naval District Target No. 5.

1.4 SCOPE

This investigation focuses on potential OE and/or CWM contamination remaining on the former Hollister 12th Naval District Target No. 5. The DERP-FUDS project number is J09CA111301. This report presents the following:

- A brief history of Hollister 12th Naval District Target No. 5
- Description and characteristics of the immediate surrounding area
- A review of related site investigations
- An aerial photography and map analysis of the site
- Real estate information, past and present
- Findings of the site inspection
- Description of the OE and/or CWM identified with the site

These factors represent the basis for the evaluation of potential OE and CWM contamination and associated risks at Hollister 12th Naval District Target No. 5.

2 PREVIOUS SITE INVESTIGATIONS

2.1 CORPS OF ENGINEERS DOCUMENTS

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

> *Inventory Project Report Bomb Target No. 5 Hollister, San Benito County, California FUDS Site No. J09CA1113*, July 1999.[1]

The Inventory Project Report (INPR) assigned a Risk Assessment Code (RAC) of 3 for the OE/CWM portion of this site. See Appendix D-1 for this report. The INPR identified only OE as a potential hazard at the former Hollister 12th Naval District Target No. 5.

2.2 OTHER REPORTS

The archive search did not locate any additional environmental investigations or reports concerning Hollister 12th Naval District Target No. 5.

3 SITE DESCRIPTION

3.1 LAND USE

3.1.1 Location

Hollister Bombing Target No. 5 consisted of 440 acres in San Benito County in CA (see Plate 2). This site lies approximately three and a half miles east, northeast of Hollister, CA and about 4 miles south, southeast of the Hollister municipal airport, which was the former NAAS Hollister.

3.1.2 Prior Site Use

Prior to the Navy's operation of Hollister Bombing Target No. 5, use of the land was for agricultural purposes (i.e. pasture grazing).

3.1.3 Present Site Use

The northern portion of the former Hollister 12th Naval District Target No. 5 has been redeveloped for residential housing and a light industrial complex with an airstrip. The southern portion of the former Target No. 5 remains undeveloped and in agricultural use.

3.2 CLIMATIC DATA

The nearest source of long-record climatological data and weather narrative that best represents the Hollister site is the National Oceanic Atmospheric Administration (NOAA) station located at the San Francisco, California Airport. This NOAA station is the primary source for the following narrative. Table 3.2.1 contains data from the San Francisco Airport climatological station. Additional climatological data from the weather station in Hollister, California is provided in Table 3.2.2. The Hollister site is approximately 80 miles south of the San Francisco station and approximately 5 miles southeast of the Hollister station.

The region around San Francisco enjoys a marine-type climate characterized by mild and moderately wet winters and by dry, cool summers. Winter rains, occurring from November through March, account for over 80 percent of the annual rainfall. Measurable precipitation occurs on an average of 10 days per month during the winter period, however, there are frequent dry periods lasting well over a week. Severe winter storms with gale winds and heavy rains occur only occasionally. Thunderstorms average two a year and may occur in any month. The maximum 24-hour rainfall was measured at 5.6 inches and occurred during the month of January. The maximum snowfall was recorded at only 2 inches and occurred during the month of January.

The daily and annual range in temperature is small. A few frosty mornings occur during the winter but the temperature seldom drops below freezing. Winter temperatures generally rise to the high 50's in the early afternoon. The lowest recorded temperature was measured at 24 degrees and occurred during the month of December.

The summer weather is dominated by a cool sea breeze resulting in an average summer wind speed of nearly 15 mph. Winds are generally light in the early morning but normally reach 20 to 25 mph in the afternoon. Wind gusts of up to 68 mph have been observed.[2]

Table 3.2 1 - Climatological Data For San Francisco, CA

Month	Temperature		Precipitation	Wind	
	Average Minimum (°F)	Average Maximum (°F)	Average (Inches)	Average Speed Miles/Hour	Average Direction
January	42	56	4.2	8	SE
February	52	59	3.2	11	WNW
March	53	61	3.0	12	WNW
April	56	64	1.3	13	WNW
May	58	66	0.3	14	WNW
June	61	70	0.1	14	WNW
July	63	71	T	13	WNW
August	63	72	T	12	WNW
September	64	73	0.2	11	NWNW
October	61	70	1.0	11	WNW
November	55	63	2.3	10	WNW
December	50	56	3.5	9	WNW
Average	57	65	19.3	12	WNW

Table 3.2.2 - Climatological Data For Hollister, CA

Month	Temperature		Precipitation	Wind	
	Average Minimum (°F)	Average Maximum (°F)	Average (Inches)	Average Speed Miles/Hour	Average Direction
January	36	61	2.67	-	-
February	40	64	2.40	-	-
March	41	67	2.01	-	-
April	43	71	1.23	-	-
May	46	74	0.27	-	-
June	50	79	0.07	-	-
July	51	82	0.03	-	-
August	51	82	0.03	-	-

Table 3.2.2 - Climatological Data For Hollister, CA					
Month	**Temperature**		**Precipitation**	**Wind**	
	Average Minimum (°F)	**Average Maximum (°F)**	**Average (Inches)**	**Average Speed Miles/Hour**	**Average Direction**
September	50	83	0.16	-	-
October	46	78	0.54	-	-
November	40	68	1.56	-	-
December	37	62	2.56	-	-
Average	44	73	13.52	-	-

3.3 GEOLOGY AND SOILS

3.3.1 Geology and Physiology

Hollister is situated in the Coast Ranges physiographic province of California, which is characterized by northwest-trending mountains and valleys. Geomorphic features of local area vary from valley terrain in the northern portion of the site, where elevations are around 400 feet to steep mountainside slopes to the east and south of the site.

The Hollister target is located in an extended section of the San Francisco Bay called the Santa Clara Valley. The Santa Clara Valley is in a structural trough that parallels the northwest-trending Coast Ranges. The drainage basin is bounded by the Santa Cruz Mountains on the southwest and the Diablo Range on the northeast. The basin is about 75 miles long and has a maximum width of 45 miles. The San Andreas Fault is in the Santa Cruz Mountains to the southwest.

The Santa Clara Valley is underlain by large amounts of clay that readily compacts as a result of excessive groundwater withdrawal, thus causing land subsidence. Lands subsidence has been evident over much of the valley and is greater than 8 feet in some places. Subsidence, in other areas, has resulted in flooding in coastal regions and damage to roads, bridges, railroads, and sewer systems. Further subsidence is not likely since the majority of water used in the valley is now brought in from other sources outside the valley[3]

3.3.2 Soil

The soils of the Hollister targets are composed of loam with relatively high clay content. These soils developed in material weathered from alluvial deposits. The soil typically has a surface layer of moderately well drained sandy, silty clay that is dark brown to gray in color. The soil may show large cracks when dry. The subsoil, to a depth of about 30 inches, is lighter in color and has a higher clay content. The substratum, to a depth over 60 inches, is sandy clay.

The soil has a moderate to high corrosive effect on uncoated steel and concrete. Typically, the higher the clay content of the soil, the more corrosive it could be. The permeability is moderate to low and the available water capacity is moderate to high[4]

3.4 HYDROLOGY

3.4.1 Surface Water

The Hollister site is located in San Benito County, California about 5 miles southeast of the town of Hollister, California. The site is within the California subtropical fruit, truck and specialty cropland resource area of the Pacific Mountain region of the western United States.

The area is within the arid region of the United States, which makes it vulnerable to droughts of several years duration. Warm dry soils with a mean annual soil temperature of higher than about 47 degrees F predominate the area where the site is located. Dry soils lack moisture for plant growth for long periods. The United States Geological Survey (USGS) estimates the average runoff for this area at about 2 inches. The average depth of frost penetration is about 2 inches with an extreme frost penetration of about 5 inches.

The prevalent concentration of dissolved minerals in the surface water is about 1,200 to 1,800 parts per million (ppm). The prevalent chemicals in the river water are Calcium magnesium bicarbonate; total dissolved solids more than 120 ppm. This data is provided by the USGS and is based on chemical analysis of water in streams during periods of low flow, when the water is derived chiefly from ground water.

The site is located within the Pajaro Watershed, consisting of 1,290 square miles. The overall health of the watershed is indicated by an Index Watershed Indicator (IWI). At this site, the IWI is 5. A watershed rating of 5 has a more serious water quality problem with a low vulnerability to stressors such as pollutant loadings.

The elevation of the site area ranges between a high of about 600 feet National Geodetic Vertical Datum (NGVD) to a low of about 340 feet NGVD. The surface water of the site area flows west into Santa Ana Creek. Santa Ana Creek flows west and empties directly into the Pacific Ocean at Monterey Bay.

There are no stream gage data at or near the site area. Flooding at the site area would likely result from localized heavy rainfall and would probably be of short duration.

Sea fog is another persistent feature of the summer weather. This high fog, occasionally producing drizzle or mist, usually disappears during the late afternoon. Despite the

morning overcast, summer days are sunny. On the average a total of only 14 days during the four months from June through September are classified as cloudy.

Daytime temperatures are held down both by the morning low overcast and the afternoon strengthening sea breeze. During the summer months occasional hot spells, lasting a few days, are experienced without the usual high fog and sea breeze. The maximum recorded temperature of 106 degrees was measured during the month of June.[5]

3.4.2 Ground Water

The Hollister target is underlain by the Santa Clara Valley aquifer system, an aquifer that is considered a coastal basin aquifer. The aquifer system is bounded by the relatively impermeable consolidated rocks, which form the mountains surrounding the valley and underlie the valley at depth. Ground water in the valley is contained primarily in coarse-grained, lenticular deposits of sand and gravel that alternate with discontinuous beds of fine-grained clay and silt that have minimal permeability. The combined thickness of the coarse- and fine-grained deposits is as much as 1,000 feet in some parts of the valley. The alluvial fan and river-channel deposits near the valley margins contain a higher percentage of coarse-grained materials than deposits near the center of the valley and are more permeable.

Water enters the aquifer system at the valley margins by infiltration from the small streams that emanate from the mountains and by rainfall that falls directly on the valley floor. The ground water in the Santa Clara Basin Aquifer generally flows to the northwest towards San Francisco Bay. At one time, the aquifer had a hydraulic head above land surface. After years of increased withdrawals, the aquifer now has water levels deeper than 200 feet below land surface. This reversal in hydraulic head has allowed saltwater to intrude the aquifer. Because of the lack of potable water, aqueducts now bring in the water that is used for domestic purposes throughout the valley from other surface water sources[6].

3.5 ECOLOGY

The U.S. Fish and Wildlife Service (USFWS) have indicated that the following Federally listed threatened or endangered species, or those proposed to be listed as such may occur on or near Hollister 12th Naval District Target No. 5:

Giant kangaroo rat *Dipodomys ingens, endangered;* San Joaquin kit fox *Vulpes macrotis mutica* endangered; riparian woodrat *Neotoma fuscipes riparia,* endangered; bald eagle *Haliaeetus leucocephalus,* threatened; blunt-nosed lizard *Gambelia,* endangered; California red-legged frog *Rana aurora draytonii,* threatened; Conservancy fairy shrimp *Branchinecta concervatio,* endangered; longhorn fairy shrimp *Branchinecta longiantenna,* endangered; vernal pool fairy shrimp *Branchinecta lynchi,* threatened; San Joaquin woolly-threads *Lembertia congdonii,* endangered; San Benito evening-primrose

Camissonia benitensis, threatened; Hoover's eriastrum *Eriastrum hooveri,* threatened; mountain plover Charadrius montanus, threatened.

The USFWS indicated the following canditate species, species of concern, and critical habitats may also occur on or near Hollister 12th Naval District Target No. 5:

Pacific western gig-eared bat *Corynorhinus townsendii townsendii,* species of concern; short-nosed kangaroo rat *Dipodomys nitratoides brevinasus,* species of concern; greater western mastiff-bat *Eumops perotis californicus* , species of concern; long-eared myotis bat *Myotis evotis,* species of concern; fringed myotis bat *Myottis thysanodes,* species of concern; San Francisco dusky-footed woodrat *Neotoma fuscipes annectens,* species of concern; grasshopper sparrow *Ammodramus savannarumaam,* species of concern; Bell's sage sparrow *Amphispiza belli belli,* species of concern; short-eared owl *Asio flammeus,* species of concern; Costa's humming bird *Calypte costae,* species of concern; olive – sided flycatcher *Contopus cooperi,* species of concern; hermit warbler *Dendroica occidentalis,* species of concern; white-tailed kite *Elanus leucurus,* species of concern; Pacific-slope flycatcher *Empidonax difficilis,* species of concern; least bittern *Lxobrychus exilis hesperis,* species of concern; loggerhead shrike *Lanius ludovicianus,* species of concern; long-billed curlew *Numenius americanus,* species of concern; rufous hummingbird *Selasphorus rufus, species of concern;* Allen's hummingbird *Selasphorus sasin,* species of concern; red-breasted sapsucker *Sphyrapicus rubber,* species of concern; Bewick's wren *Thryomanes bewickii,* species of concern; California thrasher *Toxostoma redivivum,* species of concern; ciervo aegialian scarab beetle *Aegialia concinna, species of concern;* San Joaquin dune beetle *Coelus gracilis*, species of concern; California linderiella fairy shrimp *Linderiella occidentalis,* species of concern; unsilvered fritillary butterfly *Speyeria adiaste adiaste* species of concern; obovate-leaved thornmint *Acanthomintha obovata,* species of concern; forked fiddleneck *Amsinckia vernicosa,* species of concern; valley spearscale *Atriplex joaquiniana,* species of concern; South coast range morning-glory *Calystegia collina,* species of concern; San Benito spineflower *Chorizanthe biloba,* species of concern; Hoover's button-celery *Eryngium aristulatum,* species of concern; talus fritillary *Fritillaria falcate,* species of concern; fragrant fritillary *Fritillaria liliacea,* species of concern; San Benito fritillary *Fritillaria viridea,* species of concern; delta tule-pea *Lathyrus jepsonii,* species of concern; rayless layia *Layia discoidea,* species of concern; panoche peppergrass *Lepidium jaredii var. album,* species of concern; slender *Pentachaeta exilis ssp. aeolica,* species of concern; Gairdner's yampah *Perideridia gairdneri ssp. gairdneri,* species of concern; Mt. Diablo phacelia *Phacelia phacelioides,* species of concern; Salinas Valley popcornflower *Plagiobothrys uncinatus,* species of concern; alkali milk-vetch *Astragalus tener var. tener,* species of concern; pale-yellow layia *Layia heterotricha,* species of concern.

The USFWS also mentioned the following State of California listed species may occur on or near Hollister 12th Naval District Target No. 5:

San Joaquin antelope squirrel *Ammospermophilus nelsoni,* state-listed.[7]

The State of California did not provide information for this site. If a project does occur at this site, the state should be consulted for the presence of any state listed species in the area.

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

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 Hollister 12th Naval District Target No. 5 site is located near the city of Hollister in San Benito County, California.[8]

3.6.2 Business and Industry Profile

The number of business establishments in San Benito County, California can be broken down by type as follows: manufacturing 8.9%; trade 27.5%; services and financial 38.0%; and other 25.0%. Of the people in the county employed by businesses, approximately 0.6% is unclassified. Foregoing percentages are at mid-March 1997.

3.6.3 Population density

City/County	Area (Sq. Mi.)	Population	Population Density (Per Sq. Mi.)
Hollister	5.6	19,212	3,402.1
San Benito	1,389.1	36,697	26.4

3.6.4 Types of Housing

Housing in Hollister is composed of both single family and multi-family dwellings. The median value of 2,813 specified owner-occupied housing units is $181,500.

3.6.5 New Development in the Area

New development in the area is both commercial and residential.

3.6.6 Typical Cross Sections of the Population

Hollister	Percentages
White	63.5
Black	0.6
American Indian, Eskimo or Aleut	0.8
Asian or Pacific Islander	2.5
Other	32.6
Hispanic origin	56.1
Population under the age of 18	32.9
Population over the age of 65	8.9

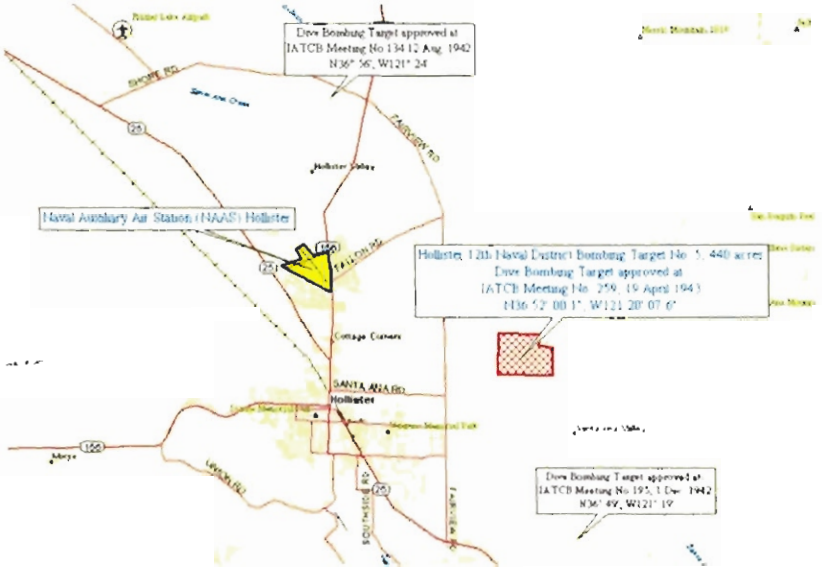
Median age is 37.9

4 SITE HISTORY

4.1 HISTORICAL SITE SUMMARY

4.1.1 General Site History

The Navy built **Hollister 12th Naval District Target No. 5** as part of over thirty bombing and rocket targets within the 12th Naval District in California and Nevada during World War II. Target No. 5 was directly associated with Naval Auxiliary Air Station (NAAS) Hollister a few miles to the north-northwest. NAAS Hollister was one of a dozen subordinate NAAS and Naval Air Station (NAS) activities under the 12th Naval District, Naval Air Bases at NAS Alameda. The 12th Naval District included a couple dozen other Naval Air Facilities, Auxiliary Air Facilities, Outlying Fields and Emergency Seaplane Landing sites as well. The 12th Naval District officially established NAAS Hollister on 26 June 1943.[9]



Before acquiring the property for a Hollister bomb target, the Navy received approval from the Interdepartmental Air Traffic Control Board (IATCB) for two target locations near Hollister: one in August 1942 and one in December 1942. Although a Danger Area for one of these sites appeared on Aeronautical Charts of the time, no other evidence was uncovered that either site was leased and used by the Navy. Approval for a third Dive Bombing Target location at N36° 52' 00.1", W121° 20' 07.6" occurred at the IATCB meeting on 19 April 1943. Although approved, Naval use of the property does not appear to have occurred prior to the order of possession, awarded on 13 July 1943. Subsequently, condemnation actions were canceled and a lease, NOy(R)-35804 for the property was signed on 1 August 1943.[10]

Although aligned with NAAS Hollister, the bomb and rocket targets within the 12th Naval District appear to have been available for use by dozens of subordinate activities under the 12th Naval District, as well as the Army.[11]

Target No. 5 appears to have consisted of three sub-target outlines. The design for the targets at Hollister included a 520- by 50-foot cruiser outline, a 20- by 180-foot submarine outline and a 100-foot diameter circle with a 10-foot center. The lines were

supposed to be 4 feet thick. The available aerial photography confirms the presence of these targets and a second circular one adjacent to the first one. Reportedly, a glide indicator was also built for dummy rocket runs.[12]

The Navy modified the lease for Target No. 5 on 1 February 1945, to allow cattle grazing on 300 acres on the northern, western and eastern portions of the site. The lease modification also provided for the plowing of 20-foot wide fire breaks around the entire leased premises and around the grazing area. This did not signal the end of the bombing use of the site as the lease states that the grazing "...will not interfere with the Government's use of the leased premises but will reduce the fire hazard...".[13]

Following the end of the war, the Chief of Naval Operations directed that NAAS Hollister be reduced to caretaker status, which was completed on 14 November 1945. The station was disestablished on 15 January 1946. The following week, the Commander of 12th Naval District, Naval Air Bases noted that the command had no further use of Target No. 5 and requested the lease be canceled at the earliest practical date. By the end of February 1946, the 12th Naval District's recommendations for lease cancellation and restoration of Target No. 5 were:

- Payment of $700 in lieu of restoration of various items including "scars (bomb craters)" *(see section 4.1.2 for more complete discussion)*
- Giving lessor immediate custody of the property and continued rent until 1 July
- Removal of approximately 20,000 cubic feet or a 16 ton pile of bomb fragments at the South end of the property.

The Naval District also investigated the use of a road magnet powerful enough to extract smaller fragments from the earth. It is not clear if any of these recommendations occurred, although the lease remained in effect until 30 June 1946 and the lessor accepted $700 in lieu of restoration of damages [14]. Since then, the site has remained in private ownership.

4.1.2 Summary of Ordnance and Explosives Activities

Investigation of historical records did not specifically indicate the types and quantities of ordnance used on site by the 12th Naval District. Interviews with former landowners and others familiar with the site during the INPR investigation, indicated that "8-inch cast iron hollow bomb shell casings" or "miniature practice bombs" have been found at the site while tilling the fields. These miniature practice bombs are ostensibly one of the three types typical of the period that were made of iron, zinc or lead (i.e., AN-MK 5 MOD 1, AN-MK 23, AN-MK 43). The INPR site inspection also found debris from the MK-23 bombs and apparently from 100-pound practice bombs. The ASR site inspection team identified a number of fairly intact iron MK-23s remaining on the site. The debris remains of lead antinomy 13-lb. AN–MK19 Miniature Practice Bombs and a

sheet metal ring that may be from 100-pound Navy MK VII or XV Practice Bomb was found by the landowner.[15]

Though not specifically stated as to the type of bomb debris, the 1946 20,000 cubic foot estimate of bomb debris scrap pile would weigh well over ten times the stated 16 tons if composed of only miniature bomb fragments. The pile surely contained debris from larger, lighter items, such as 100-pound bombs.

The mention of "scars (bomb craters)" in the lease cancellation recommendations implies that High Explosive (HE) bombs may have been used on site, as practice bombs do not leave significant craters. A careful review of the complete full text of the document indicates that this supposition may be incorrect. The document that referenced $700 in lieu of restoration was broken down as costs for removing smaller fragments in the soil that "would hinder mowing operations", gate replacement, fence repairs and rodent control. Further discrediting the supposition that HE may have been used are that personnel familiar with the site during WW II and its agricultural use since 1963, who could not confirm this (see section 6.2 for further details). They did not recall there being significant explosions when they watched the Navy bomb the site as boys and did not find any metal frag indicative of HE use since then. The ASR team did not find any evidence of cratering on the aerial photography or while traversing the site.[16]

It is unclear if the reported presence of a glide indicator for dummy rocket runs means that practice rocket runs were made without releasing any items or if practice rockets with live motors and inert warheads were used. There are several factors that make the former scenario the most likely assessment. The term "dummy" typically refers to completely inert items. The size of the target was 440 acres, which is relatively small for a land based bomb target and even more so for a rocket target, which requires a larger buffer zone. There were two 12th Naval District rocket targets in relatively close proximity to NAAS Hollister (i.e. less than 25 miles to targets Nos. 8 and 8A). Lastly, no OE debris evidence has been found by personnel very familiar with the site that would substantiate the use of rockets at target No. 5. All these factors support the assessment that the glide indicators were for practice runs without releasing OE.[17]

In summary, based upon the above reasoning, it is assumed that only miniature practice bombs and 100 lb practice bombs are believed to have been used on this site.

NAAS Hollister had magazines for high explosives, fuzes and detonators, small arms or pyrotechnics, as well as an inert storehouse, as well as magazines for small arms or pyrotechnics. However, the use of small arms or pyrotechnics on Target No. 5 was not supported by any uncovered evidence.[18]

4.1.3 Summary of Chemical Warfare Material Activities

The archive search uncovered no documentation relating to CWM at Hollister 12th Naval District Target No. 5. The archive search team found no indication that the Navy conducted CWM training, storage or disposal at this site.

4.1.4 Certificates of Clearance

The archive search did not reveal any certificates of ordnance clearance, decontamination or dedudding associated with Hollister 12th Naval District Target No. 5. However, it is clear that the Navy performed at least a surface clearance by the end of February 1946 based on the 12th Naval District's recommendations for lease cancellation and restoration of Target No. 5 noted in section 4.1.1. It is unknown if any magnetometers were used during that clearance.[19]

4.2 REVIEW OF HISTORICAL RECORDS

Appendix A contains full references of all in text citations along with the location of the copied document. The research team searched at the following locations for records relating to OE and CWM activities at Hollister 12th Naval District Target No. 5. At these repositories the research team used finding aids and records managers to assist in locating documents relevant to the research topic. The ASR team also accumulated complementary documents reviewed on Hollister 12th Naval District Target No. 5 but not specifically used. These complementary documents are stored with the original ASR documents. Appendix H lists additional repositories and personnel contacted which reported no pertinent information.

4.2.1 National Archives at College Park, Textual Records

8601 Adelphi Road
College Park, MD 20740
POC: Rich Boylan
301-713-6800

Record Group 18 (Records of the Army Air Forces)

Entry 1A, Air Adjutant General Mail and Records Division Classified Records
Confidential and Secret Decimal Correspondence File, 1945
Box 558

Entry 1C, Air Adjutant General Mail and Records Division Classified Records
Bulky Confidential and Secret Decimal Correspondence File, 1945
Boxes 673-674

Entry 1D, Air Adjutant General Mail and Records Division Classified Records
Decimal Confidential and Secret Decimal Correspondence File, 1946-1947
Box 672

Entry 1F, Air Adjutant General Mail and Records Division Classified Records
Bulky Confidential and Secret Decimal Correspondence File, 1945-48
Box 772

Entry 1G, Air Adjutant General Mail and Records Division Classified Records
Confidential and Secret Decimal Correspondence File, 1945-1948
Boxes 839-840

Entry 1I, Air Adjutant General Mail and Records Division Classified Records
Bulky Confidential and Secret Decimal Correspondence File, 1945-1948
Box 866

Entry 2A, Air Adjutant General Mail and Records Division Classified Records
Decimal File Unclassified Correspondence, 1944-1946
Boxes 2256-2257, 2275-2281, 2308

Entry 2C, Air Adjutant General Mail and Records Division Classified Records
Decimal File Unclassified Correspondence, 1947
Boxes 2797-2798

Entry 2E, Air Adjutant General Mail and Records Division Classified Records
Decimal File Unclassified Correspondence, 1948
Boxes 3191-3192

Entry 292A, Air Adjutant General Mail and Records Division Classified Records
Central Decimal File Unclassified Correspondence, 1942-1944
Boxes 1641-1642

Entry 294A, Air Adjutant General Mail and Records Division Classified Records
Central Decimal File Unclassified Correspondence, 1942-1944
Boxes 789-798

Record Group 48 (Records of the Office of the Secretary of the Interior)
Entry 749B, Central Classified Files 1937-52
Boxes 3220-3221 (2-68)

Record Group 71 (Records of the Bureau of Yards and Docks)
Entry 18, Location of Naval Activities, October 1944 & June 1945
Box 1

Entry 24 (former Acc 3305) Unprocessed Naval Property Case Files, 1940's
Boxes 16, 21, 33-34

Entry 74A, Misc. Records, Plans Charts of Harbors Naval Bases and Airfields, 1938-54
Boxes 1-6

Entry 1001, Naval Property Case Files 1941-1958
Boxes 29-44, 1513-1516, 1521

Entry 1008, Correspondence Relating to Inter-Federal Agency Transfer of Facilities to and From Navy Department, 1944-46
Box 1

Entry 1016, Navy Land Acquisition Report of the Real Estate Division 1 July 1940-31 Dec. 1943
Boxes 1-4

Entry 1017, Land Purchase Progress Reports 1942-45
Box 1, Land Purchase Progress Reports 1942 - 1945

Entry 1019, Misc. Reports and other Records Regarding Land Investigations
Boxes 1-4

Entry 1030, Report of Army Facilities Acquired in 1944
Box 1

Entry 1031 Correspondence with Naval Districts, 1947-48
Boxes 1, 8-9 & 14

Entry 1037, Lease Files, 1941-47
Boxes 1, 4-5, 8, 10 & 12

Record Group 72 (Records of the Bureau of Aeronautics)
Entry 62B, General Correspondence, 1943-45
Boxes 1-5, 91, 883-884, 2437, 2808-2814, 2817-2819, 2834-2836, 2858, 2864-2865, 3065-3071, 3075, 3388-3389, 3414-3415, 3461-3462

Entry 67, Formerly Confidential Correspondence, 1922-44
Boxes 8, 10, 37-50, 286, 291, 1004, 1077-1079, 1083-1086, 1161-1163, 1179

Entry 67A Confidential General Correspondence, 1945
Boxes 8, 282-286, 291, 304, 309, 312

Entry 75A, Formerly Secret Correspondence 1939-47
Boxes 1, 55-57, 59, 344-345

Entry 171, Histories of BuAer, 1941 – 1947
Boxes 1-6

Entry 195, Division Histories World War II
Boxes 1-22

Entry 253, Index to Central Correspondence 1946-52
Boxes 1-8

Entry 254, Index to Secret Correspondence 1942
Boxes 1-2

Entry 1025, Research and Development Master Plans 1946-48
Box 28

Record Group 77 (Records of the Office of the Chief of Engineers)
Entry 1011, Security Classified Subject Files 1941-45 (Geographic File)
Boxes 589-591

Entry 1013, General Correspondence with Districts, 1941-45
Box 307

Entry 1014, General Correspondence with Division, 1941-45
Box 85

Entry 1021, Records Relating to Inactive Air Stations (Real Estate Files) 1943-1959
Boxes 2-3

Entry 1023, General Correspondence Relating to Airfields and Related Facilities, 1940-45
Boxes 16-58

Record Group 107 (Records of the Office of the Secretary of War)
Entry 102, General Correspondence Files, Stimpson, Aviation Fields and Bombing Ranges
Boxes 126, 128, 131 and 132

Entry 211, Establishment of Airfields and Air Bases, 1940-1945
Boxes 203-204

Record Group 127 (Records of the Marine Corps)
Entry 18A, Office of the Commandant, General Correspondence 1939 – 1950
Boxes 210-211

Entry 1011, World War II Subject File
Boxes 4, 30-31, 42

Record Group 237 (Records of the Federal Aviation Administration)
Entry 37, Minutes of the IATCB, 1941-46
Boxes 1-4

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

Record Group 23 (Records of the U.S. Coast and Geodetic Survey); filed under Record Group 370 (Records of the National Oceanic and Atmospheric Administration
Entry Sectional Aeronautical Charts – San Francisco
Folders 1 and 2

The research team reviewed the Military Posts Finding Aids, identifying the following items:

Record Group 71 (Records of the Bureau of Yards and Docks)
Entry Index Cards Bureau of Yards and Docks Drawings
Station 1210 Alameda Air Station
Boxes 184 to 187
Station 1298 Santa Rosa Auxiliary Air Station
Boxes 220, 1293-41 to 1300-1
Entry Naval Facilities included in Yards and Docks Drawings on Paper
Folders 1210-2, 3, 32 & 44 Alameda Naval Air base
Folders 1298 - all Santa Rosa and Petaluma Auxiliary Air Station
Entry Microfilm Reels Series #2
Reels 802, 812, & 1445 – NAS Alameda

4.2.3 National Archives at College Park, Still Pictures Branch
8601 Adelphi Road
College Park, MD 20740
POC: Reference Desk
301-713-6795

Record Group 80 (General Records of the Department of the Navy)
File Card index with 4 categories:
1941-1945
Ships
Subject: Alameda and Hollister

The research team reviewed the following imagery:

Photo Numbers	Number	Site	Box
28102-04	28,102	Hollister	127
60829-30	60,829	Hollister	265
65504-6	65,504	Hollister	288
71479-81	71,479	Hollister	315
87575-89	87,575	Hollister	410
389778	389,778	Hollister	1520
395218-25	395,218	Hollister	1547

4.2.4 National Archives and Records Administration –Pacific Region San Bruno
1000 Commodore Dr.
San Bruno, CA 94066-2350
POC: Kathy O'Connor
650-876-9009

The research team reviewed the finding aids for the following:

Record Group 49 (Records of the Bureau of Land Management)
Record Group 121 (Records of the Public Building Service)
Record Group 181 (Records of the Naval Districts and Shore Establishments)
Record Group 269 (General Records of the General Services Administration)
Record Group 270 (Records of the War Assets Administration)
Record Group 291 (Records of the Federal Property Resource Service)

They reviewed the following entries:

Record Group 121 (Records of the Public Building Service)
Entry: Real Property Disposal Project Files, 1950-1957
Box 26

Record Group 181 (Records of the Naval Districts and Shore Establishments)
Entry 58-3201, General Correspondence, 1944
Boxes S-380 to S-381
Box S-389

Entry 12th Naval District Public Works Land Acquisition Records
Box 37490

Entry 12th Naval District - Public Works Office, Airbase Real Estate Acquisition Files, 1942-58 [Accession NN373-91 (181-61-0096)]
Boxes 1-12

Entry 12th Naval District - Public Works Office, Real Property Records, 1952-60 [Accession NN373-91 (181-61-0096)]
Boxes 1-12

Entry 12th Naval District Commandant's Office, Command Histories 1903 to 1975 [Accession 181-77-043]
Box 1, 1939-45
Box 1, Command Histories 1903 to 1960

Entry 12th Naval District [Command Histories] Establishment and Disestablishment Files
Boxes 1-5

Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64]
Rolls 1-7

4.2.5 Federal Records Center–Pacific Region San Bruno

1000 Commodore Dr.
San Bruno, CA 94066-2350
POC: Richard Boyden
650-876-9084

The research team reviewed the 01 listings for Record Group 77 (Records of the Chief of Engineers) but found no information for review.

4.2.6 Naval Aviation History Center
Building 157-1, Washington Navy Yard
Washington, DC 20374-5059
POC: Mark Evans
202-433-4355

Naval Aviation History Files, Aviation Command 1941 - 1952
Box: Alameda – Allentown (Alameda NAS)

4.2.7 Naval History Center Library
Building 44, Washington Navy Yard
Washington, DC 20374-5059
POC: Reference Librarian
202-433-4132

The research team reviewed: VG 93.A.35 1944, Summary Report on Facilities, Naval Shore Establishments, 1944.

4.2.8 Naval History Center Photographic Archive
Building 44, Washington Navy Yard
Washington, DC 20374-5059
POC: Jack Green, Archivist
202-433-2765

The research team reviewed: Historical Photograph Files

4.2.9 Naval Construction Battalion Center History Office
1000 23rd Avenue
Port Hueneme, CA 93043-4301
POC: Carol Marsh
805-983-5913

The research team reviewed: Vertical Geographic Historical File Folders and Contract Construction Completion Reports for Alameda NAS, Hollister NAS

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

The research team reviewed the final audit files in Cadastral Section's secure area and on microfiche for the subject sites, finding no information on this specific project.

4.2.11 U.S. Army Corps of Engineers - Sacramento District
Information Management Division, Records Management
1325 J St., 9th Floor
Sacramento, CA 95814-2922
POC: Pam Ammo
916-557-7079

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

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

Based on these lists no boxes were reviewed.

4.2.12 U.S. Army Corps of Engineers - Sacramento District
Engineering Division, Geotechnical and Surveys Branch
1325 J St., 11th Floor
Sacramento, CA 95814-2922
POC: Julie Dickinson
916-557-7151

The research team reviewed the index cards for military survey books and aerial photographs in the Survey Section File Room (1101) but found no pertinent information relating to the subject sites.

4.2.13 U.S. Army Corps of Engineers - Sacramento District
Engineering Division, DERP-FUDS
1325 J St., 12th Floor
Sacramento, CA 95814-2922
POC: Gerald Vincent, Program Manager
916-557-7452
POC: James P. McAlister
916-557-7401

The research team reviewed the INPRs for the following sites to see how they related to the subject sites:

J09CA1035	NAS Hollister
J09CA1113	Hollister Bomb Target #5

4.2.14 U.S. Army Corps of Engineers - Sacramento District
Engineering Division, Military Design Branch
Engineering, Technology and Specification Section
CADD Management and Archives Unit
1325 J St., 10th Floor
Sacramento, CA 95814-2922
POC: Raymond Dennis
916-557-7244

The research team visited the Engineering Division's Map Files room. Sacramento is the military Design District for California, Utah, Nevada and Arizona (LA District has retained the Construction mission since the late 1960's). Sacramento had the Design mission for Washington, Oregon, Idaho and Montana before it was transferred to Seattle. Old LA District design files have been archived on 105mm film, while Sacramento District files are on 35mm film aperture cards. The research team reviewed notebooks on:

Installation Names: Each installation has been given a unique three-digit number. Drawings are created in sequential order. They have a database of all the drawings they created. We received a print out.
FRC (Military-DAs and Topos)
Transfers (Sacramento to Various Military Agencies #1 and #2)

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

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

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

Record Group 57 (Records of the U.S. Geological Survey)
Record Group 95 (Records of the U.S. Forest Service)
Record Group 114 (Records of the Soil Conservation Service)
Record Group 145 (Records of the Agriculture Stabilization and Conservation Service)

Using the indexes, the following imagery was available for acquisition:

Date	RG	Scale	Old Can	New Can	IM/NUS#	Frames	Frame Quantity
24 Aug 49	145	1:20,000		ON029279	10237388	BUX-11F-202 to 205	4

The research team also consulted the aerial photo coverage overlays in Record Group 373 (Records of the U.S. Defense Intelligence Agency) for imagery at 1:40,000 scale or better covering the area. They pulled the index sheets for N36 W119. No imagery was available.

4.2.16 U.S. Department of Agriculture - Aerial Photography Field Office
2222 W 2300 S
Salt Lake City, Utah 84119-2020
POC: Sharon McGiff
801-975-3503

CEMVS-ED-S tasked a Contractor to perform an initial search of available imagery for San Benito County, CA. The imagery which covered the site include:

Year	Program	Scale	Film Type	Frames	Frame Quantity
13 June 1959	FSA	1:20,000	B/W	BUX-6V-185 to 183	3
1967	FSA	1:20,000	B/W	BUX-1HH-126 to 127	2
1980	FSA	1:40,000	CIR	06069-379-105 to 106	2
1987	NAPP	1:40,000	CIR	NAPP-512-46 to 47	2
1993	NAPP	1:40,000	B/W	NAPP-6352-160 to 161	2
17 August 1998	NAPP	1:40,000	B/W	NAPP-10522-206 to 207	2

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

CEMVS-ED-S tasked a Contractor to perform an initial search of available imagery for Hollister and located coverage during the following times:

Year	Scale	Entity ID	Film Type	Frames	Frame Quantity
5/2/53	1:23,600	ARDC1YF0000400286	B/W	GS-YF (E/W FLT) 1-75 to 77	3
7/04/71	1:30,000	ARDD1VCTM00410468	B/W	VCTM 1-52 to 54	3
6/19/59	1:24,000	ARDC1VYU000390363	B/W	VYU 2-151 to 154	4

ACO Date	Project Name	Roll	Frame #	Flight Line	Station	Film Type	Frame Quantity
6/23/87	NAPP	512	45	1213W	411	CIR	1
6/23/87	NAPP	512	46	1213W	412	CIR	1
06/23/87	NAPP	512	47	1213W	413	CIR	1
08/17/98	NAPPW	10522	205	1213W	411	CIR	1
08/17/98	NAPPW	10522	207	1213W	413	CIR	1
08/17/98	NAPPW	10522	206	1213W	412	CIR	1

NAPP photography is acquired at a scale of 1:40,000.

4.3 SUMMARY OF INTERVIEWS

The archive search team conducted telephone and personal interviews to assist in the collection of information for this report. The team attempted to locate persons with first hand knowledge of Hollister 12th Naval District Target No. 5 and met with several during the site visit (see section 6 and Appendix L-2). The interviews confirmed much of the information uncovered from historical records. Contact with local law enforcement hazardous device squads and military Explosive Ordnance Disposal (EOD) units resulted in negative incident reports of OE or CWM in this area. All interviewees recalled no past incidents involving OE or CWM.

4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

4.4.1 Map Analysis

This archive search located a few site-specific drawings for Hollister 12th Naval District Target No. 5. In summary, these maps located three sub-targets on site: a cruiser outline, a submarine outline and a 100-foot diameter circle. The paragraphs below discuss the relevant information retrieved from the reviewed maps, included in Appendices E and K. All historical maps and site plans contained in Appendix K are printed on 11-inch x 17-inch paper for reproduction. Full size copies remain in the ASR backup files. The maps are discussed in order of creation or final revision.

Property Acquisition Map Bombing Targets Hollister, Calif. B.T. No. 5 (P.W. Dwg. 1121) and Hollister Bombing Targets Details (P.W. Dwg. No. 1122), 1944
Appendix K-1 and K-1a[20]

The two drawings from the Public Works Office of Naval Air Station Alameda are sequential. Drawing No. 1121 is a map that shows the real estate boundaries of the Hollister bomb target, noting the fence surrounding it and the three targets (i.e. submarine, cruiser and circular target). The acreage and property owners are noted and the Hollister airfield is also depicted. Drawing No. 1122 is a sketch showing the shape and size of the three sub-target outlines. The outline design for the targets are shown as a 520- by 50-foot cruiser outline, a 20- by 180-foot submarine outline and a 100-foot diameter circle with a 10-foot center. The target outlines were supposed to be 4 feet thick.

Map of Auxiliary Air Station Hollister Showing Conditions On June 30 1944,
30 June 1944
Appendix K-2[21]

This map shows the layout of NAAS Hollister. The magazine area includes: an Inert Storehouse, a Pyrotechnics Magazine, a Small Arms Magazine, a Fuze and Detonator Magazine and a High Explosive Magazine. The station also had an "Airplane Target Range" or a firing-in butt.

Agreement Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America including Bombing Target Area "5" NAAS Hollister, Calif (P.W. Drawing No. 1942), 1 February 1945
Appendix E-2[22]

Drawing No. 1942 shows the real estate boundaries of the Hollister bomb target and includes outlines of the three targets, though they are not labeled. The purpose of the sketch appears to be to delineate the "Target Area" from the grazing area noted in the accompanying lease modification.

4.4.2 Air Photo Interpretation

Government and contractor personnel conducted an aerial photography database search, included in section 4.2). The aerial photography retrieved covered Hollister 12th Naval District Target No. 5 following military use. The imagery acquired is in photographic print format. The analyst performed the interpretation using the following source materials:

PHOTO DATE	APPROX. SCALE
24 August 1949	1:20,000
2 May 1953	1:23,600
13 June 1959	1:20,000
17 August 1998	1:40,000

The analyst delineated imagery containing important areas on hard copy plots and digitized it using Computer-Aided Drafting and Design (CADD) software. The digitized features overlay scanned aerial photography, resulting in the final plots (see Plate 3). The analysis involved using stereo viewing of photography, which allows more accurate identifications than monoscopic interpretations. The resolution and scale of the imagery limited the identification of features discussed in this study. The analyst used the word "probable" when discussing features for which identification is reasonably accurate. The analyst used the term "possible" when identification was not positive, but the object/area matched known features/locations on other sources. Analysis of the aerial photographs referenced the site maps discussed in sections 4.4.1 above. The boldfaced numbers in parentheses referenced in the sub-paragraphs below refer to the feature descriptions on the annotated aerial photography plates. Note: Feature description numbers are not necessarily transferable between imagery plates of different years. The sub-paragraphs below describe the relevant features identified on the imagery:

4.4.2.1 1949 Imagery[i]

The 1949 imagery shows the condition of the site just over 3 years after the Navy's cancellation of the leases. The property boundary and the road demarking the "target area" on the site maps described above are clearly visible. In contrast to the available site plans, only the 100-foot diameter circular target is visible, but it is at the approximate location shown on the site plans. The outline of the other two targets in not discernable.

4.4.2.2 1953 Imagery

Another four years later, the circular target is no longer distinguishable nor can any evidence of the other targets be discerned.

4.4.2.3 1959 Imagery (Plate 3)

Although 13 years after the end of the Navy's lease, the targets can be distinguished on the 1959 imagery, possibly as a result of mowed vegetation. In contrast to the available site plans, there are actually two 100-foot diameter circle targets visible, about 50 feet

[i] The 1949 imagery was not originally available from NARA-CP when the government contractors attempted to make copies of the negatives in June 2001. They were subsequently located in September 2001 and reviewed prior to completion of this ASR.

apart from one another (**A**). Their location matches that shown on both site layouts. About 200 feet to the north of the pair of circular targets, lies an "<" about 500 feet long and 50 feet wide at the widest point (**B**). P.W. Drawing No. 1121 labeled this as a cruiser target but in contrast Drawing No. 1942 shows it the way it appears on the photo. There are no other readily discernable signs of the other target. A pair of indistinct lineations to the northeast spaced about 50 feet apart (**C**) may be part of the target shown on Drawing No. 1121 as a cruiser with two tapered ends or part of the submarine noted on P.W. Drawings No. 1121 and 1942. It is not clear. The road demarking the "target area" remains readily discernable (**D**).

4.4.2.4 1998 Imagery

The 1998 imagery shows the northern third of the site being redeveloped for residential housing, a pond, light industrial complex and airstrip. The lower two thirds, which included the target, remains in agricultural use but no features of any significance beyond those described above were noted.

5 REAL ESTATE

5.1 CONFIRMED DOD OWNERSHIP

The former Hollister 12th Naval District Target No. 5 consisted of a total of 440 acres of real estate. This site consisted of the N½ of Section 29, T12S, R6E and the SW ¼ of SE ¼ and SE ½ of SW ¼ of Section 20, T12S, R6E. The Navy acquired this acreage as a land lease, NOy(R)-35804, from private owners (i.e. Paul and Mary Hudner) on 1 August 1943. This real estate figure concurs with the acreage number stated in the INPR[23].

The Navy modified the lease on 1 February 1945, to allow cattle to graze on 300 acres of the site. This did not indicate the end of the site's use as a bombing target. The Navy canceled the lease on 30 June 1946.[24]

5.2 POTENTIAL DOD OWNERSHIP

Based on available information (e.g. historical documents, aerial photos, interviews etc.), the archive search did not identify any additional areas of undocumented military ownership associated with Hollister 12th Naval District Target No. 5. However, when range safety fans or OE potential range cells are drawn for this site, they extend beyond the acquired FUDS boundaries and potentially represent land use by the DoD. The archive search did not find direct evidence of OE hazards on the real estate contained within these fans beyond the FUDS boundary. The DoD accepts responsibility for remediation of OE hazards resulting from their activities. If DoD OE hazards exist on real estate never acquired, they are generally eligible for cleanup under the Defense Environmental Restoration Program.

5.3 SIGNIFICANT PAST OWNERSHIP OTHER THAN DOD

This investigation did not reveal any significant past ownership of Hollister Bombing Target No. 5 with relationship to OE or CWM.

5.4 PRESENT OWNERSHIP

Records reviewed for the INPR investigation indicate the current property owners include: Thomas Grant who owns and operates TAG MFG, Inc. on the northern portion of the site. He also owns the southern portion of the site, which has been farmed by Thomas Stirewalt since 1963.

6 SITE INSPECTION

6.1 GENERAL PROCEDURES AND SCOPE

An ASR site inspection is limited in scope to a visual, non-intrusive inspection of the areas suspected of having an OE or CWM hazard potential. This potential is based on an analysis of the collected information. Prior to the inspection, the Archive Search team determines the areas of the site to investigate. The team follows a site safety and health plan (SSHP) prohibiting digging or handling of potential OE and CWM. The SSHP defines standard operating procedures to ensure safety and prevent accidents. Appendix L-1 contains a copy of the SSHP. The inspection team consisted of the following St. Louis District Corps of Engineers personnel: Randal Curtis, Alix Borrok, and George Sloan. They performed the site survey on Thursday morning, 23 August 2001. Subsection 6.2 contains a synopsis of the site inspection and Appendix L-2 contains a detailed account. Appendix l includes current site photographs.

6.2 SITE INSPECTION SYNOPSIS

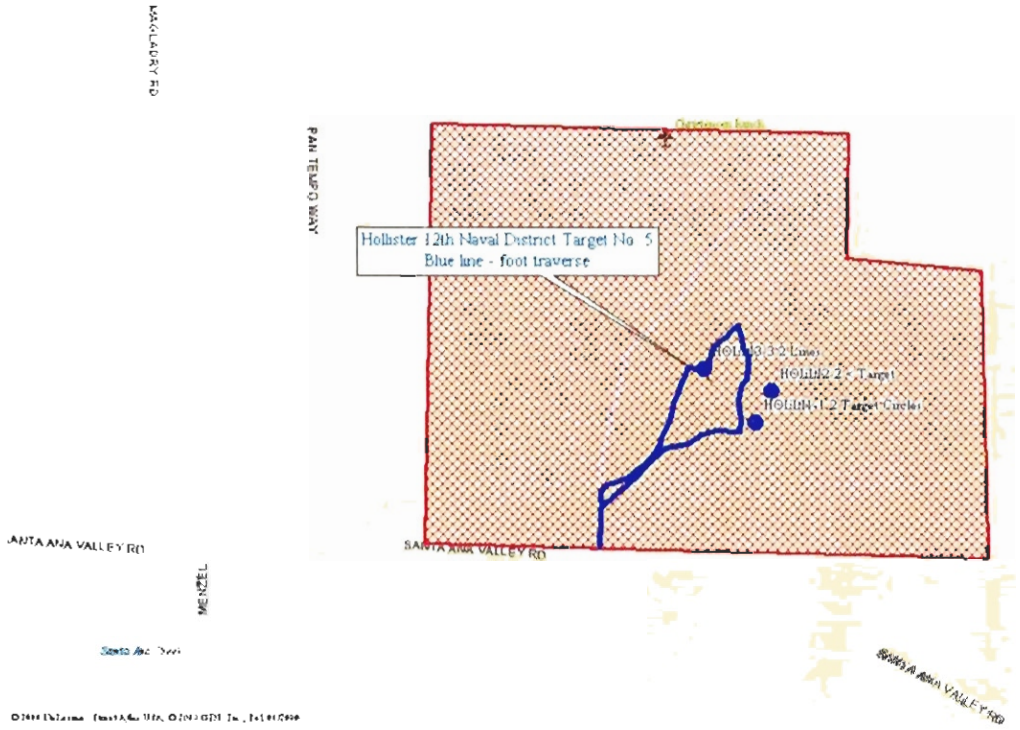
The site visit team met with Tom Grant, the owner of the property, Tom Stirewalt, the leaser of the property, and John Trebino, a man who grew up in the area. The team held a short meeting. Those assembled reviewed the aerial imagery, the general history of the site and discussed items found in the past.

Mr. Stirewalt, who also grew up in the area, recalled seeing men who had gone AWOL being sentenced to collect the scrap from the field on the weekends. He and his cousins would sit on the bend of Lone Tree road and watch the dropping of practice bombs. He began farming the former target site in 1963. The ground proved marginal for crops and was last tilled in 1972. Since then, it has been in use as seasonal pasture lands with occasional mowing. When Mr. Stirewalt started working the land, he could still discern the outlines of the targets since the Navy had used crushed white dolomite to mark them (there are two dolomite mines in the area).

Mr. Trebino also remembers watching the Navy bomb the site as a child but did not remember ever seeing any big explosions. He brought the broken body portion of a lead antinomy 13-lb. AN–MK19 Miniature Practice Bomb that had been found on the property for the ASR team to examine. Mr. Grant said they had additional pieces of debris back at the ranch house, which he offered to show the team. The group then proceeded to the north end of the FUDS, which had been developed in 1968 as a private residence, light industrial site and airstrip by a prior owner. The ranch currently consists of over 2,000 acres total, including the 440 acre FUDS.

From the maintenance barn, Mr. Grant brought out a bucket of OE debris gathered on site by a friend of his who had a metal detector. The material consisted primarily of pieces of lead antinomy from the AN–MK19 Miniature Practice Bombs. It also included a sheet

metal ring that may be from a 100-pound Navy MK VII or XV Practice Bomb. Though there was no other mention of finding sheet metal debris at the targets. They also had a pair of fairly intact, inert iron AN–MK23 Miniature Practice Bombs. When specifically asked about other items found on site, such as 2.25-inch pipes a couple feet long (indicative of practice rockets) or any thick metal with sharp jagged edges (indicative of High Explosive use), they replied that they never recalled finding any. The team parted company with Misters Grant and Trebino and returned to the south gate with Mr. Stirewalt to traverse the former targets.



The ASR team had a GPS to help reach the former target locations[11] but Mr. Stirewalt's recollection of the target locations appeared on par. Near the circular targets he found several pieces of the non-native crushed dolomite stone used to mark the target. A little further on, in the vicinity of the target circles, the team found a cache of a couple dozen iron AN–MK23 miniature practice bombs that had been gathered and piled there by Mr. Stirewalt and company but not removed. A few other iron practice bombs were found, but no pieces of the lead-antinomy bombs. No evidence of any sheet metal debris was found on site. The team traversed around the other targets, returned to the gate and parted company with Mr. Stirewalt.

[11] Target feature coordinates were determined using georeferenced historic aerial imagery. The resulting waypoints were uploaded into a Garmin Etrex Legend GPS (Global Positioning System) receiver using mapping datum **WGS 1984**.

Range Feature Locations based on Georeferenced Aerial Photography				
Latitude	**Longitude**	**Easting**	**Northing**	**Feature**
N36° 51' 51"	W121° 20' 07"	648373	4080896	Hollister-1 2 Target Circles
N36° 51' 54"	W121° 20' 05"	648443	4080938	Hollister-2 < Target
N36° 51' 56"	W121° 20' 13"	648241	4081059	Hollister-3 2 Lines

7 EVALUATION OF ORDNANCE POTENTIAL

7.1 CONVENTIONAL ORDNANCE CONTAMINATION

The archive search uncovered evidence that the Navy utilized conventional ordnance at Hollister 12th Naval District Target No. 5. The types of ordnance and explosives associated with the site included miniature practice bombs and 100 pound practice bombs. This information was gathered from documentation, maps, aerial photography results, interviews and the site visit. The reviewed information did not clearly indicate any other ordnance related operations at Hollister 12th Naval District Target No. 5, such as high explosives.

The ASR team did not find an overt indication of a current ordnance and explosive hazard at Hollister 12th Naval District Target No. 5. However, expended miniature practice bombs were observed on the site. Research discovered no historical records indicating ordnance disposal on site. Interviews did not disclose any incidents of ordnance or explosive hazards found in the past. Aerial photography analysis did not locate any distinct signs of on-site burial. Additionally, the site inspection did not uncover evidence of ordnance or explosive hazards.

7.2 CHEMICAL WARFARE MATERIAL CONTAMINATION

The archive search uncovered no evidence of chemical warfare materials storage, usage or disposal at Hollister 12th Naval District Target No. 5. The mission of Hollister 12th Naval District Target No. 5 does not imply the presence of CWM. Research discovered no historical records associating CWM with the site. Interviews did not disclose any correlation of CWM with the site. Additionally, the site inspection did not uncover any evidence of CWM hazards.

8 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES

8.1 POTENTIAL OE AND CWM ITEMS

The archive search identified the following ordnance items associated with Hollister 12th Naval District Target No. 5. The team compiled this list based on locating OE debris during the site visit: Practice Bombs, both Miniature and 100-pound.

The archive search did not uncover evidence of the use of chemical warfare materials at Hollister 12th Naval District Target No. 5. The activities at this site did not include the storage, disposal or use of CWM in training.

8.2 DESCRIPTION OF CONVENTIONAL ORDNANCE

The following sections in Appendix C contain Ordnance Technical Data Sheets of typical examples[iii] of OE items identified with Hollister 12th Naval District Target No. 5:

Page No.	Ordnance Technical Data Sheets[25]
C-2	Miniature Practice Bombs AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43, and Mk 19
C-3	Bomb, Practice, 100-lbs, Mk 15 Mod 3
C-4	Bomb, Practice, 100 pound, M38A2
C-5	Spotting Charges, M1A1, M3, M5

8.3 DESCRIPTION OF CHEMICAL WARFARE MATERIALS

The archive search did not uncover evidence of any CWM ever being associated with the former Hollister 12th Naval District Target No. 5.

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

9 EVALUATION OF OTHER SITE INFORMATION

The archive search did not reveal any additional areas of potential environmental concern associated with the military use of Hollister 12th Naval District Target No. 5.

APPENDIX A

REFERENCES

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

Section 2.0 PREVIOUS SITE INVESTIGATIONS

[1] Corps of Engineers – Sacramento

1999 *Inventory Project Report Bomb Target No. 5 Hollister, San Benito County, California FUDS Site No. J09CA1113*, July 1999.

Appendix D-1

[2] Section 3.2 CLIMATIC DATA

Federal Climate Complex Asheville, NC.

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

[3] Sections 3.3.1 GEOLOGY

Planert, Michael and Williams, John S.

1995 *Ground Water Atlas of the United States, Segment 1 California, Nevada.* Hydrologic Investigations Atlas, 730-B US Geological Survey, Reston, VA.

[4] Sections 3.3.2 SOILS

Planert, Michael and Williams, John S.

1996 *Ground Water Atlas of the United States, Segment 1 California, Nevada.* Hydrologic Investigations Atlas, 730-B US Geological Survey, Reston, VA.

[5] Section 3.4.1 SURFACE WATER HYDROLOGY

U.S. Geological Survey

1971 *Three Sisters California Quadrangle, CA 7.5 Minute Series (topographic),* dated 1954, photorevised 1971.

U.S. Geological Survey

1971 *Tres Pinos Quadrangle, California, 7.5 Minute Series (topographic),* dated 1955, photorevised 1971.

U.S. Geological Survey
1970 *National Atlas of the United States of America*

Environmental Protection Agency (EPA)
2001 Web site information downloaded from http://cfoub1.epa.gov/sirf/locate/index.cfm on July 2001.

National Oceanic and Atmospheric Administration National Ocean Service (NOS)
2001 Center for Operational Oceanographic Products and Services (CO-OPS) website information downloaded http://www.co-ops.nos.noaa.gov/ June 2001.

[6] Sections 3.4.2 GROUND WATER HYDROLOGY
Planert, Michael and Williams, John S.
1997 *Ground Water Atlas of the United States, Segment 1 California, Nevada.* Hydrologic Investigations Atlas, 730-B US Geological Survey, Reston, VA.

[7] Section 3.5 ECOLOGY
U.S. Fish and Wildlife Service (USFWS) Sacramento, CA
2001 Official correspondence, dated 16 May April 2001 (Correspondence Reference # 1-1-01-SP-2068).

[8] Section 3.6 DEMOGRAPHICS
U.S. Department of Commerce - Bureau of the Census
1990 *Census of Population and Housing*, Hollister, California

1990 *Census of Population and Housing*, San Benito County, California

1994 *County and City Data Book, Land Area and Population*, San Benito County, California

1994 *County and City Data Book, Land Area and Population*, Hollister, California

1997 *County Business Patterns*, San Benito County, California

[9] Section 4.1 HISTORICAL SITE SUMMARY (cited references only)
12th Naval District, Public Works Office
1945 *Physical Properties and Facilities of the Principal Naval Activities and Offices Located in the 12 ND, Appendix I History of Public Works*, October 1945. RG 181, Entry 12th Naval District Commandant's Office, Command Histories 1903 to 1975 [Accession 181-77-043] Box 1, Folder: Volume III, NARA-San Bruno, CA.
Appendix E-3

Naval Air Bases, 12th Naval District
c.1945 Charts and Directory: Table of Content-Sheet 1 (P.W. Dwg. No. 645) and Bombing Targets Naval Air Bases, 12th Naval District-Sheet 35 (P.W. Dwg. No. 646), undated, circa 1945. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #2, NARA-San Bruno, CA.
Appendix E-9

[10] Interdepartmental Air Traffic Control Board (IATCB)
1942 *IATCB Meeting No. 134*, 12 August 1942. RG 237, Entry 37, Box 2, Folder: 126-150, NARA-College Park, MD.
Appendix E-6

Interdepartmental Air Traffic Control Board (IATCB)
1942 *IATCB Meeting No. 195*, 1 December 1942. RG 237, Entry 37, Box 2, Folder: 176-200, NARA-College Park, MD.
Appendix E-7

Interdepartmental Air Traffic Control Board (IATCB)
1943 *IATCB Meeting No. 259*, 19 April 1943. RG 237, Entry 37, Box 2, Folder: 251-276, NARA-College Park, MD.
Appendix E-8

12th Naval District
c.1944 *Aerial Gunnery Ranges and Target Areas*, undated, circa December 1944. RG 181, Entry 12th Naval District - Public Works Office, Airbase Real Estate Acquisition Files, 1942-58 [Accession NN373-91 (181-61-0096)] Box 12, Folder: Misc. 2 of 2, NARA-San Bruno, CA.
Appendix E-1

[11] 12th Naval District, Public Works Office

1945 *Physical Properties and Facilities of the Principal Naval Activities and Offices Located in the 12 ND, Appendix I History of Public Works*, October 1945. RG 181, Entry 12th Naval District Commandant's Office, Command Histories 1903 to 1975 [Accession 181-77-043] Box 1, Folder: Volume III, NARA-San Bruno, CA.

Appendix E-3

[12] Naval Auxiliary Air Station Hollister

1945 *History of Naval Auxiliary Air Station, Hollister, California, for period of 1 January 1945 to 1 March 1945*, 10 March 1945. Box: Aviation Command 1941-52, Hollister-Houma, Folder: Hollister NAAS, Naval Aviation History Center, U.S. Navy Yard, Washington, DC.

Appendix E-10

Naval Air Bases, 12th Naval District

1944 *Property Acquisition Map Bombing Targets Hollister, Calif B.T. No. 5(P.W. Dwg. 1121) and Hollister Bombing Targets Details (P.W. Dwg. No. 1122)*, 1944. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #4, NARA-San Bruno, CA.

Appendix K-1

[13] 12th Naval District

1945 *Agreement Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America including Bombing Target Area "5" NAAS Hollister, Calif (P.W. Drawing No. 1942)*, 1 February 1945. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

Appendix E-2

[14] Naval Air Station Alameda

1946 *Letter: NAB, 12ND, bombing target area at NAAS, Hollister; request for cancellation of lease*, 23 January 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

Appendix E-4

Naval Auxiliary Air Station Hollister

1946 *Untitled History of Naval Auxiliary Air Station, Hollister, California, for period of 1 September 1945 to 31 December 1946*, circa December 1946. Box Aviation Command 1941-52, Hollister-Houma, Folder: Hollister NAAS, Naval Aviation History Center, U.S. Navy Yard, Washington, DC.

Appendix E-12

12th Naval District
1946 *Letter: NAB, 12ND Bombing Target Area NAAS, Hollister – Lease NOy(R)-35804,* 28 February 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-4

12th Naval District
1946 *Supplemental Agreement To Lease NOy(R)-35804,* 30 June 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-5

[15] Corps of Engineers – Sacramento
1999 *Inventory Project Report Bomb Target No. 5 Hollister, San Benito County, California FUDS Site No. J09CA1113*, July 1999.
Appendix D-1

[16] 12th Naval District
1946 *Letter: NAB, 12ND Bombing Target Area NAAS, Hollister – Lease NOy(R)-35804,* 28 February 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-4

12th Naval District
1944 *Map of Auxiliary Air Station Hollister Showing Conditions On June 30 1944,* 30 June 1944. Cartographic and Architectural Branch, RG 71, Entry Microfilm Reels Series #2, Sheet1210-3-69, NARA-College Park, MD.
Appendix K-2

[17] Naval Auxiliary Air Station Hollister
1945 *History of Naval Auxiliary Air Station, Hollister, California, for period of 1 January 1945 to 1 March 1945,* 10 March 1945. Box: Aviation Command 1941-52, Hollister-Houma, Folder: Hollister NAAS, Naval Aviation History Center, U.S. Navy Yard, Washington, DC.
Appendix E-10

Naval Air Bases, 12th Naval District
c.1945 Charts and Directory: Table of Content-Sheet 1 (P.W. Dwg. No. 645) and Bombing Targets Naval Air Bases, 12th Naval District-Sheet 35 (P.W. Dwg. No. 646), undated, circa 1945. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #2, NARA-San Bruno, CA.
Appendix E-9

[18] 12th Naval District
1944 *Map of Auxiliary Air Station Hollister Showing Conditions On June 30 1944,* 30 June 1944. Cartographic and Architectural Branch, RG 71, Entry Microfilm Reels Series #2, Sheet1210-3-69, NARA-College Park, MD.
Appendix K-2

[19] 12th Naval District
1946 *Letter: NAB, 12ND Bombing Target Area NAAS, Hollister – Lease NOy(R)-35804,* 28 February 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-4

[20] Section 4.4 AIR PHOTO INTERPRETATION AND MAP ANALYSIS

U.S. Geological Survey
1971 *Three Sisters California Quadrangle, CA 7.5 Minute Series (topographic),* dated 1954, photorevised 1971.

U.S. Geological Survey
1971 *Tres Pinos Quadrangle, California, 7.5 Minute Series (topographic),* dated 1955, photorevised 1971.

Naval Air Bases, 12th Naval District
1944 *Property Acquisition Map Bombing Targets Hollister, Calif. B.T. No. 5 (P.W. Dwg. 1121) and Hollister Bombing Targets Details (P.W. Dwg. No. 1122),* 1944. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #4, NARA-San Bruno, CA.
Appendix K-1 and K-1a[20]

[21] 12th Naval District
1944 *Map of Auxiliary Air Station Hollister Showing Conditions On June 30 1944,* 30 June 1944. Cartographic and Architectural Branch, RG 71, Entry Microfilm Reels Series #2, Sheet1210-3-69, NARA-College Park, MD.
Appendix K-2

[22] 12th Naval District
1945 *Agreement Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America including Bombing Target Area "5" NAAS Hollister, Calif (P.W. Drawing No. 1942).,* 1 February 1945. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-2

[23] Section 5.0 REAL ESTATE
Corps of Engineers – Sacramento
1999 *Inventory Project Report Bomb Target No. 5 Hollister, San Benito County, California FUDS Site No. J09CA1113*, July 1999.
Appendix D-1

[24] 12th Naval District
1945 *Agreements Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America,* 1 February 1945. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-2

12th Naval District
1946 *Supplemental Agreement To Lease NOy(R)-35804,* 30 June 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.
Appendix E-5

[25] Section 8.0 TECHNICAL DATA OF ORDNANCE AND EXPLOSIVES
References for Individual Ordnance Data Sheets contained Appendix C are noted at the bottom of each sheet.

APPENDIX B

ABBREVIATIONS, ACRONYMS, AND BREVITY CODES

ABBREVIATIONS, ACRONYMS AND BREVITY CODES

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

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

EE/CA	Engineering Evaluation/Cost Analysis
EIS	Environmental Impact Statement
EM	Engineer Manual
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
ETL	Engineering Technical Letter
FGDC	Federal Geographic Data Committee
FM	Field Manual
FS	Feasibility Study
FUDS	Formerly Used Defense Sites
GIS	Geographic Information System
GPM	Gallons Per Minute
GPS	Global Positioning System
GSA	General Services Administration
HAZWOPER	Hazardous Waste Operations
HBX	high blast explosives; mixtures of RDX, TNT and aluminum
HE	High Explosive
HEAT	High Explosive Anti-Tank
HEI	High Explosive Incendiary
HEP	High Explosive Plastic
HMX	cyclotetramethylenetetranitramine (a type of high explosive)
HTRW	Hazardous Toxic and Radioactive Waste
HTW	Hazardous and Toxic Waste
IAS	Initial Assessment Study
IATCB	Interdepartmental Air Traffic Control Board
INPR	Inventory Project Report
IRP	Installation Restoration Program
LD	Lyme Disease
MCX	Mandatory Center of Expertise
MT	Mechanical Time
MTSQ	Mechanical Time Super Quick
NARA	National Archives and Records Administration
NAVSEA	Naval Sea Systems Command
NAS*	Naval Air Station
NAAS*	Naval Auxiliary Air Station
NCP	National Contingency Plan
n.d.	No Date
NEW	Net Explosive Weight
NGVD	National Geographic Vertical Datum
NIMA	National Imagery and Mapping Agency
NIOSH	National Institute for Safety and Health
NMAS	National Map Accuracy Standards
NPL	National Priorities List
NOAA	National Oceanic and Atmospheric Administration

NOFA	No Further Action
NPRC	National Personnel Records Center
NRC	National Records Center
NWS	National Weather Service
OCE	Office Chief of Engineers
OE	Ordnance and Explosives
OP	Ordnance Pamphlet
OSHA	Occupational Safety and Health Administration
PA	Preliminary Assessment
PD	Point Detonating
PE	Professional Engineer
PETN	pentaerythritol tetranitrate (a type of high explosive)
PIBD	Point Initiating, Base Detonating
PM	Project Manager
PPE	Personal Protective Equipment
QASAS	Quality Assurance Specialist, Ammunition Surveillance
RAC	Risk Assessment Code
RDX	cyclotrimethylenetrinitramine; also known as cyclonite or hexogen (a type of high explosive)
RG	Record Group
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
SARA	Superfund Amendments and Reauthorization Act
SEP	Spherical Error of Probability
SOP	Standing Operating Procedures
SPB*	Surplus Property Board
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
TCRA	Time Critical Removal Action
TEU	United States Army Technical Escort Unit
TM	Technical Manual
TNT	Trinitrotoluene
TP	Target Practice
USACE	U.S. Army Corps of Engineers
USADACS	U.S. Army Defense Ammunition Center and School
USAFHRA	U.S. Air Force Historical Research Agency
USATCES	U.S. Army Technical Center for Explosive Safety
USATHMA	U.S. Army Toxic and Hazardous Materials Agency
USC	United States Code
USCG	Untied States Coast Guard
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UXO	Unexploded Ordnance

WAA*	War Assets Administration
WAGE	Wide Area GPS Enhancemen
WGS	World Geodetic System
WNRC	Washington National Records Center
WW I	World War I
WW II	World War II

* designates an historic acronym

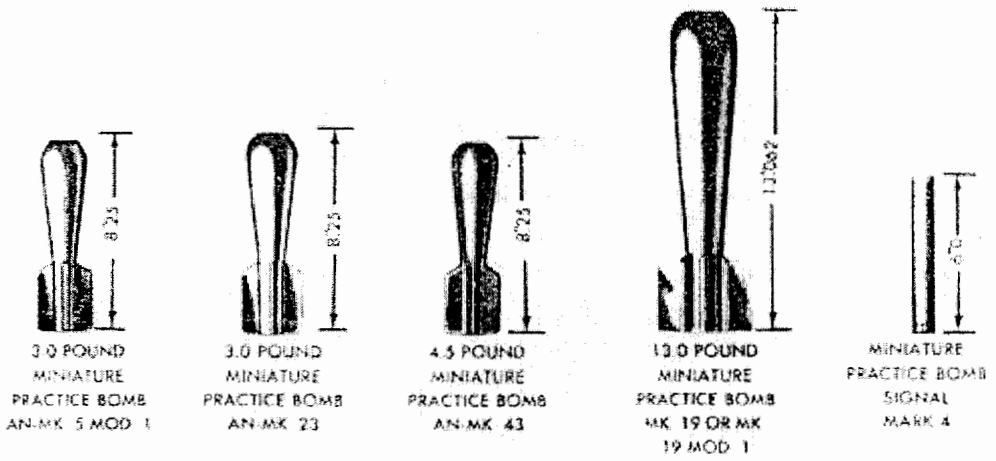
APPENDIX C

TEXT / MANUALS

TEXT / MANUALS

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

MINIATURE PRACTICE BOMBS
AN-Mk 5 Mod 1, AN-Mk 23, AN-Mk 43, and Mk 19

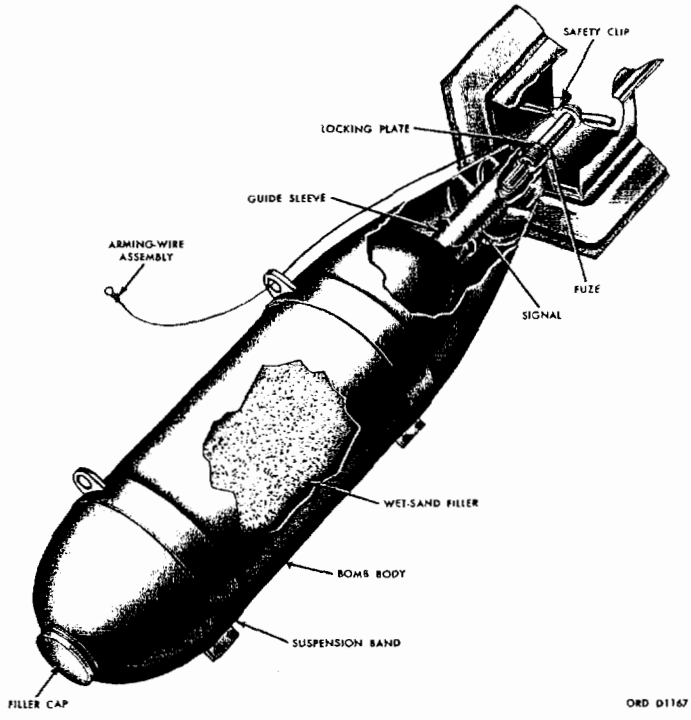


Description. These bombs are used for low-altitude horizontal, or dive-bombing practice. The four bombs are similar in physical appearance, but differ basically in the metal used to cast the body. Bombs are used with the AN-Mk 4 practice bomb signal that is a blank 10-gauge shotgun shell (extended length). 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.

	Mk 5	**Mk 23**	**Mk 43**	**Mk 19**
Over-all length	8.25 inches	8.25 inches	8.25 inches	13.062 inches
Body Diameter	2.18 inches	2.18 inches	2.18 inches	2.62 inches
Fin Dimension	2.5 inches		2.5 inches	3.67 inches
Weight	2 lb. 11 oz. ± 1 oz	3 lb. ± 2 oz	4 lb. 7 oz. ± 2 oz.	13 lb ± 3 oz
Body Material	Zinc Alloy	Cast Iron	Lead-antimony	Lead antimony
Signal	AN-Mk 4, Black powder/pyrotechnic charge; Mk 5, Fluorescein dye			

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

BOMB, PRACTICE, 100-LBS, Mk 15 Mod 3

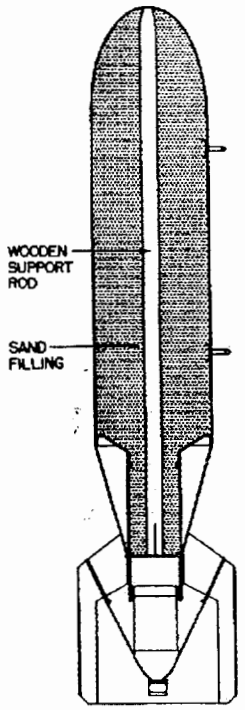


Description. The Mk 15 Mod 3 Practice Bomb is a light-cased, cylindrical body with a threaded filling hole in its rounded nose. A box fin assembly consisting of four metal vanes attached to a cone is welded to the aft end of the body. The bomb has two metal suspension band assemblies (each consisting of a circular clamp, a suspension lug, and two cap screws) for tightening the band to the bomb. The bomb is used with the practice bomb signal, Mk7 Mod 0 and inert fuze Mk 247 Mod 0 both of which are secured to the aft of the bomb. Upon impact of the bomb with the target, the signal is detonated, producing a flash and a large puff of smoke. The bomb is filled with wet sand and when fully assembled weighs approximately 100 pounds

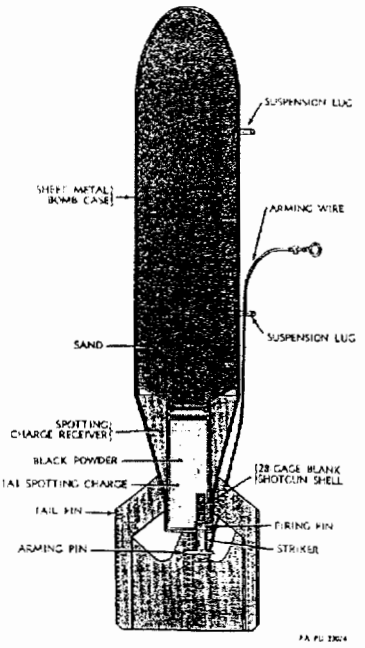
Length of assembled bomb ..... 41.2 inches
Diameter ..... 8.0 inches
Fin Span ..... 11.24 inches
Weight, assembled ..... 100 pounds
Filler ..... Sand, Wet sand, or water
Signal ..... Mk 7 Mod 0
Color ..... Black

References: TM 9-1325-200, *Bombs and Bomb Components*, April 1966; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954

BOMB, PRACTICE, 100 POUND, M38A2



with M5 spotting charge



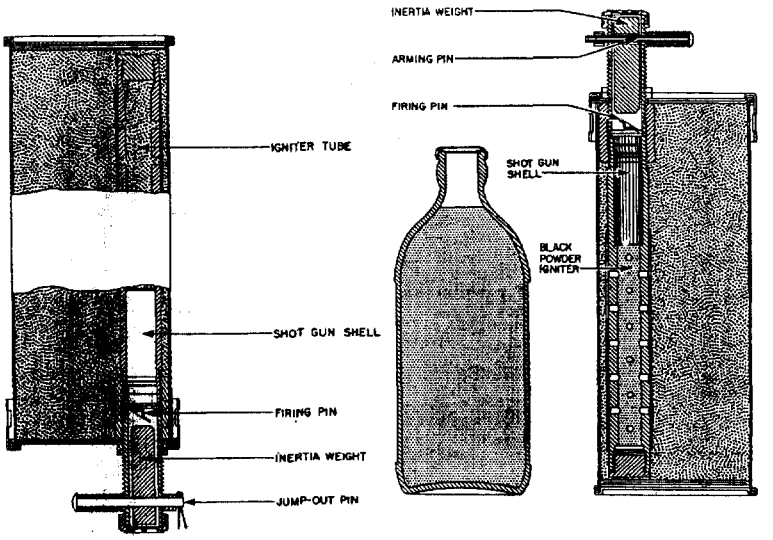
with M1A1 spotting charge

Description. This bomb simulates a General Purpose bomb of the same size. It is constructed of light sheet metal, approximately 22-gage, formed by rolling a rectangular sheet of metal into the form of a cylinder approximately 8 inches in diameter, and spot-welding the seam. The rounded nose is pressed from the same metal, as is the tail, which is formed in the shape of a cone. The tail portion ends in box type fins, which is welded to the cone. Inside of the smaller end of the conical tail section is welded the spotting charge receiver. The spotting charge is assembled in a sleeve at the base of the bomb, within the fin box. Authorized spotting charges are the M1A1, M3, and M5. When using the M5 spotting charge a wooden support rod is installed in the bomb. Two suspension lugs are bolted to the bomb body during fabrication. The Suspension Band M1 is provided for single suspension. The band is a separate component. The over-all length of the bomb body is 472 inches. When empty, the bomb body weighs approximately 14 pounds. When completely loaded with sand and spotting charge, the weight of the bomb is approximately 100 pounds.

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

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954; *Complete Round Chart #5981*, October 1944

SPOTTING CHARGES, M1A1, M3, M5



M1A1 M5 M3

M1A1 Spotting Charge. This type of spotting charge fits in the after end of the 100-pound Practice Bomb M38A2. It produces a flash of flame and white smoke for observation of bombing accuracy. It is made from a large tin can, 11.18-inches long, 3.43-inches diameter, weighing 4.25-pounds. At the top of the can is a cover, which has a hole in it for the insertion of a 28-gage blank shotgun shell and firing mechanism. Upon impact, the inertia weight drives the firing pin into the shotgun-type primer, igniting the 3-pounds of black powder.

M3 Spotting Charge. The spotting charge has a 2 1/3-pound dark smoke filling and a black-powder igniter. It is 5/8 of an inch longer than the Spotting Charge M1A1, but otherwise similar. The M3, with its dark smoke filler, is well adapted for bombing practice over snow-covered terrain. The black-powder igniter charge contains approximately 425 grains. It is used in the M38A2 Practice bomb.

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

Reference: TM 9-1904, *Ammunition Inspection Guide*, March 1944; NAVSEA OP 1664 Volume 2, *U.S. Explosive Ordnance*, February 1954

BOMB, GENERAL PURPOSE (GP) OLD SERIES

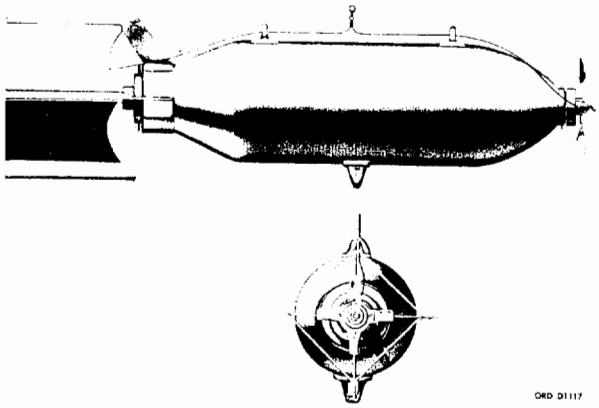


Figure 1. Old-series GP bomb with box fin assembly.

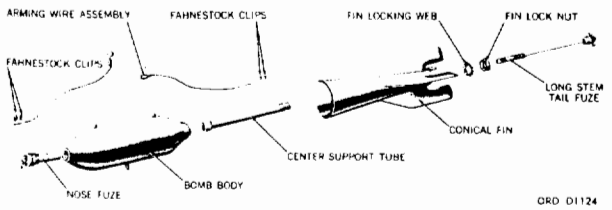


Figure 2. Old-series GP bomb with conical fin assembly, exploded view.

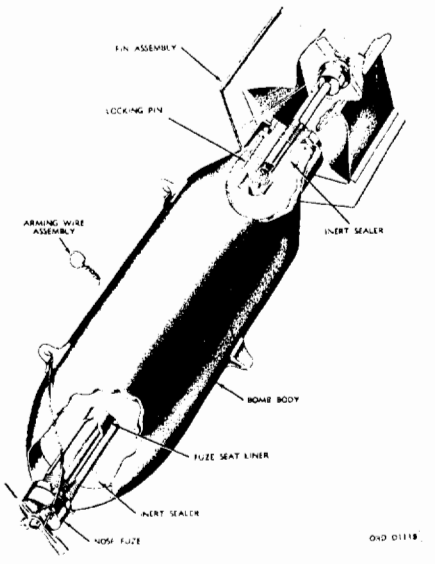


Figure 3. Old series GP bomb, cutaway view.

General. The old-series GP bomb is a relatively thin-cased bomb with an ogival nose, parallel sidewalls, and a tapered aft section. Both nose and tail fuzes are used for a majority of operations. Approximately 50 percent of the complete weight of the round is its explosive filler of amatol 50-50, TNT, Tritonal or Composition B. Two

suspension lugs, 14 inches or 30 inches apart, are welded to one side of the bomb body, and a single lug is welded to the opposite side at the center of gravity. Both the box-type fin assembly and the conical-type fin assembly. The box type fin assembly is secured to the aft end of the bomb body with a fin locknut, while the conical type fin assembly is secured by means of a support tube, and a locking web and a locknut. The base plug of the bomb is locked securely to the bomb body by two studs that extend from the base plug into the solidified explosive filler. The adapter-booster is locked to the base plug by a locking pin that is passed through a hole in the adapter-booster into a groove in the base plug. Bombs filled with amatol 50-50 include nose and tail surrounds of TNT, a body gasket, and an auxiliary booster. These features are not included with other explosives fillers.

Tabulated Data. Refer to table 8-1 through 8-4, for tabulated data on old-series GP bombs. Refer to figures 1. through 3., for illustrations of old-series GP bombs.

Difference Between Bombs.

AN-M30A1 and AN-M30. Bomb AN-M30A1 contains anti-withdrawal pins in the base plug and a device for locking the adapter-booster to the base plug. The earlier model, AN-M30, does not have these features. The AN-M30 is lighter in weight than its modification, the AN-M30A1. The M30 is an earlier model of the AN-M30 that differs in that it does not have a lug for single suspension. It also employs a base plug having internal threads (instead of the present externally Threaded plug) for assembly to the bomb.

AN-M57A1 and AN-M57. Bomb AN-M57A1 contains anti-withdrawal pins in the base plug and an adapter-booster that can be locked to the base plug. The earlier model, AN-M57, does not have these features.

AN-M64A1 and AN-M64. Bomb AN-M64A1 contains anti-withdrawal pins in the base plug and an adapter-booster that can be locked in place. The earlier AN-M64 lacks these anti-withdrawal features.

AN-M65A1 and AN-M65. Bomb AN-M65A1 contains anti-withdrawal pins in the base plug and an adapter-booster and fuze adapter that can be locked in place. The earlier AN-M65 lacks these anti-withdrawal features. The released weight of the AN-M65 is greater than that of the AN-M65A1, the AN-M65 having an explosive filler of 53 percent as compared to the 50 percent ratio of bomb AN-M65A1.

AN-M66A2 and AN-M66A1. Bombs AN-M66A2 and AN-M66A1 contains anti-withdrawal pins in the base plug and an adapter-booster and fuze adapter that can be locked in place. The earlier bomb AN-M66 lacks these features. The AN-M66A2 differs further from the AN-M66A1 and AN-M66 bombs by having a thicker and rounded nose. In the AN-M66A2, the ratio of explosive filler to total weight is approximately 50 percent, as compared to an average weight ratio of 53 percent in the other two bombs.

Table 8-1. Bomb, General Purpose: 100-Pound, AN-M30A1

	Fin assembly AN-M103A1	Fin assembly M135
Model	AN-M30A1	AN-M30A1
Length	40.26	54.2
Body Diameter	8.18	8.18
Fin Span (in.)	11.0	11.18
Weight of Filler (lb.)		
Amatol	54.0	54.0
TNT	57.0	57.0

Table 8-1. Bomb, General Purpose: 100-Pound, AN-M30A1- Continued

	Fin assembly AN-M103A1	Fin assembly M135
Tritonal	62.0	62.0
Weight of Fin Assembly (lb)	5.6	17.5
Weight of Assembled Bomb (lb)		
Loaded with Amatol	116.5	128.5
Loaded with TNT	119.5	131.5
Loaded with Tritonal	124.5	136.5
Fin Lock Nut	M1 or MK2	
Arming-Wire Assembly		

Nose or Tail Fuze	MK1 or AN-M6A2	MK1 or AN-M6A2
Nose and Tail Fuzing	AN-M1A2	M14 or AN-M1A2
Adapter-Booster	M102A1	M102A1
Nose Fuze	M904E1	M904E1
	M904E2	M904E2
	AN-M103A1	AN-M103A1
	AN-M139A1	AN-M139A1
	AN-M140A1	AN-M140A1
	MK243 Mod 0	MK243 Mod 0
	MK244 Mod 1	MK244 Mod 1
	AN-M166 (VT)	AN-M166 (VT)
	AN-M166E1 (VT)	AN-M166E1 (VT)
	AN-M168 (VT)	AN-M168 (VT)
	M188 (VT)	M188 (VT)
	M163	M163
	M164	M164
	M165	M165
Tail Fuze	AN-M100A2	M172
	M115	AN-M175
	M116	M181
	AN-M123A1 or AN-M132	

Table 8-2. Bomb, General Purpose: 250-Pound, AN-M57A1

	Fin assembly AN-M106A1	Fin assembly M126
Model	AN-M57A1	AN-M57A1
Length of Assembled Bomb (in.)	47.8	62.2
Body Diameter (in.)	10.9	10.9
Fin Span (in.)	15.0	15.0
Weight of Filler (lb.)		
Amatol	98.4	98.4
TNT	125.0	125.0
Tritonal	136.0	136.0
Weight of Fin Assembly (lb)	8.0	25.0
Weight of Assembled Bomb (lb)		
Loaded with Amatol	256.63	273.63
Loaded with TNT	261.35	278.35
Loaded with Tritonal	272.35	289.35
Fin Lock Nut	M1 or MK2 Mod 0	

Table 8-2. Bomb, General Purpose: 250-Pound, AN-M57A1- Continued

	Fin assembly AN-M106A1	Fin assembly M126
Arming-Wire Assembly		
Nose or Tail Fuze	MK1 or AN-M62A2	MK1 or AN-M6A2
Nose and Tail Fuzing	AN-M1A2	M14
Adapter-Booster	M102A1	M102A1
Nose Fuze	M904E1	M904E1
	M904E2	M904E2
	AN-M103A1	AN-M103A1
	AN-M139A1	AN-M139A1

	AN-M140A1	AN-M140A1
	MK243 Mod 0	MK243 Mod 0
	MK244 Mod 1	MK244 Mod 1
	AN-M166 (VT)	AN-M166 (VT)
	AN-M168 (VT)	AN-M168 (VT)
	AN-M166E1 (VT)	AN-M166E1 (VT)
	M188 (VT)	M188 (VT)
	M163	M163
	M164	M164
	M165	M165
Tail Fuze.....	AN-M100A2	M172
	AN-M115	AN-M175
	AN-M123A1	M181
	AN-M132	
	M160	

Table 8-3. Bomb, General purpose: 500-Pound AN-M64A1

	Fin assembly AN-M109A1	Fin assembly M128A1
Model.....	AN-M64A1	AN-M64A1
Length (in.).....	59.16	72.10
Body Diameter (in.).....	14.18	14.18
Fin Span (in.).....	18.94	19.56
Weight of Filler (lb.):		
Amatol.....	262.00	262.00
TNT.....	266.00	266.00
Tritonal.....	283.0	283.0
Weight of Fin Assembly (lb.).....	18.6	41.0
Weight of Assembled Bomb (lb.)		
Loaded with Amatol.....	541.87	564.27
Loaded with TNT.....	548.69	571.09
Loaded with Composition B.....	555.39	577.79
Loaded with Tritonal.....	561.00	586.00
Fin Lock Nut.....	M2 or MK3 Mod 0	
Arming-Wire Assembly		
Nose or Tail Fuze.....	MK1 or AN-M6A2	MK1 or AN-M6A2
Nose and Tail Fuzing.....	AN-M7A1 or M13	M13
Adapter-Booster.....	M115A1	M115A1

Table 8-3. Bomb, General purpose: 500-Pound AN-M64A1 - Continued

	Fin assembly AN-M109A1	Fin assembly M128A1
Nose Fuze.....	M904E1	M904E1
	M904E2	M904E2
	AN-M103A1	AN-M103A1
	AN-M139A1	AN-M139A1
	AN-M140A1	AN-M140A1
	MK243 Mod 0	MK243 Mod 0
	MK244 Mod 1	MK244 Mod 1
	AN-M166 (VT)	AN-M166 (VT)
	AN-M166E1 (VT)	AN-M166E1 (VT)
	AN-M168 (VT)	AN-M168 (VT)

	M188 (VT) M163 M164 M165	M188 (VT) M163 M164 M165
Tail Fuze.....	AN-M101A2 AN-MK230 AN-M116 AN-M124A1 AN-M133 M161	M172 AN-M175 M181

Table 8-4. Bomb, General Purpose: 1,000-Pound, AN-M65A1

	Fin assembly AN-M113A1	Fin assembly M129
Model.....	AN-M65A1	AN-M65A1
Length of Assembled Bomb (in.).....	69.5	91.1
Body Diameter (in.).....	18.8	18.8
Fin Span (in.).....	25.4	26.2
Weight of filler (lb.):		
Amatol.....	530.0	530.0
TNT.....	555.0	555.0
Composition B.....	560.0	560.0
Tritonal.....	595.0	595.0
Weight of Fin Assembly (lb.).....	32.1	73.0
Weight of Assembled Bomb (lb.):		
Loaded with Amatol.....	1044.0	1147.0
Loaded with TNT.....	1064.0	1165.2
Loaded with Composition B.....	1069.0	1170.0
Loaded with Tritonal.....	1104.0	1205.21
Fin Lock Nut.....	M2 or MK 3 Mod 0	
Arming-Wire Assembly.....		
Nose or Tail Fuze.....	MK1 or AN-M6A2	MK1 or AN-M6A2
Nose and Tail Fuze.....	MK2 or AN-M7A1	MK13
Adapter-Booster.....	M115A1	M115A1
Nose fuze.....	M904E1 M904E2 AN-M103A1 AN-M139A1	M904E1 M904E2 AN-M103A1 AN-M139A1

Table 8-4. Bomb, General Purpose: 1,000-pound, AN-M65A1 - Continued

	Fin assembly AN-M113A1	Fin assembly M129
	AN-M140A1 MK243 Mod 0 MK244 Mod 1 AN-M166 (VT) AN-M166E1 (VT) AN-M168 (VT) M188 (VT) M163	AN-M140A1 MK243 Mod 0 MK244 Mod 1 AN-M166 (VT) AN-M166E1 (VT) AN-M168 (VT) M188 (VT) M163

Tail Fuze.....	M164 M165 AN-M102A2 AN-MK230 Mods 4,5,6 M162 AN-M117 AN-M125A1 AN-M134	M164 M165 M176 M182 M184

Table 8-5. Bomb, General Purpose: 2,000, AN-M166A2

	Fin assembly AN-M116A1	Fin assembly M130
Model.....	AN-M66A2	AN-M66A2
Length of Assembled Bomb (in.).....	92.63	116.8
Body Diameter (in.).....	23.29	23.29
Fin Span (in.).....	31.6	32.32
Weight of Filler (lb.):		
Amatol.....	1061.0	1061.0
TNT.....	1097.7	1097.7
Composition B.....	1146.0	1146.0
Tritonal.....	1181.0	1181.0
Weight of Fin Assembly (lb.).....	54.4	135.0
Weight of Assembled Bomb (lb.):		
Loaded with Amatol.....	1977.0	2059.0
Loaded with TNT.....	2113.2	2194.5
Loaded with Composition B.....	2162.0	2244.0
Loaded with Tritonal.....	2196.5	2277.5
Fin Lock Nut.....	M3 or MK4 Mod 0	
Arming-Wire Assembly.....		
Nose or Tail Fuze.....	MK1 or AN-M6A2	MK1 or AN-M6A2
Nose and Tail Fuzing.....	AN-M8A1 with MK1 Extension	M16
Adapter-Booster.....	M115A1	M115A1

Table 8-5. Bomb, General Purpose: 2,000, AN-M166A2 - Continued

	Fin assembly AN-M116A1	Fin assembly M130
Nose Fuze.....	M904E1 M904E2 AN-M103A1 AN-M139A1 AN-M140A1 MK243 Mod 0 MK244 Mod 1 AN-M166 (VT) AN-M166E1 (VT) AN-M168 (VT) M188(VT)	M904E1 M904E2 AN-M103A1 AN-M139A1 AN-M140A1 MK243 Mod 0 MK244 Mod 1 AN-M166 (VT) AN-M166E1 (VT) AN-M168 (VT) M188(VT)

Tail Fuze.....	M163 M164 M165 AN-M102A2 AN-MK230, Mod 4,5 & 6 AN-M177 AN-M125A1 AN-M134 M162	M163 M164 M165 AN-M117 M183 AN-M185

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

APPENDIX D

REPORTS / STUDIES

Section No. Report / Study

D-1 Corps of Engineers – Sacramento

1999 Inventory Project Report (INPR) for project no.J09CA1113, *Hollister 12th Naval District Bombing Target No. 5*, Hollister, California, dated July 1999.

APPENDIX D-1

Corps of Engineers – Sacramento

Inventory Project Report (INPR) for project no. J09CA1113, Hollister, *Hollister 12th Naval District Bombing Target No. 5,* Hollister, California, dated July 1999

INVENTORY PROJECT REPORT
BOMB TARGET NO. 5, HOLLISTER
SAN BENITO COUNTY, CALIFORNIA

FUDS Site No. J09CA1113

Prepared For:
USAED, Sacramento
DERP-FUDS Program

Prepared By:

U. S. Army Corps
of Engineers
Environmental Design Section
Sacramento District

July 1999

SITE SURVEY SUMMARY SHEET
FOR
DERP-FUDS SITE NO. J09CA1113
BOMB TARGET NO. 5
HOLLISTER, CALIFORNIA

SITE NAME:

The site is currently known as TAG MFG Incorporated (two warehouses with an office), the Christensen Airport (a private air strip), and Lightning Tree Ranch (a residential estate with clubhouse and guest house). The buildings occupy approximately 100 acres near the northern boundary of the property (Figures 1 and 2). The site was previously known as Bombing Target Area Number 5, Naval Air Auxiliary Station, Hollister, California, 12th Naval District Alameda, California. The remaining 340 acres of land on the site is open range farm land.

LOCATION:

The site is located east of the town of Hollister, County of San Benito, California, seven miles east of the State Highway 25 and State Highway 156 interchange. Lone Tree Road borders the property to the north and Fairview Road is approximately two miles west; access to the buildings is off Santa Ana Valley Road (Figure 3). The address of TAG MFG Inc. (TAG) is 1048 Santa Ana Valley Road, San Benito County.

SITE HISTORY:

The site covers approximately 440 acres of land that was leased by Mr.and Mrs. Paul J. Hudner to the United States Navy, to use as a practice dive bombing target site. The site was leased in June 1943, as record number Noy(R)-35804. Bombing Target Number 5, Hollister, was a subordinate activity of the Naval Auxiliary Station, Hollister, California (previously known as the Hollister Air Field). Complete cancellation of the lease was finalized in April, 1955, when Mr. and Mrs. Hudner sold their property.

According to the records of San Benito County Assessor's office, the property border location is reference number T12S, R6E, MD B & M. This property is located in the south-

western portion of Township Section No. 20, and the northern half of Township Section No. 29 (Figure 4). The County of San Benito Assessor's office records also indicate the site as four parcels: number 22 (120.0 acres), number 24 (80.0 acres), number 25 (236.36 acres), and number 26 (3.64 acres). Section No. 20, and all but the center portion of Section No. 29 was farmed under lease while the target was active (Figure 4). Public Works Drawing No. 1942 is a reference map of the target area, showing the outer farmed area of the site and inner target area details (Figure 4). This drawing has several dates, with the last revision dated 27 February 1947. The inner target area is outlined by a three-strand barbed wire fence that follows a road. Inside of the fence is a 20 foot fire break. The drawing shows a circular target approximately 1/4 mile northeast of the Santa Ana Valley Road turning point, and a submarine target located northwest of the circular target, approximately 330 feet east of the inner fence.

Public Works (P.W.) Drawing Number 1121, dated 1944, is labeled "Naval Air Station Alameda, California, Property Acquisition Map - Bombing Target [B.T. No. 5] - Hollister, California" (Figure 3). P.W. 1121 is a detailed map that depicts the town of Hollister to the southwest and the former Hollister Air Field (now the Hollister Municipal Airport) approximately eight (8) miles to the northwest. The map also indicates the details of the area immediately surrounding the former target. A house is drawn in the upper northern portion of the area. A fence begins at the southwest corner, runs north through the western portion of the area, and then turns east to connect at the east side of the property. The map shows that the entire property area was surrounded by a fence. The central southern area is marked with three individual targets labeled "Submarine," "Cruiser" and "Circular Target"(Figure 3). P.W. Drawing No. 1122 is a detail of each target (Figure 5). The Cruiser dimensions were 520 feet long and 50 feet wide; the Submarine was labeled 180 feet long and 20 feet wide; and the Circular Target was 100 feet in diameter with a 10 foot center. All targets were marked with an outline, four feet in width.

In 1970, Mr. Frank L. Christensen purchased the four parcels that encompass the 440 acres of land known as the former target site. Mr. Christensen then began construction of several buildings that are located together near the northern boundary of the site (Figure 1). The seven

acre area of the Lightning Tree Ranch was established by Mr. Christensen [(307) 733-1789]. The single family dwelling, guest house, recreation room, tennis courts and a swimming pool are adjacent to the warehouses and private air strip with a 3,000 foot runway. Construction of the air strip with the two adjacent warehouses was finished in approximately 1977. These buildings are part of the 120 acre parcel, County Assessor's No. 22, on the northern most portion of the former target site (Figure 4). In 1973, Mr. Christensen began Christensen Industries Inc. to manufacture and market sport aircraft. The warehouses are a hanger/manufacturing facility, which consists of an existing 8,000 square foot office/shop and an existing 20,000 square foot building. The complete property site consists of flat and gently rolling prime rangeland, located at the base of the Diablo Mountain Range. A 48 acre-foot lake, near the buildings, functions as a drainage pond during winter rains (Figures 1 and 2).

In 1991, Mr. Christensen moved to Wyoming. In 1997, Mr. Christensen sold the site to Mr. Thomas Grant, who presently owns the property and operates TAG MFG Inc. in the warehouses at the northern border of the site. TAG MFG Incorporated is a high-technology metals fabrications company producing sheet metal housings and related parts for the major Bay Area computer companies. TAG Inc. expanded its operation to the Hollister site in December 1997. The president of the company is Thomas A. Grant; 912 Olinder Court, San Jose, California; (408) 286-3946.

The remaining acres of the site are grazing and dry-farming land that has been leased to Mr. Thomas Stirewalt for over 35 years. These farming parcels are designated Agricultural Rangeland and one parcel is designated Agricultural Productive on the County General Plan and Zone District maps.

Phone interviews with the previous owner Mr. Frank Christensen, the current owner Mr. Thomas Grant, and Mr. Tom Stirewalt were conducted by a U.S. Army Corps of Engineers (USACE) representative, Ms. Karise Rose. Records of Conversation are on file.

The phone interview with Mr. Frank Christensen was conducted on 11 September 1998. Mr. Christensen stated that he bought the property in 1969 and sold it in 1991. He remembers

someone telling him that the Navy once used the site as a training ground. Mr. Christensen said that they had found three 8-inch cast iron hollow bomb shell casings back in the 1970's, but that no more had been found since. He stated that they were empty and he felt they were of no harm. He let his children take them and he does not know what happened to the empty casings.

The phone interview with Mr. Thomas Grant was conducted on 09 September 1998. Mr. Grant had no information regarding the history of the site. He gave information regarding the present day use of the site and the operations of TAG MFG Incorporated.

The phone interview with Mr. Tom Stirewalt was given on 16 September 1998. Mr. Stirewalt stated that he was born in the County of San Benito. His parents had a farm located on Lone Tree Road, approximately 1/2 mile from the site, which he now owns and where he presently resides. Mr. Stirewalt also stated that when he was a young boy, he and his friends would sit on the perimeter fence watching the Navy practice bombing the target area. Mr. Stirewalt and his father began farming the land in 1963, leasing the property yearly. He said they found approximately three miniature practice bombs when discing the site. The last ordnance he found was in 1968 when he disced the land for the last time. Mr. Stirewalt stated that he uses the former target area as grazing land for his cattle and the surrounding area as farm land for barley, wheat and hay. Mr. Stirewalt also informed USACE that only aerial practice bombing drills were done at the target area, and that some "AWOL boys would walk the site and retrieve any found ordnance."

SITE VISIT:

On 21 September 1998 a site visit was performed by Ms. K. Rose, Mr. P. Brozek, (USACE Sacramento District), and Mr. C. Huckins, who is an Ordnance and Explosive (OE) Safety Specialist with USACE, Fort Ord. These USACE representatives were met at TAG MFG Inc. by Mr. Stirewalt and the resident caretaker, Mr. John Trebino.

Mr. Trebino has been the caretaker at Lightning Tree Ranch since 1978. Mr. Trebino was born in the County of San Benito, and he grew up less than one mile down the road from the site.

Mr. Trebino stated that he and his brothers would also sit on the fences watching the Navy practice bombing the target area. He stated that he can remember going out to the area, when no planes were around, and finding pieces of metal from the practice bombs. Mr. Trebino also remembers only practice aerial activities being performed at the target site.

The two gentlemen, Mr. Stirewalt and Mr. Trebino, escorted the USACE representatives out to the site of the former target area (Figure 4). The former fire break road (Figure 4) was located and followed to the location of the former target area. A random visual and geophysical survey of the site was performed by Mr. Huckins using a Schonstedt Model GA-52Cx Magnetic Locator.

Numerous anomalies were detected at the location of the former target. According to Mr. Huckins, the OE found are a "Miniature practice bomb (MPB) AN-MK 23." Metal casing fragments from an "old series" type of practice bomb were also found. According to Mr. Huckins, this type of practice bomb contained no fuses or spotting charges and were filled with an inert material (i.e. sand, water or dye). Majority of these practice bomb casings were found partially exposed to the surface. The team concluded that more AN-MK 23 miniature practice bombs are likely to remain in the area, close to the surface.

CATEGORY OF HAZARDS: OE

PROJECT DESCRIPTION:

OE: Miniature practice bombs (AN-MK 23) have been identified at the former target area site. The site is listed as a subordinate activity of the Naval Auxiliary Station, Hollister, California. Although all former DoD activities performed at this site are unknown, evidence indicates that the site was used only as a dive bombing target area. The former target area is currently designated Agricultural Rangeland and Agricultural Productive.

30 August 1999

AVAILABLE STUDIES AND REPORTS:

County of San Benito Planning Department, Approval Notice for re-zoning of the 1048 Santa Ana Valley Road property, 17 December 1997.

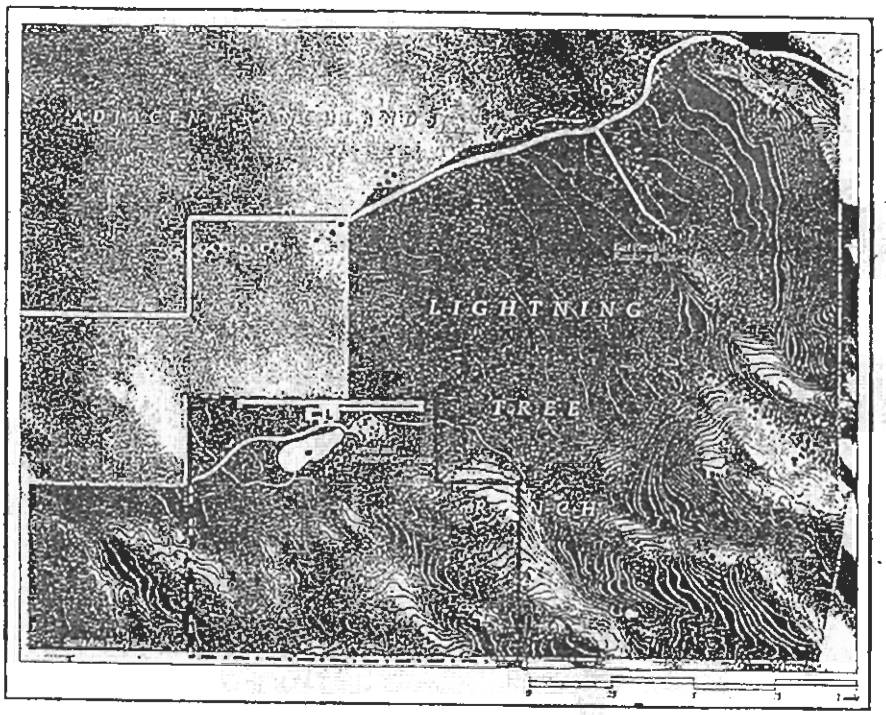
Office of Commandant, Twelfth Naval District, San Francisco 2, California, letter subject: Naval Air Bases - Outdoor Gunnery Ranges, dated 5 January 1945, found at the National Archives-Pacific Sierra Region.

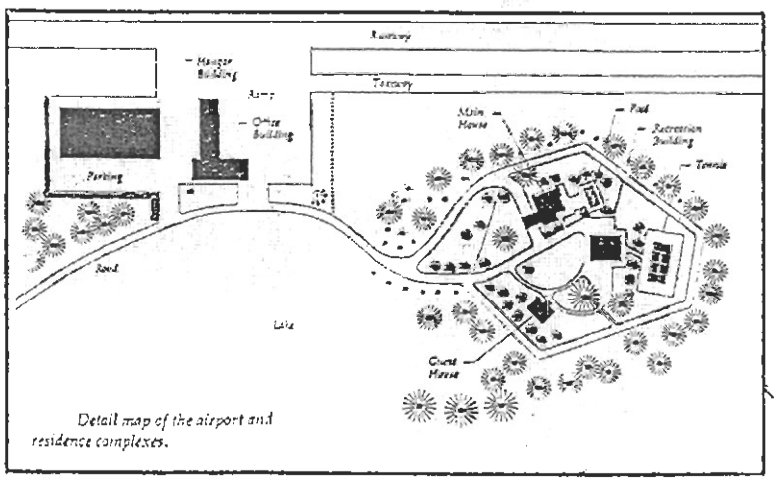
One Earth Environmental Inc., TAG MFG/Lightning Tree Ranch Underground Storage Tank Removal Final Report, 03 September 1998. {Note: UST was not DoD installed or used.}

Records of Conversation for interviews with Mr. Frank Christensen, Mr. Thomas Grant, and Mr. Thomas Stirewalt.

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

30 August 1999





Detail map of the airport and residence complexes.

REF:

1. GRIMSLEY & ASSOCIATES, ACAD FILE: REZONING
2. RANCH CHARACTER MAGAZINE, PAGE 4.

DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT,
CORPS OF ENGINEERS
SEPTEMBER 1998

NAVAL AIR STATION ALAMEDA

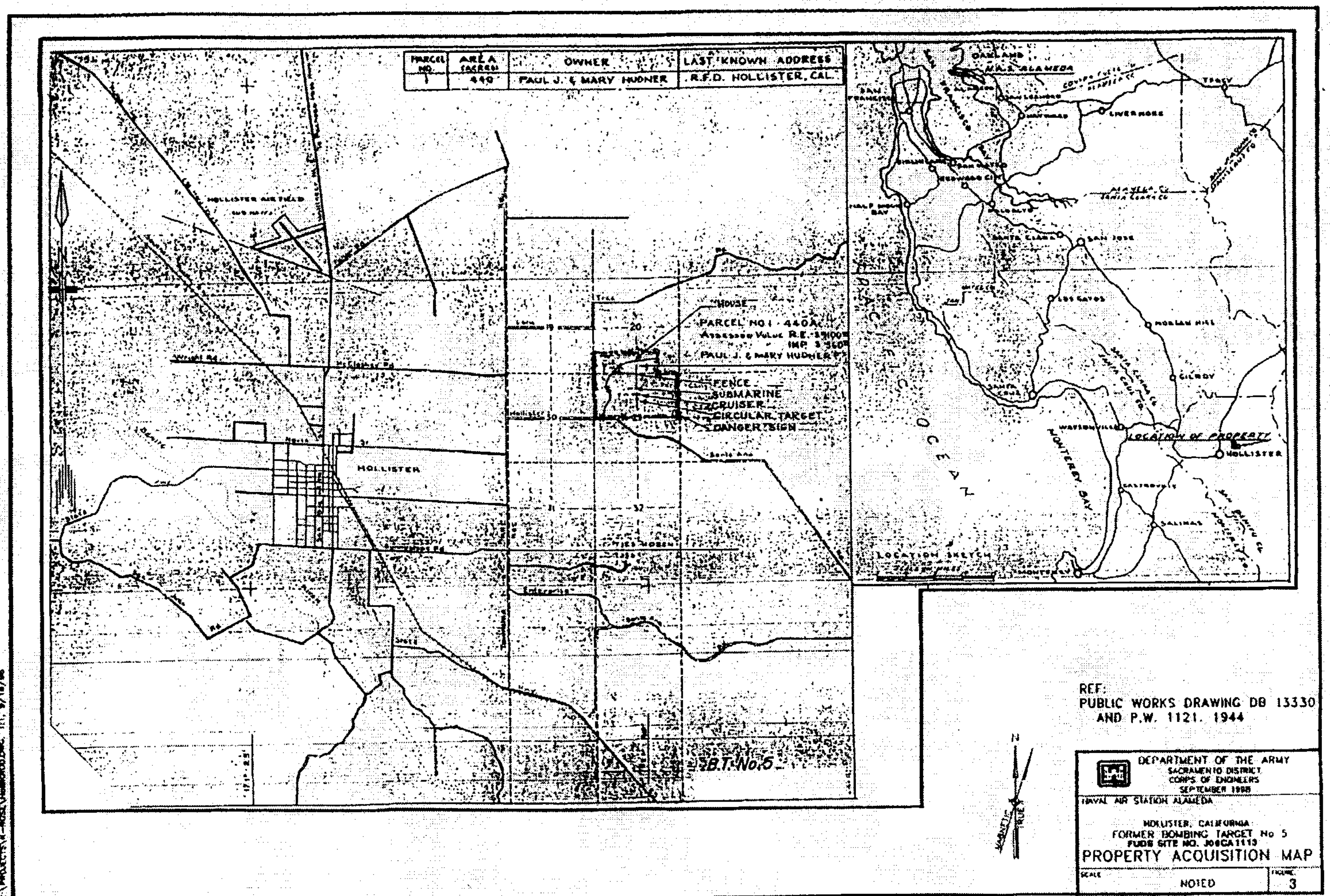
HOLLISTER, CALIFORNIA
FORMER BOMBING TARGET AREA No5
FUDS SITE NO. J09CA1113

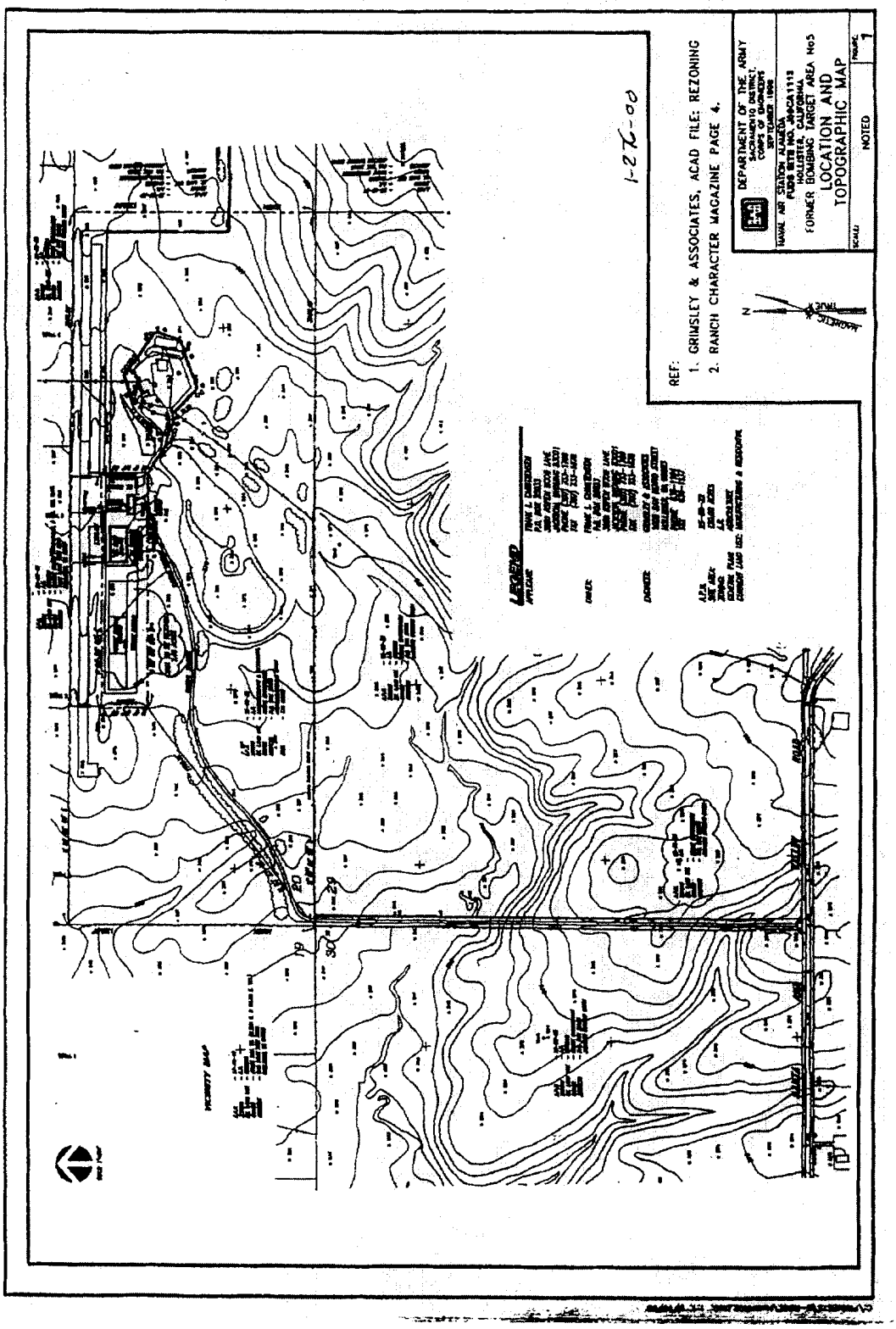
DETAIL MAPS

SCALE: NOTED

FIGURE: 2

C:\PROJECTS\K-ROSE\HollisKR04.DWG, 1:1, 9/28/98


PARCEL NO. | AREA (ACRES) | OWNER | LAST KNOWN ADDRESS
1 | 440 | PAUL J. & MARY HUDNER | R.F.D. HOLLISTER, CAL.
HOLLISTER AIR FIELD
HOUSE
PARCEL NO 1 - 440A
PAUL J. & MARY HUDNER
FENCE
SUBMARINE
CRUISER
CIRCULAR TARGET
DANGER SIGN
HOLLISTER
B.T. No. 5
OAKLAND
N.A.S. ALAMEDA
LIVERMORE
SAN JOSE
LOS GATOS
MORGAN HILL
GILROY
WATSONVILLE
LOCATION OF PROPERTY
HOLLISTER
SALINAS
MONTEREY BAY
OCEAN
LOCATION SKETCH
REF:
PUBLIC WORKS DRAWING DB 13330
AND P.W. 1121. 1944
N
TRUE
DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT
CORPS OF ENGINEERS
SEPTEMBER 1998
NAVAL AIR STATION ALAMEDA
HOLLISTER, CALIFORNIA
FORMER BOMBING TARGET No 5
FUDS SITE NO. J09CA1113
PROPERTY ACQUISITION MAP
SCALE
NOTED
FIGURE
3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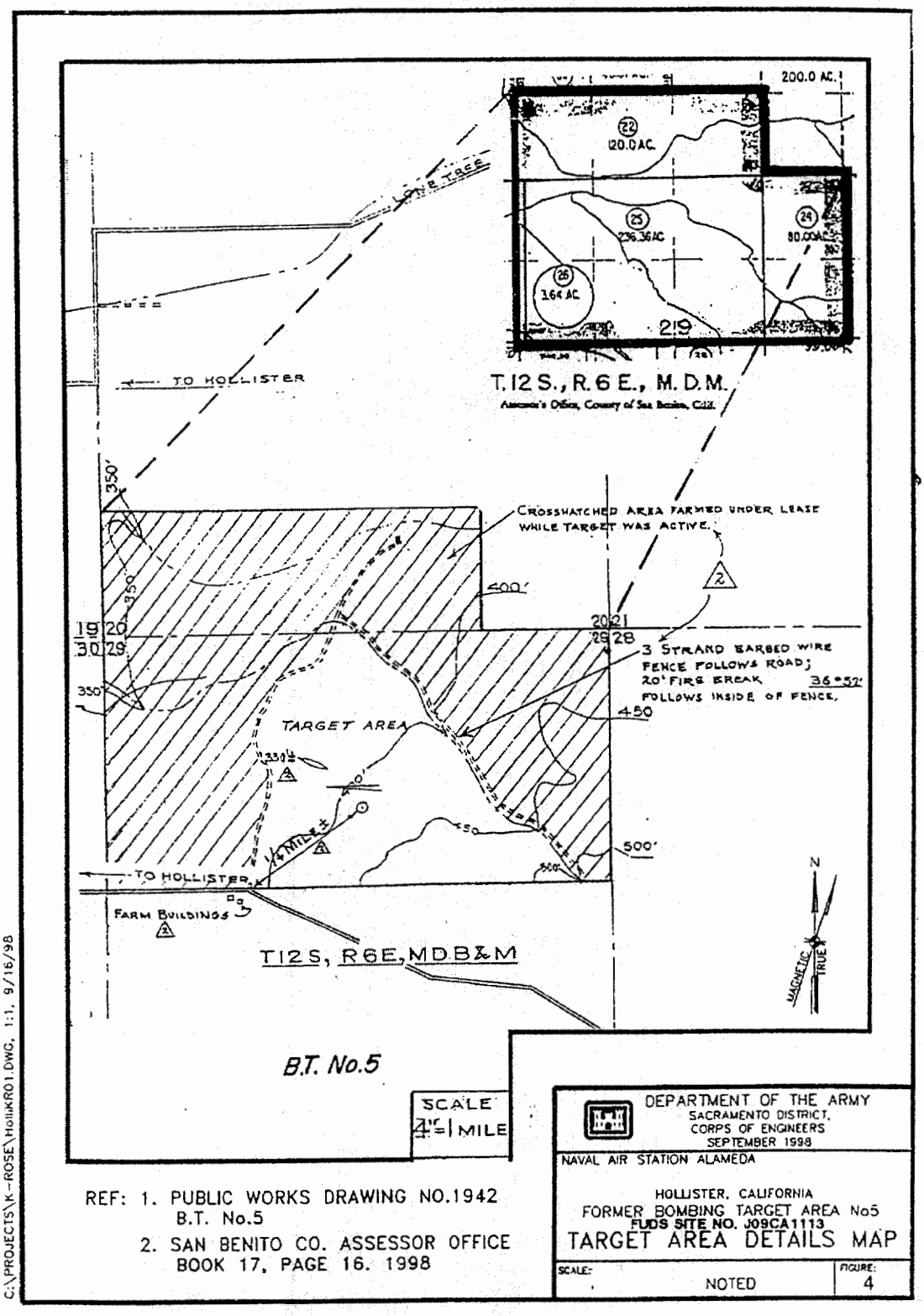
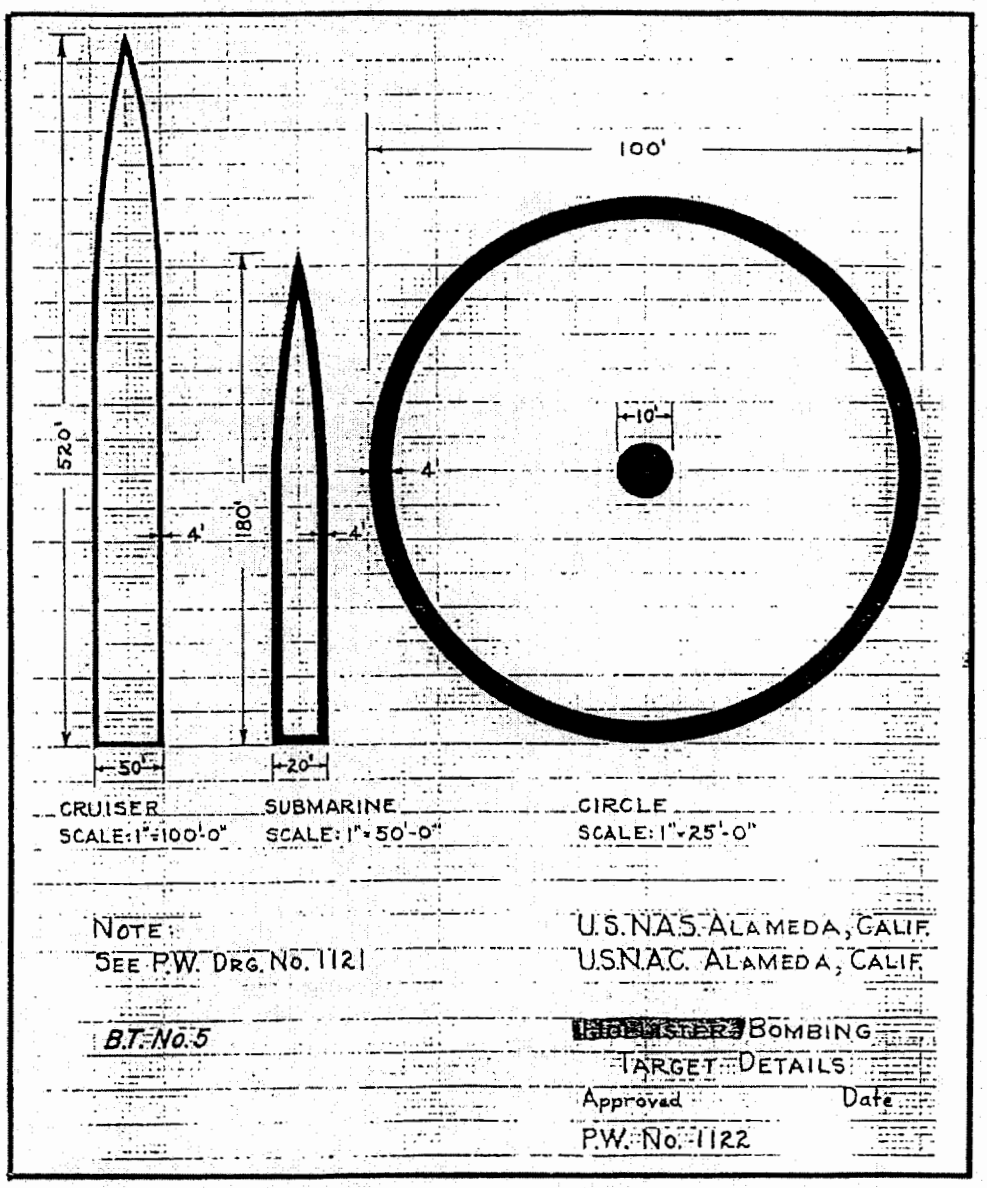
1. GRIMSLEY & ASSOCIATES, ACAD FILE: REZONING
2. RANCH CHARACTER MAGAZINE PAGE 4.
LEGEND
DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT
CORPS OF ENGINEERS
NAVAL AIR STATION ALAMEDA
FUDS SITE NO. J09CA1113
HOLLISTER, CALIFORNIA
FORMER BOMBING TARGET AREA No5
LOCATION AND
TOPOGRAPHIC MAP
SCALE: NOTED
FIGURE: 1


200.0 AC.
22
120.0 AC.
25
236.36 AC
24
80.00 AC
26
3.64 AC
219
T. 12 S., R. 6 E., M. D. M.
TO HOLLISTER
CROSSHATCHED AREA FARMED UNDER LEASE WHILE TARGET WAS ACTIVE.
400'
350'
3 STRAND BARBED WIRE FENCE FOLLOWS ROAD; 20' FIRE BREAK FOLLOWS INSIDE OF FENCE.
36°52'
450
TARGET AREA
330½'
40'
¼ MILE ±
500'
TO HOLLISTER
FARM BUILDINGS
T12S, R6E, MDB&M
N
MAGNETIC
TRUE
B.T. No.5
SCALE
4" = 1 MILE
REF: 1. PUBLIC WORKS DRAWING NO.1942
B.T. No.5
2. SAN BENITO CO. ASSESSOR OFFICE
BOOK 17, PAGE 16. 1998
DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT,
CORPS OF ENGINEERS
SEPTEMBER 1998
NAVAL AIR STATION ALAMEDA
HOLLISTER, CALIFORNIA
FORMER BOMBING TARGET AREA No5
FUDS SITE NO. J09CA1113
TARGET AREA DETAILS MAP
SCALE: NOTED
FIGURE: 4
C:\PROJECTS\K-ROSE\HOLLKR01.DWG, 1:1, 9/16/98



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REF: P.W. No. 1122
B.T. No.5

DEPARTMENT OF THE ARMY
SACRAMENTO DISTRICT,
CORPS OF ENGINEERS
SEPTEMBER 1998

NAVAL AIR STATION ALAMEDA

HOLLISTER, CALIFORNIA
FORMER BOMBING TARGET AREA No5
FUDS SITE NO. J09CA1113
TARGET DETAILS

SCALE: NOTED | FIGURE: 5

PROJECT SUMMARY SHEET
FOR
DERP-FUDS OE PROJECT NO. J09CA111301
BOMB TARGET NO. 5
HOLLISTER, CALIFORNIA

PROJECT DESCRIPTION:

Miniature practice bombs (AN-MK 23) have been identified at the former target area site. The site is listed as a subordinate activity of the Naval Auxiliary Station, Hollister, California. Although all former Department of Defense (DoD) activities performed at this site are not known, evidence indicates that the site was used only as a dive bombing target area. The former target area is currently designated Agricultural Rangeland and Agricultural Productive. The future plans for the site are not established.

PROJECT ELIGIBILITY: The former bombing target was used by DoD.

POLICY CONSIDERATIONS:

Unexploded Ordnance (UXO) Safety Specialist, Mr. Clinton Huckins, recommends that TAG.MFG, Inc. be advised that their property contains items which are not a safety hazard in their present state. However, if this site is to be developed from farming to residential use, a UXO site redemption/clearance may be required. Mr. Huckins also stated that he found no evidence (i.e. fragments or casings) that High Explosive (HE) bombs were deployed to this target.

PROPOSED PROJECT:

The proposed project consists of a site investigation for the approximate 320 acre area that encompasses the former bombing target site. The site investigation will consist of an archive search, interviews, and a report of findings.

30 August 1999

COST ESTIMATE: Attached.

EPA FORM 2070: Attached.

RAC FORM: Attached.

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

30 August 1999

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

DIVE BOMBING TARGET NO. 5, HOLLISTER, CALIFORNIA

FINDINGS OF FACT

1. This report of Findings and Determination of Eligibility has been prepared for an area comprising approximately 440 acres which was known as Dive Bombing Target No. 5, Hollister. The property in question is located in San Benito County at a latitude of 36° 52' and a longitude of 121° 21'. On July 13, 1943 the U.S. Government filed a Complaint in the U.S. District Court, Civil No. 22698-G, against Paul J. Hudner and Mary Hudner to obtain their property. This property is located in the north half of Section 29 and in the south half of the southwest quarter of Section 20, all in Township 12 South, Range 6 East, Mount Diablo Base and Meridian. The Hudners leased this property to the U.S. Government, and the Complaint was dismissed on August 11, 1944.

2. This property was used as a dive bombing target under NAAS Hollister, NAS Alameda, 12th Naval District. According to a property acquisition map, the targets used were circular, submarine, and cruiser in shape. The target area was enclosed by a three strand barbed wire fence, a road, and a 20-foot fire break. The area surrounding the target was farmed under the lease while the target was active.

3. As of October 15, 1945, the bombing range was held in caretaker status, and the Lease was listed by NAS Alameda as terminated on June 30, 1946. On April 8, 1955, the San Benito Title Guarantee Company requested that the 12th Naval District bring a Dismissal of Action in the U.S. District Court to provide evidence of a full cancellation of the Lease as the Hudners wanted to sell the property in question. The property was sold by the Hudners by Grant Deed on May 16, 1955.

DETERMINATION

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

21 Sep 99
DATE

Thos J Hodgson COL EN
PETER T. MADSEN
FOR COLONEL(P)U.S. ARMY
COMMANDING

Attachment 1

Risk Assesment Code (RAC) form

30 August 1999

APPENDIX B
RISK ASSESSMENT PROCEDURES FOR
ORDNANCE AND EXPLOSIVES (OE) SITES

Site Name: **Bomb Target No. 5, Hollister**
Site Location: Hollister, San Benito County, California
DERP Project #: J09CA111301 CR
Date Completed: July 1999

Rater's Name: Ms. Karise Rose
Phone No.: (916) 557-6940
Organization: Environmental Design Section, USACE
Score: 3

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 (CEHNC-OE) to prioritize the remedial action(s) at Formerly Used Defense Sites (FUDS). The risk assessment should be based upon the best available information resulting from records searches, reports of Explosive Ordnance Disposal (EOD) Detachment actions, field observations, interviews, and measurements. This information is used to assess the risk involved based on 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 CEHNC-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.

TYPE OF ORDNANCE: (Circle all values 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 missiles, explosive	10
Detonators, blasting caps, fuses, boosters, bursters	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 (wo / spotting charges)	0
Conventional Ordnance and Ammunition (largest single value)	**6**

What evidence do you have regarding conventional unexploded ordnance?

Miniature practice bombs (AN-MK 23) have been identified at the former target site area. The site is listed as a subordinate activity of the Naval Auxiliary Station, Hollister, California: Dive Bombing Target No. 5.

B. Pyrotechnics (For munitions not described above.)	VALUE
Munition (Container) Containing White Phosphorus (WP) or other pyrophoric material (i.e., spontaneously flammable)	10
Munition containing a flame or incendiary material (i.e.,Napalm, Triethylaluminum metal incendiaries)	6
Flares, signals, simulators, screening smokes (other than WP)	(4)
Pyrotechnics (Select the largest single value)	4

What evidence do you have regarding pyrotechnics?

Mr. C. Huckins, an Ordnance and Explosive (OE) Safety Specialist with the US Army Corps of Engineers, submitted a site visit report with the description of the found OE that was discovered during his site investigation.

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

	VALUE
Primary or Initiating Explosives (Lead Styphnate, Lead Azide Nitroglycerin, Mercury Azide, Mercury Fulminate, Tetracene, etc.)	10
Demolition Charges	10
Secondary Explosives (PETN, Compositions A, B, C, Tetryl, TNT, RDX, HMX, HBX, Black Powder, etc.)	8

Military Dynamite	6
Less Sensitive Explosives (Ammonium Nitrate, Explosive D, etc.)	3
High Explosives (Select the largest single value)	0

What evidence do you have regarding bulk explosives?

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

	VALUE
Solid or Liquid Propellants	6
Propellants (Total)	0

What evidence do you have regarding bulk propellants?

E. Chemical Warfare Material (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)	0

What evidence do you have of chemical or radiological?

TOTAL HAZARD SEVERITY VALUE __10__
(Sum of Largest Values for A through E--Maximum of 61).
Apply this value to Table 1 to determine Hazard Severity Category.

TABLE 1

HAZARD SEVERITY *

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

* Apply Hazard Severity Category to Table 3.

** If Hazard Severity Value 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 OE HAZARD
(Circle all values that apply)

A. Locations of OE 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)	__5__

What evidence do you have regarding location of OE?

On 21 September 1998 a site visit was performed by US Army Corps of Engineers (USACE) representatives. Mr. C. Huckins, an Ordnance and Explosive (OE) Safety Specialist with USACE was among the representatives. Mr. Huckins performed a random geophysical survey walk through of the site using a Schonstedt Model GA-52Cx Magnetic Locator. Numerous anomalies were detected at the location of the former target.

B. Distance to the nearest inhabited location/ structure likely to be at risk from OE hazard (roads, parks, playgrounds, building, etc.)	VALUE
Less than 1,250 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 (Select the single largest value)	__4__

RAC Worksheet - Page 5

What are the nearest inhabited structures/buildings?

The area is farmland that is surrounded by farmhouses with a 0.3 mile radius. On the adjacent property parcel, approximately a distance of 0.2 mile form the former target area site is a Business known as TAG Manufacturing Inc., and a residential estate known as the Lightning Tree Ranch. The Ranch is a vacation estate with a Caretaker whom works there five days a week.

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

	VALUE
26 and over	5
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)	4

Narrative:

On the adjacent property parcel, approximately a distance of 0.2 mile from the former target area site is a Business known as TAG Manufacturing Inc., and a residential estate known as the Lightning Tree Ranch.

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)	4

Describe types of buildings in the area:

On the adjacent property parcel, approximately a distance of 0.2 mile from the former target area site is a Business known as TAG Manufacturing Inc. with two warehouses, and an adjacent residential estate known as the Lightning Tree Ranch.

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

	VALUE
No barrier nor 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) __3__

Describe the site accessibility:

The area is farmland that is surrounded by farmhouses within a 0.3 mile radius. The barrier is a barbed wire and wooden fence, intended to encompass grazing cattle. The site is accessible from all degrees. Santa Ana Valley Road is approximately 1200 feet South of the immediate target area. There is a locked gate that leads from Santa Ana Valley Road to the former fire break road that was established during DoD occupation (See Figure 4 in Inventory Progress Report).

F. Site Dynamics - This deals with the 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 inhabitated areas or otherwise increase accessibility.

	VALUE
Expected	(5)
None Anticipated	0
Site Dynamics (Select largest value)	__5__

Describe the site dynamics:

The property site has the potential to become developed from farming land to residential or commercial.

TOTAL HAZARD PROBABILITY VALUE

(Sum of Largest Values for A through F--Maximum of 30) __25__
Apply this value to Hazard Probability Table 2 to determine
Hazard Probability Level

TABLE 2

HAZARD PROBABILITY *

Description Value	Level	Hazard Probability
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) correct score higher	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 CEHNC - Immediately call CEHNC-OE-S -- Commercial 205-895-1582/1598.
RAC 2	High priority on completion of INPR - Recommend further action by CEHNC.
RAC 3	**Complete INPR - Recommend further action by CEHNC.**
RAC 4	Complete INPR - Recommend further action by CEHNC.
RAC 5	Usually indicates that no further action (NOFA) is necessary. Submit NOFA and RAC to CEHNC.

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.

Dive Bombing target Site Number 5 is listed as a subordinate activity of the Naval Auxiliary Station, Hollister, California, under 12th Naval District records. Miniature practice bombs (AN-MK 23) have been identified at the former target area site. All former DoD activities performed at this site are unknown; although, evidence supports that the site was used only as a dive bombing target area. The immediate target area is currently farming parcels that are designated Agricultural Rangeland and one parcel is designated Agricultural Productive. The future plans for the site are not established.

Unexploded Ordnance (UXO) Safety Specialist for USACE, Mr. Clinton Huckins, recommends to advise TAG.MFG Inc. that their property contains these items which are not a safety hazard in their present state. However, if this site is to be developed from farming to residential, recommend a UXO site redemption/clearence may be required. Mr. Huckins also stated that he found **no evidence** that High Explosive (HE) bombs were deployed to this target, i.e. fragments or casings.

EPA POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
CA J09CA1113

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

II. HAZARDOUS CONDITIONS AND INCIDENTS

01 [ ] A. GROUNDWATER CONTAMINATION 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

None Suspected (NS).

01 [ ] B. SURFACE WATER CONTAMINATION 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [ ] C. CONTAMINATION OF AIR 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [X] D. FIRE/EXPLOSIVE CONDITIONS 02 [X] OBSERVED(DATE 9/21/1998) [ ] POTENTIAL [ ] ALLEGED
03 [X] POPULATION POTENTIALLY AFFECTED < 40 04 NARRATIVE DESCRIPTION

Miniature practice bombs (AN-MK 23) have been identified at the former Naval practice target area site. The site is listed as a subordinate activity of the Naval Auxiliary Station, Hollister, California. Although all former Department of Defense (DoD) activities performed at this site are unknown, evidence indicates that the site was used only as a dive bombing target area. The former target area is currently designated Agricultural Rangeland and Agricultural Productive. The future plans for the site are not established. These items are not a safety hazard in their present state. However, if this site is to be developed from farming to residential use, a UXO site redemption/clearance may be required. No evidence (i.e. fragments or casings) that High Explosive (HE) bombs were deployed to this target was found.

01 [ ] E. DIRECT CONTACT 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [ ] F. CONTAMINATION OF SOIL 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [ ] G. DRINKING WATER CONTAMINATION 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [ ] H. WORKER EXPOSURE/INJURY 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

01 [ ] I. POPULATION EXPOSURE/INJURY 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
03 [ ] POPULATION POTENTIALLY AFFECTED _____ 04 NARRATIVE DESCRIPTION

(NS)

EPA

POTENTIAL HAZARDOUS WASTE SITE
SITE INSPECTION REPORT

I. IDENTIFICATION
01 STATE 02 SITE NUMBER
CA J09CA1113

PART 3 - DESCRIPTION OF HAZARDOUS CONDITIONS AND INCIDENTS

II. HAZARDOUS CONDITIONS AND INCIDENTS *(Continued)*

01 [ ] J. DAMAGE TO FLORA 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

01 [ ] K. DAMAGE TO FAUNA 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

01 [ ] L. CONTAMINATION OF FOOD CHAIN 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

01 [X] M. UNSTABLE CONTAMINANT OF WASTES 02 [X] OBSERVED(DATE 9/21/1998) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

Refer to Narration D.

01 [ ] N. DAMAGE TO OFFSITE PROPERTY 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

01 [ ] O. CONTAMINATION OF SEWERS, STORM DRAINS, WWPTs 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

01 [ ] P. ILLEGAL/UNAUTHORIZED DUMPING 02 [ ] OBSERVED(DATE _____) [ ] POTENTIAL [ ] ALLEGED
04 NARRATIVE DESCRIPTION

(NS)

05 DESCRIPTION OF ANY OTHER KNOWN, POTENTIAL OR ALLEGED HAZARDS

III. TOTAL POPULATION AFFECTED: < 40

IV. COMMENTS: The property owner, TAG MFG, Inc. has been notified of the contaminants that lye on their property. The practice ordnance do not pose a safety hazard in their present state.

APPENDIX E

LETTERS / MEMORANDUMS/ MISCELLANEOUS ITEMS

Section No. Letter / Memorandums / Miscellaneous Items

E-1 12th Naval District
c.1944 *Aerial Gunnery Ranges and Target Areas,* undated, circa December 1944. RG 181, Entry 12th Naval District - Public Works Office, Airbase Real Estate Acquisition Files, 1942-58 [Accession NN373-91 (181-61-0096)] Box 12, Folder: Misc. 2 of 2, NARA-San Bruno, CA.

E-2 12th Naval District
1945 *Agreement Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America including Bombing Target Area "5" NAAS Hollister, Calif (P.W. Drawing No. 1942),* 1 February 1945. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

E-3 12th Naval District, Public Works Office
1945 *Physical Properties and Facilities of the Principal Naval Activities and Offices Located in the 12 ND, Appendix I History of Public Works*, October 1945. RG 181, Entry 12th Naval District Commandant's Office, Command Histories 1903 to 1975 [Accession 181-77-043] Box 1, Folder: Volume III, NARA-San Bruno, CA.

E-4 12th Naval District
1946 *Letter: NAB, 12ND Bombing Target Area NAAS, Hollister – Lease NOy(R)-35804,* 28 February 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

E-5 12th Naval District
1946 *Supplemental Agreement To Lease NOy(R)-35804.*, 30 June 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

E-6 Interdepartmental Air Traffic Control Board (IATCB)
1942 *IATCB Meeting No. 134,* 12 August 1942. RG 237, Entry 37, Box 2, Folder: 126-150, NARA-College Park, MD.

E-7 Interdepartmental Air Traffic Control Board (IATCB)
1942 *IATCB Meeting No. 195,* 1 December 1942. RG 237, Entry 37, Box 2, Folder: 176-200, NARA-College Park, MD.

E-8 Interdepartmental Air Traffic Control Board (IATCB)
1943 *IATCB Meeting No. 259,* 19 April 1943. RG 237, Entry 37, Box 2, Folder: 251-276, NARA-College Park, MD.

E-9 Naval Air Bases, 12th Naval District

c.1945 Charts and Directory: Table of Content-Sheet 1 (P.W. Dwg. No. 645) and Bombing Targets Naval Air Bases, 12th Naval District-Sheet 35 (P.W. Dwg. No. 646), undated, circa 1945. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #2, NARA-San Bruno, CA.

E-10 Naval Auxiliary Air Station Hollister

1945 *History of Naval Auxiliary Air Station, Hollister, California, for period of 1 January 1945 to 1 March 1945,* 10 March 1945. Box: Aviation Command 1941-52, Hollister-Houma, Folder: Hollister NAAS, Naval Aviation History Center, U.S. Navy Yard, Washington, DC.

E-11 Naval Air Station Alameda

1946 *Letter: NAB, 12ND, bombing target area at NAAS, Hollister; request for cancellation of lease,* 23 January 1946. RG 71, Entry 1037, Box 5, Folder: L5-7-HO, NARA-College Park, MD.

E-12 Naval Auxiliary Air Station Hollister

1946 *Untitled History of Naval Auxiliary Air Station, Hollister, California, for period of 1 September 1945 to 31 December 1946,* circa December 1946. Box: Aviation Command 1941-52, Hollister-Houma, Folder: Hollister NAAS, Naval Aviation History Center, U.S. Navy Yard, Washington, DC.

APPENDIX E-1

12th Naval District, c. 1944

Aerial Gunnery Ranges and Target Areas, undated, circa December 1944

AERIAL GUNNERY RANGES AND TARGET AREAS

1. ANTIOCH DIVE BOMBING TARGET SITE

Lease NOy(R)35540. 502.25 acres.

Exchange of land by revocable permits between California Peat Company and the Government.

Permits executed and transmitted to permittors 22 September 1944.

2. BIG LAGOON AND SOUTH HUMBOLDT BAY ROCKET RANGES (NAAS ARCATA)

494.54 acres leasehold condemned.
Targets constructed and in operation.

Note: See confidential on So. Humboldt Bay.

3. CASTROVILLE DIVE BOMBING TARGET SITE (NAAS ALAMEDA)

BuDocks prepared draft of lease and forwarded same to Commandant Naval Air Center Alameda on 29 April 1944. No further record of negotiations contained in our files.

4. CROWS LANDING DIVE BOMBING TARGET SITE (NAAS CROWS LANDING)

Lease NOy(R)-35532 - 480 acres
Lease NOy(R)-35285 - 160 acres
Total 640 acres.

Fully executed and transmitted to lessors.

5. FALLON AERIAL GUNNERY RANGE (NAAS FALLON)

700,000 acres more or less.

Lease hold interest acquired by condemnation. Area delineated upon map 3.

This area is used for aerial gunnery, strafing, dive bombing, rocket fire, and it is now proposed to use the area for dropping live bombs. Cattle have been excluded from the area, but have drifted on and in some instances the owners have made no attempt to prevent them from straying upon the range.

The general course of aerial gunnery runs is delineated upon the map in a broken red line. The planes enter from the south part of the west range and fly in the direction indicated by the arrows. There is a short course from east to west on the north part of the east range. The location and extent of the run is not known. It is shown upon the map with short dashes and a question mark.

Fallon Aerial Gunnery Range (Cont'd)

Strafing practice is conducted until guns are empty from the end of the run as indicated in red on the East range to the end of the range.

Dive bombing and rocket targets within the area are shown upon said map.

6. FALLON AERIAL GUNNERY RANGE (PROPOSED EXTENSION) (NAAS FALLON)

It is desired to add Dixie Valley and Fairview Valley down to within a short distance of Highway 50 to the Fallon Aerial Gunnery Range. This addition is delineated upon Map 1.

Request for this area was processed by N.A.B. and forwarded by Com. 12 and is now held in BuAer pending comments of Com. 12 as a result of pending investigation concerning values and mining operations in the area proposed to be acquired. The Gwicoffer Mine is located somewhere within the blue shaded area on said map. This mine supposedly produces strategic materials and the owner enlisted the aid of Senator McCarran when he thought the mine was included in the gunnery range as now constituted. Full force opposition is expected if this mine is to be acquired.

The same area northwesterly of the Stillwater Mountain Range and excluded from the present area is considered to be an area which the grazing service much desires to have excluded. There are other mines in the area which are believed to be gold and silver mines, the acquisition of which would not incur the disfavor of the Bureau of Mines.

Cattle operations north of township 19 are not extensive and it is believed they can be closed out without difficulty. South of township 20 cattle have been concentrated, having been pushed out of the area embodied in the gunnery range.

C. B. Stark proposed to construct a drift fence as shown upon the map and a lease with him includes compensation for the construction of this fence. If the proposed extension is authorized, the C. B. Stark cattle operations will be eliminated. This will involve considerable compensation, but this will meet with the approval of the grazing service.

7. FALLON TARGET AREA 1 (NAAS FALLON)

This area is presently being used and jurisdiction for the Navy is being negotiated in the Bureau from the Department of Interior.

Fallon Target Area No. 2 (NAAS Fallon) (Cont'd)

Proposed use: Rocket target site.
Possible use: Installation of dummy objectives such as camouflaged planes, camouflaged gun installations, etc.

Lease forwarded to Bureau and not yet returned.

It is understood that construction of necessary targets has been commenced with approval of Truckee Carson Irrigation District. This oral approval was obtained from the Secretary of the District and transmitted to the Assistant Real Estate Officer together with the information that use of the area by the Navy has been approved by the District by resolution and that the Secretary is authorized to execute an appropriate lease when received.

In view of the fact that rocket targets in the Fallon Aerial Gunnery Range Area are now flooded, construction of the target on area 2 prior to authorization from the Bureau is considered justified. It is understood that no rockets will be fired in this area until officially authorized.

9. FALLON TARGET AREA 3 (8 sq. miles) (NAAS FALLON)

Under jurisdiction of the Department of Interior, Grazing Service.

Transfer to the Department of the Navy is being negotiated by the Bureau.

Construction has commenced upon this area under the same circumstances as above cited for target area 2.

10. FALLON TARGET AREA 4 (1 sq. mile) (NAAS FALLON)

Lease upon this area is pending in the Bureau. This area is within the Walker River Indian Reservation and preliminary negotiations conducted with the Superintendent indicates the granting of lease with nominal rental is to be expected. Actual negotiations with the Tribal Council has not been undertaken because the lease has not been forwarded from the Bureau. Construction has been commenced upon this area under the same circumstances as above cited with the approval of the Superintendent. This approval is to be confirmed by the Tribal Council as soon as possible and will be undertaken immediately.

11. GUSTINE (510 acres) (NAAS, CROWS LANDING)

Lease hold interest acquired by condemnation. Notice of filing of order for immediate possession transmitted to N.A.B. 18 November 1944.

12. HOLLISTER (NAAS HOLLISTER) (440 acres of land acquired)

Acquired Lease hold interest by condemnation, order of possession dated 13 July 1943. Lease NOy(R) 35804 executed and condemnation action will be dismissed.

13. JENNER (NAAS SANTA ROSA)

Condemnation action requested by letter of 13 October 1944. To date not authorized.

14. STEWART'S POINT

Investigation reveals that the land comprising this target site is too expensive for acquisition.

15. KLAMATH FALLS, ORE.

This area is being handled by Com. 13 and is being used by Naval Air Facilities operating out of 13th Naval District.

16. LAKE CHABOT. (NAS ALAMEDA)

Machine gun range presently occupied under lease. Recommendation by N.A.B. for acquisition in fee opposed by East Bay Municipal Utilities District as a danger to its water shed. Renogotiations for 10 to 15 year lease recommended by Com. 12.

17. LOVELOCK AERIAL GUNNERY RANGE (NAAS FALLON) (1,500,000 acres)

This property is being acquired by expropriation - shown on map No. 3. It is expected this area will be available for commencement of gunnery operations on 1 December 1944. Writer does not know how long it will take to construct markers for gunnery runs. This area has all been approved by the Secretary of the Navy.

Although the Secretary of the Navy has authorized the acquisition of this area by expropriation and Com. 12 has been advised to proceed, actual approval and transfer of jurisdiction from the Secretary of the Interior has not been received in so far as information presently available indicates.

Delineated upon said map in blue pencil are gunnery runs proposed by N.A.B. The rectangular places indicate location of markers.

Specifications have been prepared and it is understood that bids will soon be let for construction of these markers. Before construction of permanent markers, the area is to be surveyed and temporary lime markers are to be laid down. Upon approval of location of these lime markers, permanent markers are to be constructed. Location of these markers is understood to be predicated upon two basic requirements:

(a) A six mile safety area from the exterior boundaries. The basis of this requirement is an estimated maximum carrying capacity of 50 caliber shells fired.

(b) A twelve mile air room space between courses to prevent danger of collisions.

It is understood that it is proposed to make runs in either a clockwise or counter clockwise direction within the North and South range respectively. The North range operating as a unit and the South range operating as a unit. No firing runs are to cross the Western Pacific Railroad, but planes so operated South thereof are to confine their activities to the area South of the railroad and the same applies to those operated North. It should be noted that the six mile safety distance to exterior boundaries of the range is not adhered to in the beginning or end of the gunnery runs with the exception of the North end of the West run on the North range. It appears that the six mile safety premise is considered to be too conservative. The 12 mile safety requirement between runs is not violated in any case.

Accepting these safety requirements, N.A.B. has proposed a maximum use of the range. However, it appears obvious that a large portion of the Black Rock Desert in the Northwest corner of the North range is not used by the proposed target runs. At first glance it would appear unreasonable to construct a target run which will compel abandoning rich ranches when a bending of this run to the West of the desert area would permit exclusion of this property. The ranch alluded to is the DeLong Ranch which is shown upon Map 3 in green and blue stripes. North thereof is the Capelli property, also a valuable cattle ranch. This ranch can be avoided and all safety distances maintained by alter the course of the markers in accordance with the green broken line labeled S-1. If this alteration of course is acceptable it is proposed to grant

Lovelock Aerial Gunnery Range (Cont'd)

DeLong and Capelli revocable permits to continue cattle operations or dispose of this matter as otherwise directed by the Bureau.

Unless full use is made of the gunnery area the Navy Department may incur considerable criticism for depriving the owners of these ranches of their property. More complete use might be made of the areas now constituted and the taking of the DeLong and Capelli ranches justified by the use of a course marked in a green broken line and labeled S-2. This suggested course violates distance requirements between courses reducing them at the nearest point to 8 miles and would permit firing only in an easterly direction for the northerly 18 miles of the course.

The Commanding Officer, NAAS Fallon, telephoned the Assistant Real Estate Officer this morning stating that Senator McCarran had interposed with the Commanding Officer on behalf of DeLong and Capelli. It is therefore believed that the matter of utilization of the whole area of the North Range or justification of the present proposed use is of some urgency.

18. LOVELOCK TARGET AREAS 1, 2, 3, and 4

These areas are being processed as requested by N.A.B. The matter has been transmitted to BuDocks.

A proposal to permit the Commandant to negotiate for use of areas requested was refused by the C.N.O. The areas requested are delineated upon Map 3 in red.

19. MADERA

Request for transfer of jurisdiction from Army to Navy is being processed. First endorsement on N.A.B.'s request By Com. 12 is dated 10 November 1944.

20. PETALUMA (640 acres)

Leasehold acquired by condemnation. Order of possession dated 6 November 1944.

21. PYRAMID LAKE, NEVADA

Condemnation action filed. Lease has been negotiated and fully executed for Pyramid Lake Ranch as a site for shore facilities.

A lease has been negotiated with Paiute Indian tribe for use of lake for torpedo dropping.

The lake is presently being used for dive bombing and N.A.B. requested permission to use it for strafing. The dive bombing targets presently established in the lake are shown upon Map 3. A water borne mobile bombing target operates north of Latitude 40° North. A representative of the Commandant negotiated with the Indian Tribal Council for permission to dive bomb and strafe and the resolution permitting strafing and dive bombing was entered in the minutes. This formal permission to dive bomb and strafe is proposed to be obtained by modification to the lease which grants use of the lake for torpedo dropping.

Pyramid Lake, Nevada (Cont'd)

This modification will have to be processed through the Indian Service, Department of the Interior.

There is no objection to proposed dive bombing operations, however attention is called to the existence of a railroad on the west side of said lake and the fact that this railroad transports ammunition with every train which passes the lake. Information concerning the extent and time of train traffic and the possibility of coordinating railroad and Navy activities to provide safety for both is being obtained from the traffic control superintendent at Ogden, Utah.

The activities conducted and proposed in Pyramid Lake are shown upon Map 3. The direction of strafing runs are marked in the area in which strafing is proposed to be conducted.

22. TRINIDAD

640 acres ~~of land has been~~ leasehold acquired by condemnation. Order for possession issued 4 October 1944.

23. VERNALIS

160 acres ~~has been~~ leasehold obtained by condemnation. Order for immediate possession issued 14 July 1943.

24. WINNEMUCCA TARGET AREAS 1, 2, 3, 4

No request has been made for target areas in the vicinity of Winnemucca. However, certain land is available for this purpose if the request is processed. The areas which are available are marked upon Map 3 in green. Where a checkerboard green pattern appears any one square mile marked in green is available. Where a larger solid green area is marked any 10 square miles area is available.

APPENDIX E-2

12th Naval District, 1945

Agreement Modifying Lease NOy(R)-35804 Between Paul J Hudner and Mary Hudner and the United States of America including Bombing Target Area "5" NAAS Hollister, Calif (P.W. Drawing No. 1942), 1 February 1945

AGREEMENT MODIFYING LEASE NOy(R)-35804

Between

PAUL J. HUDNER and MARY HUDNER

and

THE UNITED STATES OF AMERICA

THIS AGREEMENT, made and entered into as of the 1 February 1945, by and between PAUL J. HUDNER and MARY HUDNER, hereinafter referred to as the Lessor, and THE UNITED STATES OF AMERICA, hereinafter referred to as the Government:

WITNESSETH:

WHEREAS, by lease NOy(R)35804 dated August 1, 1943, the Lessor leased to the Government a certain parcel of 440 acres in the county of San Benito, state of California, as more particularly described in said lease; and

WHEREAS, the Lessor has requested the right to graze cattle on that portion of the leased premises hereinafter described; and

WHEREAS, such grazing will not interfer with the Government's use of the leased premises, but will reduce the fire hazard on the leased premises.

NOW THEREFORE, in consideration of covenents herein contained, the parties hereto agree that as of the date hereof said lease Noy(R)35804 shall be modified as follows:

1. Paragraph 5 and 7 shall be amended to provide for a monthly rental of $225.00 instead of $250.00, which rental shall continue to be paid in equal monthly installments at the end of each month.

2. The following paragraphs are hereby added to said lease.

"16. The Lessor shall have the right, subject to Security Regulations which may be established by the Officer in Charge of the leased premises, to graze cattle on that part of the leased premises described as follows:

Three hundred (300) acres of those areas on the East and West sides now fenced and further described as the shaded areas on Public Works Drawing approved 30 January 1942 of the Bombing Target Area "5", Naval Auxiliary Air Station, Hollister, California.

That a print of said Public Works drawing approved 30 January 1945 is marked "Exhibit A" and hereunto attached and is made a part hereof.

"17. The Lessor agrees that within ten days from the date hereof the Lessor will plow twenty-foot fire guards around the boundary of the entire leased premises and will run similar trails through the interior of the leased premises to assist in preventing the spread of any fire which may start from bombing operations upon the leased premises. Such obligation of the Government to restore the demised premises as is contained in paragraph 8 of this lease shall not apply to such fire guards and trails.

"18. The Lessor hereby waives any claim and agrees to indemnify and hold harmless the Government against claims of others for loss of life or property or injury thereto caused by or arising out of the use by the Lessor of the land as described in paragraph 16.

"19. The Government shall have the right to revoke the right granted to the Lessor under paragraph 16 thereof upon ten days written notice to the Lessor by the Navy Officer in Charge of the leased premises. In the event of such revocation the rate of rental reserved in paragraphs 5 and 7 of this lease shall automatically change to $250.00 per month as of the date of such revocation."

Except as herein modified said lease NOy(R)35804, and the terms therein shall remain in full force effect.

In witness thereof the parties hereto have hereinto subscribed their names as of the date first above written.

In presence of:

Sibley Rx[illegible] — Paul J. Hudner
Paul J. Hudner

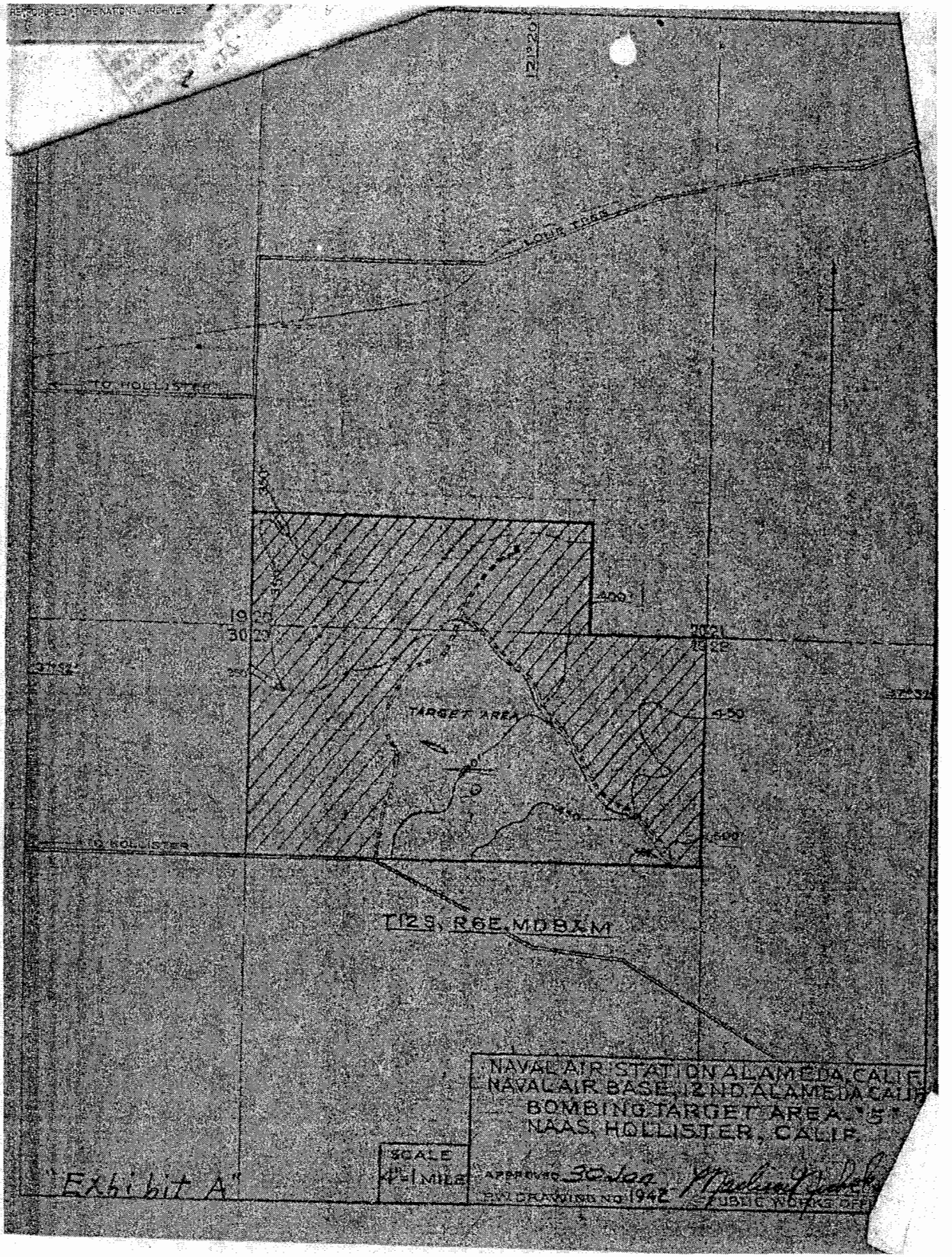
Merie Louise Gomes — Mary Hudner
Mary Hudner

UNITED STATES OF AMERICA

Lt. Comdr. Eugene P. McCahill, USNR
Room 3028

By Eugene P. McCahill
By direction of the Chief of the Bureau of Yards and Docks, acting under the direction of the Secretary of the Navy.

PAYMENT TO BE MADE BY CENTRAL/NAVY DISBURSING OFFICER, 12th NAVAL DISTRICT


REPRODUCED AT THE NATIONAL ARCHIVES
LONE TREE
TO HOLLISTER
TO HOLLISTER
TARGET AREA
T12S, R6E, MDB&M
NAVAL AIR STATION ALAMEDA, CALIF.
NAVAL AIR BASE, 12ND ALAMEDA CALIF.
BOMBING TARGET AREA "5"
NAAS, HOLLISTER, CALIF.
SCALE
1"=1 MILE
APPROVED 30 Jan 42
PUBLIC WORKS OFF.
"Exhibit A"

APPENDIX E-3

12th Naval District, Public Works Office, 1945

Physical Properties and Facilities of the Principal Naval Activities and Offices Located in the 12 ND, Appendix I History of Public Works, October 1945

~~RESTRICTED~~

Physical Properties and Facilities

of the

Principal Naval Activities and Offices

Located in the

12 ND

APPENDIX I

HISTORY OF PUBLIC WORKS

District Headquarters
PUBLIC WORKS OFFICE
San Francisco, California

Prepared June 1945 **NAV 12 - P3** **Printed October 1945**

In the development of Naval Air Bases, it was necessary to establish various sorts of targets for special training. These targets were established from Crescent City in Northern California as far south as King City, and in Nevada from Fallon to Winnemucca and to Lovelock. A constant search for suitable target sites and their establishment continued from January 1943 until 1945 and purchases were made throughout that period. Search for these target sites was carried out by Operations Officers of Naval Air Bases staff and Fleet Air and Public Works officers. After suitable sites were located it was necessary to obtain clearance from the property owners and the Inter-departmental Air Traffic Control Board (IATCB). The Twelfth Naval District Legal Officer submitted the details to the Bureaus concerned and eventually the sites were either purchased or leased. A number of these targets have been used jointly by the Army and the Navy.

Because of the need for additional training facilities, NAAS, King City, was commissioned on 6 April 1945, having been used formerly as an Army training base. Command of this station was assumed by Lieutenant Commander Gordon M. Boyes, who

NAVAL AIR BASES, TWELFTH NAVAL DISTRICT
ALAMEDA, CALIFORNIA

Date Established: 10 August 1944 (Naval Air Center prior thereto).

Location: The headquarters of the Commander, Naval Air Bases, Twelfth Naval District, located at Naval Air Station, Alameda, California.

Function: As an activity under the Commandant, Twelfth Naval District, this command is charged with the duty of directing, coordinating and administering the various activities and facilities assigned thereto, and of planning and initiating new projects as necessary, to the end that all services and facilities required by operational units of the aeronautical establishment of the Navy in the assigned area will be available.

Subordinate Activities:

Naval Air Station, Alameda, California.
- Naval Auxiliary Air Facility, Treasure Island, California.
  (Recommendation for redesignation as Naval Air Facility, pending).
- Outlying Field, Napa (temporary permit from Army).
- Emergency Seaplane Landing, Tulare Lake, California
- Emergency Seaplane Landing, Clear Lake, California
- Machine Gun Range, Lake Chabot, California
- Bombing Range 1, Tomales Bay, California
- Bombing Range 2, Abbott's Lagoon, California
- Bombing Range 3, San Francisco Bay, California
- Skip Bombing Range 3A, San Francisco Bay, California
- Bombing Range 4, D. D. Hulk, San Francisco Bay, California
- Bombing Range 10, Antioch, California
- Rocket Range 24, Tulare Lake, California
- District Central Weather Office, Alameda, California

Naval Auxiliary Air Station, Arcata, California
- Outlying Field, Crescent City, California
- Seaplane Facility, Eureka, California
- Naval Air Facility, Red Bluff, California
- Rocket Range 12, Big Lagoon, California
- Rocket Range 13, Humboldt Bay, California
- Bombing Range 21, Arcata

Naval Auxiliary Air Station, Crows Landing, California
- Naval Air Facility, Madera, California
- Bombing Range 7, Crows Landing, California
- Bombing Range 22, Gustine, California
- Rocket Range 23, Madera, California

Naval Auxiliary Air Station, Fallon, Nevada
- Outlying Field, Lovelock, Nevada
- Outlying Field, Austin, Nevada
- Outlying Field, Lahontan, Nevada
- Outlying Field, Winnemucca, Nevada
- Torpedo Facility, Pyramid Lake (Sutcliffe), Nevada
- Torpedo and Gunnery Range, Pyramid Lake, Nevada
- Gunnery Range, Fallon, Nevada
- Gunnery Range, Lovelock, Nevada
- Bombing Range 11, Carson Sink Nevada
- Bombing Range 14, Pyramid Lake, Nevada

~~RESTRICTED~~

NAVAL AIR BASES, TWELFTH NAVAL DISTRICT, ALAMEDA, CALIFORNIA, (Continued)

Rocket Bombing Range 15, Carson Sink A, Nevada
Rocket Bombing Range 16, Carson Sink B, Nevada
Bombing Range 17, Bermond, Nevada
Bombing Range 18, Fallon A, Nevada
Bombing Range 19, Fallon A, Nevada
Bombing Range 20, Shurz, Nevada
Bombing Range 25, Lovelock A, Nevada
Bombing Range 26, Lovelock B, Nevada
Bombing Range 27, Lovelock C, Nevada

Naval Auxiliary Air Station, Hollister, California
Bombing Range 5, Hollister, California

Naval Auxiliary Air Station, King City, California
Rocket Range 28, Hunter Liggett

Naval Air Station, Livermore, California
Outlying Field, Livermore, California

Naval Air Station, Moffett Field, California
Naval Auxiliary Air Facility (LTA), Eureka, California
(Recommendation for redisignation as Naval Air Facility pending).
Naval Auxiliary Air Facility (LTA), Watsonville, California
(Recommendation for redisignation as Naval Air Facility pending).
Outlying Field, Half Moon Bay, California
Naval Detachment, National Advisory Committee on Aeronautics

Naval Auxiliary Air Station, Monterey, California
Outlying Field, San Luis Obispo, California
Emergency Seaplane Landing, Monterey Bay, California

Naval Air Station, Oakland, California

Naval Auxiliary Air Station, Santa Rosa, California
Naval Auxiliary Air Facility, Cotati, California
(Recommendation for redesignation as Outlying Field pending).
Outlying Field, Mendocino, California
Rocket Range 9, Petaluma, California
Bombing Range 29, Jenner, California
Bombing Range, Stewart's Point, California.

U. S. Coast Guard Air Station, South San Francisco, California
(See Coast Guard Section)
Naval Auxiliary Air Facility, Mills Field, South San Francisco, California. (Recommendation for redesignation as Naval Air Facility pending).

Naval Auxiliary Air Station, Vernalis, California
Outlying Field, Tracy, California
Bombing Range 6, Vernalis, California

Naval Auxiliary Air Station, Watsonville, California
Rocket Range 8, Watsonville, California
Bombing Range 8A, Monterey Bay, California

~~RESTRICTED~~

NAVAL AUXILIARY AIR STATION, HOLLISTER, CALIFORNIA

Date Established: 26 June 1943.

Location: Three (3) miles north of Hollister, San Benito County, California.

Function: To serve as an auxiliary air station under Naval Air Bases, 12ND.

Area: 210.9 acres (Navy owned).

Improvements and Facilities:

Barracks: 956 Enlisted Men (Mess facilities available)
28 Enlisted Waves (Mess facilities available)

B.O.Q.: 162 Officers (Mess facilities available)

Storehouses: 13,820 square feet

Shop: 7,948 square feet

Hangars: 2 - 14,530 square feet (total)

Runways: 1 - 200 feet by 4350 feet
1 - 200 feet by 4000 feet

Aircraft parking area: 386,100 square feet

Dispensary: 18 beds

Recreational: Welfare Building, including motion picture auditorium
Athletic pavilion
Softball field
2 Basketball courts
2 Handball courts
2 Tennis courts
Officer's Club
Ship's Service

Transportation: Navy bus service is available from the Station to Hollister, California, from which point transportation is available by Pacific Greyhound Lines.

Subordinate Activity: Bombing Range No. 5, Hollister California.

APPENDIX E-4

12th Naval District, 1946

Letter: NAB, 12ND Bombing Target Area NAAS, Hollister – Lease NOy(R)-35804, 28 February 1946

SAN FRANCISCO, 2, CALIFORNIA

hd
L4-3/ND12(2)
Serial 15854

(Rs-2400)

1st Endorsement on Cmdr. NAB Alameda, Calif. Ltr NAB12-80-cl/N1-13/H2-14, Serial 316, to BuDocks, dtd 23 January 1946

28 February 1946

From: Commandant, Twelfth Naval District
To: Chief of the Bureau of Yards and Docks
Via: (1) BuAer
(2) CNO

Subject: NAB, 12ND, Bombing Target Area at NAAS, Hollister - Lease NOy(R)-35804

References: (a) Com12 Ltr to Paul J. Hudner, Serial 15213, dated 1 February 1946
(b) Ltr from Paul J. Hudner to Com12, dated 5 February 1946

Enclosures: (A) Copy of reference (a)
(B) Copy of reference (b)

N1-9/NA27(4)
N1a/NA27(4)
NA27(4)
ND12(3)
(53)

1. The Commandant by reference (a) asked subject lessor if he would make cancellation effective immediately, thereby enabling him to bring the land under production this year. By reference (b) the Commandant was advised by the lessor that he could not bring the land under production this year and would not terminate the lease prior to July 1, 1946 in accordance with the terms of the lease, and further advised that the land had not been restored to his satisfaction.

2. Subsequent negotiations were carried on with the lessor relative to restoration of the property. A visit to the target area showed that the smaller fragments of a size which would hinder mowing operations in harvesting grain had not been removed from the premises, although the larger fragments had been picked up and stored on the lessor's property at the South entrance. It is estimated that removal of these smaller fragments which are partially buried in the land will cost approximately $580.00. The lessor's two main stock gates at the South end of the property have been destroyed and replaced by temporary gates which are not satisfactory. It is estimated that it will cost $50.00 to replace the two destroyed gates, with consideration to depreciation. The lessor's stock-proof fence surrounding the property was broken in several locations by the operating activity, and it is estimated $20.00 will take care of these repairs. During the period of occupancy on the 140 acres not grazed by the lessor, which compose the immediate target area, no rodent control was given the property. It is

60660202

3 15

Subject: NAB, 12ND, Bombing Target Area at NAAS, Hollister - Lease NOy(R)-35804

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estimated that work at a cost of $50.00 will be necessary to reduce the rodents to a point where only the past normal yearly control will be necessary.

3. The pile of bomb fragments placed at the South entrance to the property contains a loose volume of approximately 20,000 cubic feet, or 16 tons of material. The lessor will not take a monetary consideration for leaving the fragments on his property, but requests that they be removed by the Government. Determination is being made if this metal will be removed for salvage.

4. In lieu of filling in the scars (bomb craters) now on the land, it is recommended that the lessor be given immediate custody of the property with payment of rental to July 1, 1946. Immediate custody will relieve the Government of further liability other than the removal of the pile of larger bomb fragments at the South end of the property.

5. A summation of the recommendations for lease cancellation and restoration considerations follows:

(1) The lessor be paid $700.00 in lieu of restoration.
(2) The lessor be paid rental until July 1, 1946, and be given immediate custody of the property.
(3) The Government remove the pile of bomb fragments from the South end of the property at the earliest possible date.

6. Procurement of a road magnet capable of traversing rough terrain and powerful enough to extract all the smaller bomb fragments from the earth, is being investigated. If this equipment is procured, it will be used on other target areas as well as subject area. Restoration costs can thereby be reduced by $580.00 on subject lease.

7. Authority is requested to prepare a cancellation agreement locally for execution by the lessor with provisions based on the conditions set forth in paragraph 2, except for the amount of the lump sum payment which will be dependent upon results of the search for an adequate road magnet.

W. W. SCHNEIDER
By direction of the Commandant

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APPENDIX E-5

12th Naval District, 1946

Supplemental Agreement To Lease NOy(R)-35804., 30 June 1946

SUPPLEMENTAL AGREEMENT
TO
LEASE NOy(R)-35804

THIS AGREEMENT, made and entered into as of the 30th day of June, 1946, by and between PAUL F. HUBNER and MARY HUBNER, whose address is Hollister, California, for themselves, their heirs, executors, administrators, successors and assigns, hereinafter called the Lessors, and the UNITED STATES OF AMERICA, hereinafter called the Government,

WITNESSETH

WHEREAS, on the 1st day of August 1943, the parties hereto entered into a certain indenture of Lease designated as NOy(R)-35804, covering that real property situate in the County of San Benito, State of California, and more particularly described as follows:

"All of the North one-half of Section 29, T. 12 S.R. 6E M.D.B.& M. and the southwest quarter of the southeast quarter and the southeast quarter of the southwest quarter and the southwest quarter of the southwest quarter of Section 20 T. 12 S.R. 6 E M.D.B. & M. Containing 440 acres more or less";

and

WHEREAS, on the 1st day of February 1945, by certain indenture entitled "Agreement modifying Lease NOy(R)-35804" the subject Lease was modified in certain particulars; and

WHEREAS, said Lease has been renewed from time to time and is now in full force and effect until and including 30 June 1946; and

WHEREAS, it is the desire of the Government not to renew the subject Lease beyond the term ending June 30 1946; and

WHEREAS, during the term of the above referred to Lease certain damage has resulted to the property described in said Lease by reason of the Government's use thereof; and

WHEREAS, the Lessors, in accordance with paragraph 8 of said Lease, desire that the Government restore the premises to the condition existing at the time the Government entered into possession, ordinary wear and tear and damages by the elements or by circumstances over which the Government has no control, excepted; and

WHEREAS, it has been determined to be to the advantage and interest of the Government to pay the sum of SEVEN HUNDRED AND NO ONE-HUNDREDTHS DOLLARS ($700.00) in full satisfaction of the Government's obligation to restore; and

WHEREAS, the Lessors are willing, in lieu of performance by the Government of the restoration required by said Lease to accept the sum of SEVEN HUNDRED AND NO ONE-HUNDREDTHS DOLLARS ($700.00) in full

NOW, THEREFORE, in consideration of the premises the parties h
mutually agree as follows:

1. The Government does hereby release, relinquish and surrender po
of the demised premises as of the date first above written, and ther
the Lessors shall assume all care and custody of said property.

2. The Government shall pay to the Lessors the sum of SEVEN HUNDRE
NO ONE-HUNDREDTHS DOLLARS ($700.00) in full satisfaction of the Gove
ment's obligation to restore the demised premises as required by the
sors, pursuant to the provisions of Paragraph 8 of the above referre
Lease.

3. The Lessors do hereby release, remise and forever discharge the
ernment, its officers, agents and employees of and from any and all
of actions, liability and claims against the Government, its officer
agents and employees for the restoration of said premises, or by rea
any other matter, cause or thing whatsoever, particularly arising ou
said Lease and the occupation by the Government of the aforesaid pre
except any rent due and unpaid for the period to and including 30 Ju
1946.

4. No Member of or Delegate to Congress or Resident Commissioner s
be admitted to any share or part of this agreement or to any benefit
arise therefrom. Nothing, however, herein contained shall be constr
to extend to any incorporated company, if the agreement be for the g
benefit of such corporation or company.

IN WITNESS WHEREOF, the parties hereto have executed this instr
as of the date and year first above written.

/s/ Paul J. Hudner
PAUL J. HUDNER

/s/ Mary Hudner
MARY HUDNER

WITNESS:

/s/ Chas. Hall Jr.

/s/ W. R. O'Donnell

UNITED STATES OF AMERICA

By
By direction of the Chief of
the Bureau of Yards and Docks,
acting under the direction of
the Secretary of the Navy.

Payment to be made by
Navy Central Disbursing
Officer, Twelfth Naval
District.

APPENDIX E-6

Interdepartmental Air Traffic Control Board (IATCB), 1942

IATCB Meeting No. 134, 12 August 1942

WASHINGTON, D. C.

Meeting No. 134 August 12, 1942

Place: IATCB Room, Army Air Forces Annex No. 1, Washington, D. C.

Time: 1:00 p.m. to 5:00 P.m.

Members Present:

E. F. Ward, CAA
C. B. Lober, Col., AC
Gus Leazar, CAB

Alternates Present:

W. F. Taylor, Ensign, USNR

Secretary: J. B. Hartranft, Jr., Capt., AC

Witnesses Appearing:

R. H. Drake, CPT-CAA
R. L. Griffith, CAA
J. A. Yarrow, CAA Airport Division

Subjects: 1. AIRPORTS

A. ARMY

1. OGDEN, UTAH - ROBERT H. HINCKLEY FIELD
2. FUCKERMAN, AR KANSAS - TWO OUTLYING FIELDS
3. L MESA, TEXAS - GLIDER TRAINING
4. DURANT, OKLAHOMA - CIVIL ELEMENTARY FLYING TRAINING

B. CIVILIAN PILOT TRAINING PROGRAM

1. DODGE CITY, KANSAS

2. DANGER AREAS

a. KINGMAN, ARIZONA - GROUND GUNNERY RANGE
b. FOR ALAMEDA, CALIFORNIA, NAVAL AIR STATION

1. OFF-SHORE AERIAL GUNNERY AND BOMBING
a. SAN LUIS OBISPO, CALIFORNIA
b. SOUTH OF SAN FRANCISCO, CALIFORNIA
c. NORTH OF SAN FRANCISCO, CALIFORNIA

2. DIVE BOMBING TARGETS
a. ABBOTTS LAGOON, CALIFORNIA
b. COTATI, CALIFORNIA
c. SANTA ROSA, CALIFORNIA
d. YOUNTVILLE, CALIFORNIA
e. HOLLISTER, CALIFORNIA

3. MEMORANDA FOR THE RECORD
a. BOWLING GREEN, KENTUCKY - LOCATION OF APPROVED SITE
b. EVERETT, WASHINGTON - WITHDRAWAL OF REQUEST FOR EXTENSION OF MACHINE GUNNERY RANGE

7-1-42, AC

4. That the local Commanding Officer be responsible for the cessation of fire on this range whenever aircraft come within dangerous proximity to the range.

5. That no danger area be established over this range.

* * * * * *

b. FOR ALAMEDA, CALIFORNIA, NAVAL AIR STATION
1. OFF-SHORE AERIAL GUNNERY AND BOMBING
a. SAN LUIS OBISPO, CALIFORNIA
b. SOUTH OF SAN FRANCISCO, CALIFORNIA
c. NORTH OF SAN FRANCISCO, CALIFORNIA

Discussion:

The Secretary of the Board presented a request from th Naval Air Station, ALAMEDA, CALIFORNIA for approval of thre Gunnery and Bombing Ranges in the vicinity of SAN FRANCISCO and SAN LUIS OBISPO, CALIFORNIA.

Findings:

1. The Aerial Gunnery and Bombing Range in the vicinity of SAN LUIS OBISPO, CALIFORNIA is described as bounded by a line beginning at Point San Luis, Latitude 35° 10' N, Longitude 120° 45' W, thence West Southwesterly along a straight line to a point at Latitude 34° 49' N, Longitude 121° 30' W, thence Northwesterly along a straight line to Latitude 35° 10' N, Longitude 122° 00' W, thence due North to Latitude 35° 40' N, thence due East to the California Coast line at Point Piedras Blancas located at Latitude 35° 40' N, Longitude 121° 17' W, thence generally Southeasterly along the California Coast line to Point San Luis and the point of origin.

2. The Aerial Gunnery and Bombing Range South of SAN FRANCISCO, CALIFORNIA is described as an area enclosed by a line beginning at Point Sur, California at Latitude 36° 18' N, Longitude 121° 54' W, thence due West to Longitude 122° 45' W, thence Northwesterly along a straight line to Latitude 36° 45' N, Longitude 123° 35' W, thence due North to Latitude 37° 06', thence North Northeasterly along a straight line to Latitude 37° 30' N, Longitude 123° 20' W, thence due East to the Coast line at Pillar 122° 30' W, thence generally South Southeasterly along the California Coast line to Point Sur and the point of origin.

3. The area described in 2 above includes a major portion of a Danger Area established in Meeting No 65 extending off the California Coast between SAN FRANCISCO and Point Sur.

4. The Aerial Gunnery and Bombing Range North of SAN FRANCISCO, CALIFORNIA is described as bounded by a line beginning at Point Reyes at Latitude 38° 00' N, Longitude 123° 01' 30" W, thence due West to 124° 40' West Longitude thence due North to Latitude 39° 00' N., thence due East to the Coast line at Latitude 39° 00' N, Longitude 123° 42' W, thence generally Southeasterly along the California Coast to Point Reyes and the point of origin.

5. The area described in 4 above almost completely encompasses a previously established Danger Area extending from Bodega Head to Point Reyes.

[redacted] 3-1492, AF
- 5 -

Meeting No. 1-54

RECOMMENDATIONS:

1. That the three Off-Shore Aerial Gunnery and Bombing Ranges described below be approved and be designated Danger Areas:

a. SAN LUIS OBISPO, CALIFORNIA - Bounded by a line beginning at Point San Luis, Latitude 35° 10' N, Longitude 120° 45' W, thence West Southwesterly along a straight line to a point at Latitude 34° 49' N, Longitude 121° 30' W, thence Northwesterly along a straight line to Latitude 35° 10' N, Longitude 122° 00' W, thence due North to Latitude 35° 40' N, thence due East to the California Coast line at Point Piedras Blancas located at Latitude 35° 40' N, Longitude 121° 17' W, thence generally Southeasterly along the California Coast line to Point San Luis and the point of origin.

b. SOUTH OF SAN FRANCISCO, CALIFORNIA - The area enclosed by a line beginning at Point Sur, California at Latitude 36° 18' N, Longitude 121° 54' W, thence due West to Longitude 122° 45' W, thence Northwesterly along a straight line to Latitude 36° 45' N, Longitude 123° 35' W, thence due North to Latitude 37° 06', thence North Northeasterly along a straight line to Latitude 37° 30' N, Longitude 123° 20' W, thence due East to the Coast line at Pillar Point, Latitude 37° 30' N, Longitude 122° 30' W, thence generally South Southeasterly along the California Coast line to Point Sur and the point of origin.

DECLASSIFIED
Authority _____
By _____ NARA Date _____

c. NORTH OF SAN FRANCISCO, CALIFORNIA - Bounded at Point Reyes at Latitude 38° 00' N, Longitude 123° 01' to 124° 40' West Longitude thence due North to Latitude [illegible] due East to the Coast line at Latitude 39° 00' N, Longitude [illegible] generally Southeasterly along the California Coast to Point Reyes and the point of origin.

2. That operations within the area described in 1 a. and b. above be coordinated with existing activities in these areas.

3. That the Danger Areas designated in 1 above be published in CAA Weekly Notices to Airmen and shown on Coast and Geodetic Survey Aeronautical Charts.

* * * * * *

2. DIVE BOMBING TARGETS
   a. ABBOTTS LAGOON, CALIFORNIA
   b. OCOTTI, CALIFORNIA
   c. SANTA ROSA, CALIFORNIA
   d. YOUNTVILLE, CALIFORNIA
   e. HOLLISTER, CALIFORNIA

Discussion:

The Secretary of the Board presented a request from the Commanding Officer, Naval Air Station, ALAMEDA, CALIFORNIA for approval of 5 sites for Dive Bombing Targets to be used by various Outlying Fields of the Naval Air Station.

Findings:

1. The locations of the Dive Bombing Target Sites are as follows:

a. ABBOTTS LAGOON, CALIFORNIA - Approximately 10 miles Northeast of ANTIOCH, CALIFORNIA, at Latitude 38° 06', Longitude 121° 40'.

b. OCOTTI, CALIFORNIA - Adjacent to Ocotti Outlying Field for the NAS, ALAMEDA, located at Latitude 38° 21', Longitude 122° 44'.

[redacted]

d. YOUNTVILLE, CALIFORNIA - Adjacent to the Yountville Outlying Field for the NAS, ALAMEDA, located at Latitude 38° 24', Longitude 122° 21'.

e. HOLLISTER, CALIFORNIA - Adjacent to the Hollister Outlying Field for the NAS, ALAMEDA, located at Latitude 36° 56', Longitude 121° 24'.

2. The ground area required for the target in the vicinity of Abbotts Lagoon has not been acquired as yet. Clearance is asked for planning purposes so that the local authorities may carry out negotiations toward acquiring said property with full assurance that use of the target will be approved.

RECOMMENDATIONS:

1. That the sites for Dive Bombing Targets located as follows be approved:

b. COTATI, CALIFORNIA - Adjacent to Cotati Outlying Field located at Latitude 38° 21', Longitude 122° 44'.

c. SANTA ROSA, CALIFORNIA - Adjacent to Santa Rosa Outlying Field located at Latitude 38° 26', Longitude 122° 45'.

d. YOUNTVILLE, CALIFORNIA - Adjacent to Yountville Outlying Field located at Latitude 38° 24', Longitude 122° 21'.

e. HOLLISTER, CALIFORNIA - Adjacent to Hollister Outlying Field located at Latitude 36° 56', Longitude 121° 24'.

2. That circular areas with a three mile radius described around the coordinates given in 1 b., d., and e. above be designated Danger Areas.

3. That the Southwestern half of a circular area with a three mile radius described around the coordinates given in 1 c. above be designated a Danger Area.

4. That the Danger Areas designated in 2 and 3 above be published in CAA Weekly Notices to Airmen and shown on Coast and Geodetic Survey Aeronautical Charts.

5. That a site in the vicinity of ABBOTTS LAGOON, CALIFORNIA be approved for a Dive Bombing Target.

6. That the target in the vicinity of ABBOTTS LAGOON, together with a Danger Area comprising a circle 3 miles in radius be established outside of Green Airway No. 3.

7. That the Flight Information Section of the Civil Aeronautics Administration and the Coast and Geodetic Survey be notified at least 30 days prior to putting said target into use.

8. That upon receipt of notification in Seven (7) above, the Danger Area be published in CAA Weekly Notices to Airmen and shown on Coast and Geodetic Survey Aeronautical Charts.

* * * * * *

[redacted] 3-1492, AF

APPENDIX E-7

Interdepartmental Air Traffic Control Board (IATCB), 1942

IATCB Meeting No. 195, 1 December 1942

~~RESTRICTED~~

AHA

INTERDEPARTMENTAL
AIR TRAFFIC CONTROL BOARD
WASHINGTON, D. C.

Meeting No. 196 December 1, 1942

Place: IATCB Room, Army Air Forces Annex #1, Washington, D. C.

Time: 1:00 p.m. to 5:00 p.m.

Members Present:

Earl F. Ward, CAA, Presiding
J. B. Voit, Commander, USN
J. S. Marriott, Lt. Colonel, AC

Alternate: John J. Quinn, CAA

Secretary: J. B. Hartranft, Jr., Major, AC

Witnesses Appearing:

Edward W. Piltz, CAA
J. Kirk Baldwin, CPT-CAA
John R. Nash, Captain, AC

* * * * * * *

SUBJECTS:

3-5069, AF

~~RESTRICTED~~

(e) During Bombing operations each area shall be patrolled by an aircraft flying at the 1000 feet level to warn bombers of the presence of vessels or other aircraft in the vicinity—and to order discontinuance of bombing until areas are cleared.

(f) Under contact flight conditions when bombing is in progress, all across-the-bay air traffic shall be restricted to a 2 mile wide lane, of which the San Mateo Bridge is the center line. East bound traffic will fly south of the bridge, and westbound traffic will fly north of the bridge. Upon termination of bombing, Airway Traffic Control may clear traffic across the Bay in the normal traffic channels.

(g) When instrument flying conditions prevail, the bombing areas will not be used and flights across the bay will follow the radio ranges."
(San Francisco RS-1).

* * * * * *

C. SAN FRANCISCO, CALIFORNIA – REDESIGNATION OF AERIAL GUNNERY RANGE

Discussion:

The Secretary of the Board presented a recommendation from the Los Angeles IATCB Subcommittee that the aerial gunnery range approved in Meeting No. 134 (Subject 2g (1) b) be redesignated as an Aerial Gunnery and Bombing Range. Inasmuch as a check of IATCB records revealed that Meeting No. 134 approved this area for both Aerial Gunnery and Bombing, there was no further action taken.

* * * * * *

H. HOLLISTER, CALIFORNIA – DIVE BOMBING TARGET

Discussion:

The Secretary of the Board presented the recommendations of the Los Angeles IATCB Subcommittee in connection with a dive bombing target site for use by the Navy near HOLLISTER, CALIFORNIA, approved in Meeting No. 134.

Findings:

1. Dive Bombing Target approved for the Navy in Meeting No. 134 is located at Latitude 36° 56', Longitude 121° 24'.

2. The Navy Member of the Los Angeles IATCB Subcommittee, stated that this location is now considered to be a hazard for landing operations at the nearby field and requested that the above location be rescinded and that a new area for this dive bombing target site be approved. This new area is at Latitude 36° 49', Longitude 121° 19'. The Subcommittee recommended approval of this new site.

RECOMMENDATIONS:

1. That the Dive Bombing Target located at Latitude 36° 56', Longitude 121° 24', HOLLISTER, CALIFORNIA, and approved in Meeting No. 134, be rescinded.

2. That a Dive Bombing Target site located at Latitude 36° 49', Longitude 121° 19', HOLLISTER, CALIFORNIA, be approved for the Navy.

3. That the area described in No. 2 above be designated a danger area and published in Notices to Airmen and plotted on Aeronautical Charts.
(San Francisco RS-1)

* * * * *

[redacted]

-11-

Meeting No. 195 December 1, 1942

I. WILLIAMS FIELD, HIGLEY, ARIZONA - BOMBING TARGET

Discussion:

The Secretary of the Board presented a recommendation from the Los Angeles IATCB Subcommittee with regard to a request for Bombing Target Site T-10, for WILLIAMS FIELD, HIGLEY, ARIZONA (near CASA GRANDE, ARIZONA) which approved this request provided all bombing planes remain below two hundred feet and that ceiling is at least fifteen hundred feet, and visibility five miles.

No action was taken on this matter in view of Recommendation in IATCB Meeting No. 188 reading as follows:

"2. That bomb target site T-10, approved at Meeting No. 183 for use by Williams Field, HIGLEY, ARIZONA, for bombing at an altitude below 200 feet until January 1, 1943, be granted an extension of time until February 13, 1943 and that the maximum bombing altitude be increased to 500 feet."

* * * * * *

J. ALAMEDA, CALIFORNIA - BOMBING TARGET FOR NAVAL AIR STATION

Discussion:

The Secretary of the Board presented a recommendation from the Los Angeles Subcommittee, in connection with a request from the Headquarters, U. S. Naval Air Station, Alameda, California, for establishment of a bombing target the center of which will be located at Latitude 37° 23', Longitude 121° 10'. The Subcommittee approved this request.

RECOMMENDATIONS:

1. That a bombing target for the Naval Air Station, ALAMEDA, CALIFORNIA, the center of which is located at Latitude 37° 23', Longitude 121° 10', be approved.

2. That the above described area be designated a danger area and published in Notices to Airmen and plotted on Aeronautical Charts. (San Francisco RS-1).

* * * * * *

K. MONROE COUNTY, FLORIDA - TWO DAY MANEUVER AREA

Discussion:

The Secretary of the Board presented a request from the Office, Chief of Engineers, through the War Department Member, for approval of an artillery firing range, MONROE COUNTY, FLORIDA.

Findings:

1. The site requested is described as follows:

North Boundary	Latitude	30° 49'
South Boundary	Latitude	30° 41'
East Boundary	Longitude	80° 54'
West Boundary	Longitude	81° 02'

2. Letter from the Headquarters, Florida Sub Sector, Miami, Florida, to the Commander, Gulf Sea Frontier, Miami, Florida, dated November 25, 1942 requests approval of this area for maneuvers to be conducted December 14-15, 1942, inclusi In addition to firing live ammunition, it is planned to use both fighter and bomb aircraft.

-11-

[redacted] 3-5069, AF

APPENDIX E-8

Interdepartmental Air Traffic Control Board (IATCB), 1943

IATCB Meeting No. 259, 19 April 1943

AHM

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INTERDEPARTMENTAL
AIR TRAFFIC CONTROL BOARD
WASHINGTON, D. C.

Meeting No. 259 — April 19, 1943

Place: IATCB Room, Army Air Forces Annex No. 1, Washington, D. C.

Time: 1:00 P.M. to 5:00 P.M.

Members Present:

Earl F. Ward, CAA, Presiding
J. S. Marriott, Lt. Colonel, A.C.
L. E. Nivling, Lt. Commander, USNR
David E. Postle, CAB

Secretary: J. B. Hartranft, Jr., Major, A.C.

SUBJECTS: PAGE NO.

~~RESTRICTED~~ 3-8312-1, AF

[redacted]

Meeting No. 259 April 19, 1943

"Recommendation:

"That the change in designation between a Caution Area and a Danger Area be approved and that the Danger area be published in current Notices to Airmen and shown on Aeronautical Charts."

RECOMMENDATIONS:

1. That the following described area, near HOLTVILLE, CALIFORNIA, established as a Caution Area in Meeting No. 248-A, be designated a Danger Area for the Naval Air Station, NORTH ISLAND, CALIFORNIA:

Beginning at a point at Latitude 33° 13' 25", Longitude 115° 27', where the Southern Pacific Railroad tracks cross the East Highline Canal; thence in a Southeasterly direction along the Southern Pacific Tracks to a point at Latitude 32° 50' 30", Longitude 114° 52'; thence due West to a point at Latitude 32° 50' 30", Longitude 115° 17' on the East Highline Canal; thence in a Northwesterly and Northerly direction along the Canal to the point of beginning.

2. That the Danger Area established above be published in notices to airmen and shown on aeronautical charts. (San Diego Q-2)

* * * * * * *

b. HOLLISTER, CALIFORNIA - RELOCATION OF DIVE BOMBING TARGET.

Discussion:

The Secretary of the Board presented the findings and recommendation of the Los Angeles Sub-Committee on a request from the Naval Air Station, ALAMEDA, CALIFORNIA for approval of the relocation of the HOLLISTER, CALIFORNIA Dive Bombing Target approved in Meeting No. 195.

Findings:

Following are the findings and recommendation of the Los Angeles Sub-Committee on this request and are taken from the minutes of their Meeting No. 8 held on March 23, 1943:

"Findings:

"1. The Dive Bombing Target approved in Meeting No. 195, IATCB, is located at Latitude 36° 49' N, Longitude 121° 19' W.

"2. The location requested for relocation of the Dive Bombing Target is located at Latitude 36° 52' 00.1" N, Longitude 121° 20' 07.6" West.

"3. The relocation of the HOLLISTER DIVE BOMBING TARGET will not interfere with any other assigned area.

"Recommendation:

"That the Dive Bombing Target as approved in Meeting No. 195 of the IATCB be rescinded and that a new location at

Latitude 36° 52' 00.1" N, Longitude 121° 20' 07.6" West

be approved as a Dive Bombing Target for the Naval Air Station at ALAMEDA, CALIFORNIA.

RECOMMENDATIONS:

1. That the approval in Meeting No. 195 of a Navy Dive Bombing Target near

[redacted]

Meeting No. 259 April 19, 1943

HOLLISTER, CALIFORNIA located at Latitude 36° 49', Longitude 121° 19', be rescinded.

2. That the Dive Bombing Target near HOLLISTER, CALIFORNIA, located at Latitude 36° 52' 00.1", Longitude 121° 20' 07.6" be approved for the Naval Air Station, ALAMEDA, CALIFORNIA.

3. That a circular Danger Area having a radius of 3 miles be established over the Dive Bombing Target approved in 2 above, published in notices to airmen and shown on aeronautical charts. (San Francisco RS-1)

* * * * * * * * *

MEMORANDA FOR THE RECORD:

A. SAYLOR CREEK, IDAHO - REDEFINITION AERIAL GUNNERY RANGE

Due to the narrowing of the airways from 20 to 10 miles as recommended in Meeting No. 228-P and accomplished by CAA as of April 1, 1943, the Aerial Gunnery Range located in the vicinity of SAYLOR CREEK, IDAHO as approved in Meeting No. 155, Subject 2-E, Recommendation 1, should be redefined as follows:

> Beginning at Latitude 42° 51', Longitude 115° 40'; thence due East on said Latitude to Longitude 115° 17'; thence Southeasterly to Latitude 42° 47', Longitude 115° 03'; thence due South on said Longitude to Latitude 42° 33'; thence due West to Longitude 115° 40'; thence due North to Latitude 42° 51', the point of origin.

* * * * * * *

B. BOISE, IDAHO - REDEFINITION OF BOMBING TARGETS 1, 2, and 3

Due to the narrowing of the airways from 20 to 10 miles as recommended in Meeting No. 228-P and accomplished by CAA as of April 1, 1943, the description of Bombing Targets 1, 2, and 3 of the BOISE, IDAHO area in Meeting No. 155, Subject 2-D, Recommendation 1, should be redefined as follows:

> Beginning at Latitude 43° 24' 30", Longitude 116° 30', thence due East to Longitude 116° 17', thence Southeast to Latitude 43° 21' 30", Longitude 116° 12'; thence due South to Latitude 43° 10'; thence due West to Longitude 116° 30'; thence due North to Latitude 43° 24' 30", the point of origin.

* * * * * * *

C. CAMP WHITE - BEAGLE ARTILLERY RANGE - CORRECTION OF MEETING # 249-B

Recommendation 4, sub-paragraph 2, Subject 1-C as given in Meeting No. 139 and reaffirmed in Meeting No. 249-B, should be corrected to read as follows:

4. That the following recommendations in Meeting No. 139 be reaffirmed:

APPENDIX E-9

Naval Air Bases, 12th Naval District, c. 1945

Charts and Directory: Table of Content-Sheet 1 (P.W. Dwg. No. 645) and Bombing Targets Naval Air Bases, 12th Naval District-Sheet 35 (P.W. Dwg. No. 646), undated, circa 1945

SHEET NO. 1

NAVAL AIR BASES, TWELFTH NAVAL DISTRICT
Naval Air Station, Alameda, California

CHARTS AND DIRECTORY

TABLE OF CONTENTS.

NOTES.

FIELD DESIGNATIONS:

Each field is given a field designation number. The first three digits indicate the magnetic bearing of the field and the last one, two or three digits indicate the distance in nautical miles from Naval Air Station, Alameda.

EXAMPLE:

Field Designation 061198. Magnetic Bearing of 61° from Alameda and distance of 198 nautical miles.

[redacted]

PW DMC No. 645

SHEET NO.35

BOMBING TARGETS

NAVAL AIR BASES, TWELFTH NAVAL DISTRICT

Name	No.	Latitude	Longitude	Type
Tomales Bay	1	38° 12'	122° 56'	D
Abbotts' Lagoon	2	38° 07'	122° 57'	D
San Mateo Bridge	3	37° 41'	122° 17'	D
Skip Bombing	3A	37° 39'	122° 15'	SK
DD Hulk	4	37° 33'	122° 09'	D
Hollister	5	36° 52'	121° 21'	D
Vernalis	6	37° 34'	121° 23'	D
Crows Landing	7	37° 26'	121° 10'	D
Watsonville	8	36° 44'	121° 48'	D-R-X
Watsonville	8A	36° 50' 30"	121° 49' 30"	RA
Petaluma	9	38° 11'	122° 33'	D
Antioch	10	38° 02' 30"	121° 37'	D
Carson Sink	11	39° 41'	118° 34' 20"	D
Big Lagoon	12	41° 11'	124° 07'	R-X
Humboldt Bay	13	40° 43'	124° 15'	R-X
Pyramid Lake	14	39° 51' 20"	119° 26'	D-M
Carson Sink A	15	39° 38'	118° 31' 30"	D-R-X
Carson Sink B	16	39° 45' 20"	118° 42' 20"	D-R-X
Sermond	17	39° 15'	118° 17'	D-M
Fallon A	18	39° 19'	118° 49'	R-X-D-SK
Fallon B	19	39° 09'	118° 41'	X-D-SK
Schurz	20	38° 59'	118° 38'	D
Arcata	21	41° 05'	124° 06'	D
Gustine	22	37° 15'	121° 06'	RA
Madera	23	36° 59'	119° 52' 30"	R-D-RA-SK
Tulare Lake	24	35° 59'	119° 50'	RA
Lovelock 1	25	40° 17'	117° 56' 30"	D
Lovelock 2	26	40° 26' 34"	118° 39' 15"	D
Lovelock 3	27	40° 35' 30"	118° 24'	D
Hunter Liggett	28	35° 55'	121° 13'	R-D
Jenner	29	38° 26'	123° 07'	D
Stewart's Point	30	38° 46'	123° 31'	D

LEGEND: D - Dive Bombing R - Rocket M - Mobile
SK - Skip Bombing RA - Radar X - Rake Stations

P.W. Dwg. No. 646

APPENDIX E-10

Naval Auxiliary Air Station Hollister, 1945

History of Naval Auxiliary Air Station, Hollister, California, for period of 1 January 1945 to 1 March 1945, 10 March 1945

DECLASSIFIED

15 MAR 1945

IN REPLY REFER
TO NO. NA27-14180-HHK/VV/gs
A12-1

NAVAL AIR CENTER, ALAMEDA
U. S. NAVAL AUXILIARY AIR STATION
HOLLISTER, CALIFORNIA

Serial: 07

10 MAR 1945

~~CONFIDENTIAL~~ DECLASSIFIED

To: History Unit, Op-93-J-6, Office of Editorial Research.
Via: (1) Commander, Naval Air Bases, Twelfth Naval District, Alameda.
~~(2) Commandant, Twelfth Naval District, San Francisco.~~

Subj: History of NAAS, Hollister, California; forwarding of.

Ref: (a) Aviation Circular Letter #74-44.

1. In compliance with reference (a), the history of the Naval Auxiliary Air Station, Hollister, California, for the period of 1 January 1945 to 1 March 1945 is hereby submitted.

Sibley L. White
SIBLEY L. WHITE,
Commanding Officer.

Encl.
1. (HW) History of NAAS, Hollister.

DECLASSIFIED 50 YR NAVY SCHEDULE

IN REPLY REFER
TO NO.

NAVAL AIR CENTER, ALAMEDA

U. S. NAVAL AUXILIARY AIR STATION

HOLLISTER, CALIFORNIA

1 March 1945

Period from 1 January 1945 to 1 March 1945

During the period indicated above much has happened to make this station a more efficient unit in the Twelfth Naval District organization. The developments which have taken place include noteworthy changes both to the station complement and to the physical facilities of this activity.

Personnel

An event of great interest to the station and to the air groups based here took place on 26 January when Rear Admiral Van Hubert Ragsdale, USN, Commander Fleet Air Alameda, presented thirty-nine (39) awards to various officers and enlisted men of the two air groups. Outstanding among those receiving awards were Lt.(jg) Cornelious N. Nooy and Lt.(jg) Arthur R. Hawkins. Lt.(jg) Nooy received the Silver Star Medal and the Gold Cross in lieu of a second Air Medal for shooting down 15 enemy planes during a nine-month period spent in the Pacific. Lt.(jg) Hawkins shot down 14 enemy planes during the same tour of duty and received the Navy Cross, Gold Star in lieu of a second Air Medal, and Gold Star in lieu of a second Navy Cross.

On 21 February, Lieut.Comdr. C. L. Hamberlin, USNR, of Berkeley, California, previously stationed at NAAS, Watsonville, took over the duties previously held by Lieut. G. L. Bushee as Executive Officer of Ship's Company. On 9 February, Lt.(jg) Jane R. LaMunyan reported aboard as the first Wave officer. Miss LaMunyan has not only the distinction of being the first Wave officer attached to this station, but is also reported to be the first to be assigned to any of the Auxiliary Air Stations under the command of the Twelfth Naval District. She is serving at present as a navigation instructor in the Ground Training Department and will also be the Officer-in-Charge of a substantial enlisted Wave complement who will arrive as soon as quarters are provided.

At the close of the period of this report the Ship's Company consisted of twenty (20) officers and one hundred and ninety (190) men. The total number of men stationed at the activity at present, including those in Casu-37 and Air Groups 31 and 32, is one hundred and seventy-one (171) officers and eight hundred and ninety-three (893) men.

[redacted] DECLASSIFIED

IN REPLY REFER
TO NO.

NAVAL AIR CENTER, ALAMEDA

U. S. NAVAL AUXILIARY AIR STATION

HOLLISTER, CALIFORNIA

1 March 1945

In the summarization of the activities of the personnel of NAAS Hollister, it is noteworthy that the enlisted men assigned to the ship's company constantly try to better the service that they can render to the Navy as well as to improve themselves in their assigned fields. Of the 190 enlisted men assigned to the Ship's Company, thirty-nine (39) received advancements in rate during January and February. Had there been more rates open, this number would have been substantially increased.

Station Improvements

During the period ending 1 March, many building projects were completed which contribute immeasurably to the comfort of the men and to the efficiency of the station. Some of the major building changes include the completion of the Brig, Kodiak hangar, an addition to the Administration Building and Dispensary, the opening and commissioning of the new BOQ, and the erection of a Quonset hut for the storage of paints and inflammable materials. During this time also the BOQ was remodeled to accommodate Wave officers, a photo-lab was constructed in the Operations Building, a permanent field lighting system was installed, and bombing targets and a glide indicator were built for dummy rocket runs on Hollister Bombing Target #5.

General

In the field of public relations, the station paper, The Air Scoop, published semi-monthly, appeared in a commercially printed form for the first time.

During January and February a total of 8410 hours of flying time was logged by the squadrons and the station aircraft. This was accomplished without a serious injury or fatality to any of the pilots or aircrewmen.

Fleet Air Units stationed at NAAS, Hollister during the period of this report include:

Casu-37	6 December 1943 to present time.
VC-41	26 October 1944 to 5 January 1945.
AG-31	5 January 1945 to present time.
AG-32	5 January 1945 to present time.

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

APPENDIX E-11

Naval Air Station Alameda, 1946

Letter: NAB, 12ND, bombing target area at NAAS, Hollister; request for cancellation of lease,
23 January 1946

NAB12-80-cl
N1-13
H2-14

U. S. NAVAL AIR STATION
ALAMEDA, CALIFORNIA

Serial: 316

23 JAN 1946

To: BuDocks.
Via: (1) ComTwelve.
(2) BuAer.
(3) CNO.

Subj: NAB, 12ND, bombing target area at NAAS, Hollister; request for cancellation of lease.

Ref: (a) ComFair, Alameda conf ltr QT/21-ha (01443) to CNO via ComFair, W.C., dated 10 Sept 1945.
(b) Com12 memo No. 282-45 dated 12 Oct 1945 with encl.
(c) BuDocks spdltr to Comdts. NavDist, River Com., Bureaus, dated 14 Aug 1945.

1. By reference (a), ComFair, Alameda, made certain recommendations concerning the various target areas in the Alameda area. One of the areas recommended for early disposal is located near Hollister, California, and used in connection with Fleet Air operations at NAAS, Hollister. NAAS, Hollister is now on caretaker status and all Fleet Air personnel has been removed. This command has no further use for the subject target.

2. It is therefore requested that the leasehold interest in the above target area be cancelled effective at the earliest practicable date. The lease, NOy(R) 35804, was made and entered into the 1st day of August, 1943, by and between the government and Paul J. Hudner and Mary Hudner of Hollister, California; said property being located in a portion of Sec 20 and 29 T12 S.R. 6 E.M. D.B. and M., and containing 440 acres more or less.

3. In accordance with references (b) and (c), data pertinent to the disestablishment of the target area are submitted as enclosure 1.

S. J. MICHAEL
Commander, Naval Air Bases

Encl.
1.(HW) Data in conformance with references (b) and (c).
cc: BuAer, BuDocks & CNO (Advance airmail copies)
ComWesSeaFron.
ComFair, Alameda
ComFair, W.C.
CO, NAAS, Hollister.

3 15 51

[redacted] furnished in above [redacted]
letter.

A. Inventory of Navy owned property affixed to the leased premises which will, upon termination of the lease, be subject to removal by the Navy or transferred to the lessor.

1. The original cost of such improvements: $ 900.00

B. Inventory of general betterments not involving recoverable property made to the leased property by the Navy.

1. The original costs of such betterments: None

C. Inventory of work necessary to restore the leased premises to the condition existing at the time the government assumed use.

1. The work of restoration has already been accomplished to the satisfaction of the lessor. The cost of moving the rock material bomb fragments and necessary grading was approximately $600.00.

D. The rock material used in the construction of the targets had no salvage value. The cost of construction of the above targets includes material, labor, and equipment required.

E. All construction and improvements were accomplished by station forces.

L 5-7410

3 15 51

Enclosure 1

APPENDIX E-12

Naval Auxiliary Air Station Hollister, 1946

Untitled History of Naval Auxiliary Air Station, Hollister, California, for period of 1 September 1945 to 31 December 1946, circa December 1946

U.S. NAVAL AUXILIARY AIR STATION, HOLLISTER, California

The NAAS HOLLISTER was in a full operating status on 1 September 1945. However, on 6 September 1945,[26] the Chief of Naval Operations directed that it be reduced to caretaker statue, effective 15 October 1945, i. e., a non-operating condition requiring a minimum strength personnel unit, the mission of which is to maintain physical U. S. possession of the property involved, and to guard such property against deterioration, damage, looting, and theft. On 14 November 1945, the reduction to caretaker status was completed and a caretaker (naval officer) posted.[27] Station was disestablished on 15 January 1946.[28] On 5 January 1946 the Bureau of Yards and Docks forwarded, for execution, a permit to the City of Hollister for the temporary use of real and personal property pending disposition as surplus property.[29] On 14 April 1946, the Navy Department declared this facility to War Assets Administration as surplus to the needs of the Navy.[30] Revocable permits for real and personal property executed with the City of Hollister. Navy rights as permitter transferred to War Assets Administration on 18 October 1946[31] and on 1 November 1946,[31a] the War Assets Administration accepted responsibility over this property, consequently this command relinquished jurisdiction and the caretaker officer removed.

26/ CNO Aviation Planning Directive 63-NN-45.
27/ SecNav ltr Op-24B-pd, Ser. 76P24 dtd 29 Nov. 1945.
28/ BuY&D ltr. ND12/N1-13 W5-2-Ho F-5-5/KEA/lh of 5 Jan. 1946.
29/ BuY&D ltr. ND12/N1-13 F-5-5/JMB/djm of 17 Apr. 1946.
30/ BuY&D ltr. ND12/N1-13 C5-2-A1-12, F53/TDD/gjm dtd 29 July 1946.
31/ CNAB 12 ND ltr. L11-3, Ser. 3213 dtd 18 Oct. 1946.
31a/ CNAB Desp. DTG 302245Z of Sept. 1946 to CNO.

APPENDIX F

REAL ESTATE DOCUMENTS

NOT USED
(Citations included in Appendix E and K)

APPENDIX G

NEWSPAPER / JOURNALS

NOT USED

APPENDIX H

INTERVIEWS / POINTS OF CONTACT (POC)

INTERVIEWS/ POINTS OF CONTACT (POC)

The archive search team contacted the following individuals in preparation of this ASR. Conversation with these people yielded information of three general sorts:

- background data contained in written documents
- negative information (i.e. no pertinent knowledge of the site)
- coordination of efforts for various interested parties

While valuable, conversations with these individuals did not yield information cited in this report and hence Telephone Conversation Records have not been included. (See additional Points of Contact under section 4.2 Records Review):

Individual	Telephone Number	Position
Tom Stirewalt	831-637-7646	Farmer/rancher of property since 1963
Sgt Walker	650 603 8301/8302	787th Ordnance Co (EOD) Moffitt Field

U.S. ARMY CORPS OF ENGINEERS POINT OF CONTACTS (POC)

The following individuals prepared the Archive Search Report or are involved in the process:

U.S. Army Corps of Engineers
St. Louis District
Engineering Division - Ordnance and Technical Services Branch (CEMVS-ED-P)
1222 Spruce Street
St. Louis, MO 63103-2833

Individual	**Telephone Number**	**Position**
Alix Borrok	314-331-8043	ED-P, Historian
Brian Colegate	314-331-8744	ED-S, CADD Specialist
Randal Curtis	**314-331-8786**	**ED-P, Civil Engineer/ASR Project Manager**
Michael Dace	314-331-8036	ED-P, Chief of Ordnance and Technical Service Branch
Ida Morris	314-331-8040	ED-P, Project Assistant
George Sloan	314-331-8796	ED-P, Historian and Safety Specialist

APPENDIX I

PRESENT SITE PHOTOGRAPHS

U.S. Army Engineering and Support Center Huntsville
Center of Expertise and Design Center of Ordnance and Explosives
CEHNC-ED-SY-O
P. O. Box 1600
Huntsville, AL 35807-4301

Individual	Telephone Number	Position
Danny Mardis	256-895-1797	ASR Project Manager

U. S. Army Corps of Engineers
SACRAMENTO
Program Management Branch
CESPK-PM-H
1325 J St., 12th Floor
Sacramento, CA 95814-2922

Individual	Telephone Number	Position
Gerald (Jerry) Vincent	916-557-7452	DERP FUDS Program Manager

TABLE OF CONTENTS

Photo #1 – Hollister 12th Naval District Target No. 5 – 23 August 2001
AN–MK19 Miniature Practice Bomb – Lead antinomy bomb found on site by farmer leasing property.

Photo #2 - Hollister 12th Naval District Target No. 5 – 23 August 2001
OE Debris, primarily AN–MK19 Miniature Practice Bombs – OE debris found on site by farmer leasing property and land owner; sheet metal ring may be from 100-lb. Practice Bombs Navy MK VII or XV.

Photo #3 Hollister 12th Naval District Target No. 5 – 23 August 2001
Twin Bomb Target Circles - cache of iron AN- MK23 Miniature Practice Bombs, found during site visit but reportedly piled there by farmer leasing property.

Photo #4 Hollister 12th Naval District Target No. 5 – 23 August 2001
General site condition - Looking SW across target sites from the location of the Cruiser Target.

APPENDIX J
HISTORICAL PHOTOGRAPHS

NOT USED

APPENDIX K

HISTORICAL MAPS / DRAWINGS

Map No. Historical Maps / Drawings

K-1 Naval Air Bases, 12th Naval District
1944 *Property Acquisition Map Bombing Targets Hollister, Calif B.T. No. 5(P.W. Dwg. 1121) and Hollister Bombing Targets Details (P.W. Dwg. No. 1122),* 1944. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #4, NARA-San Bruno, CA.

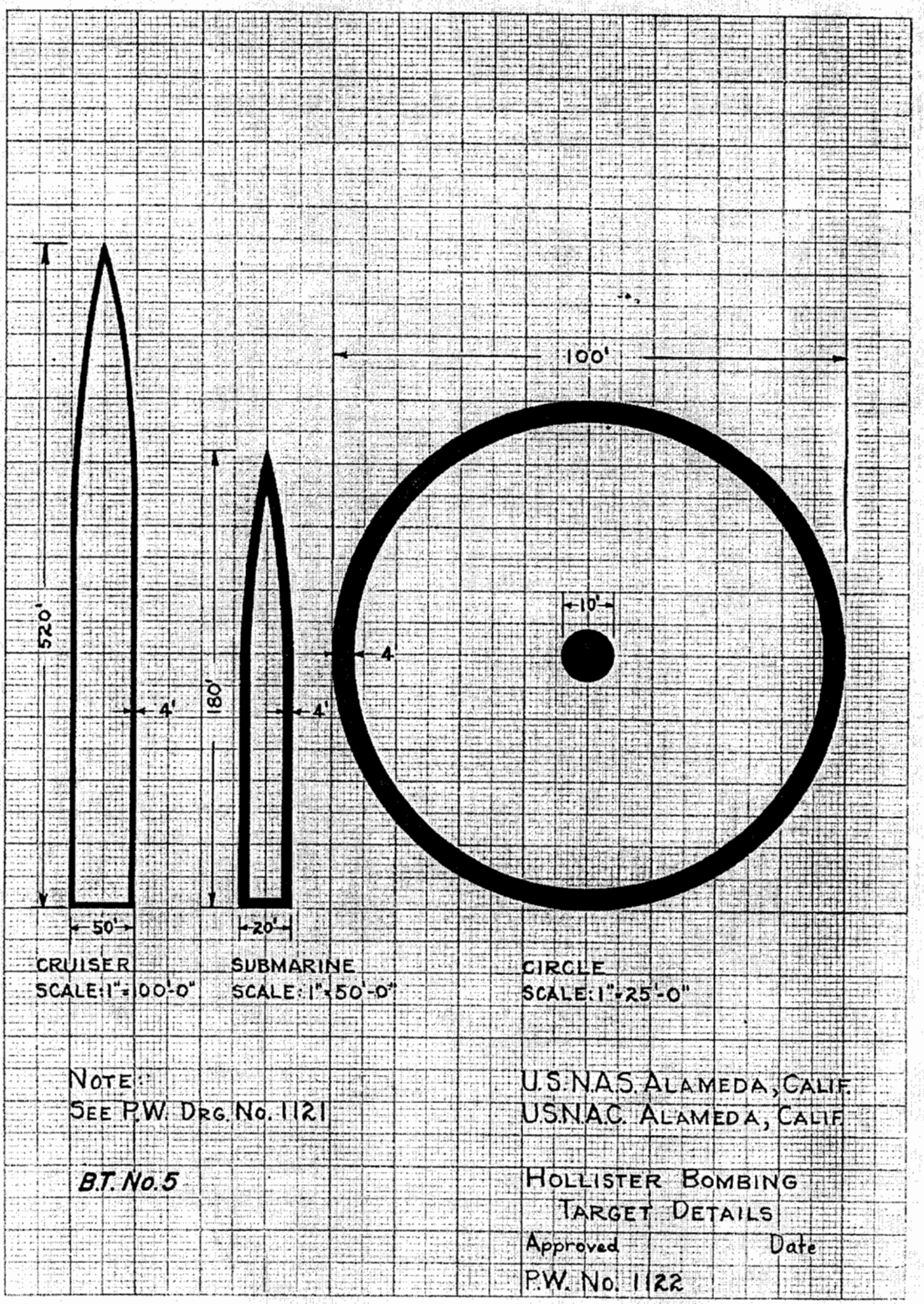
K-1a Naval Air Bases, 12th Naval District
1944 *Property Acquisition Map Bombing Targets Hollister, Calif B.T. No. 5(P.W. Dwg. 1121) and Hollister Bombing Targets Details (P.W. Dwg. No. 1122),* 1944. RG 181, Entry 12th Naval District - Public Works Office, Naval Air Bases [Accession 181-60-64], Roll #4, NARA-San Bruno, CA.

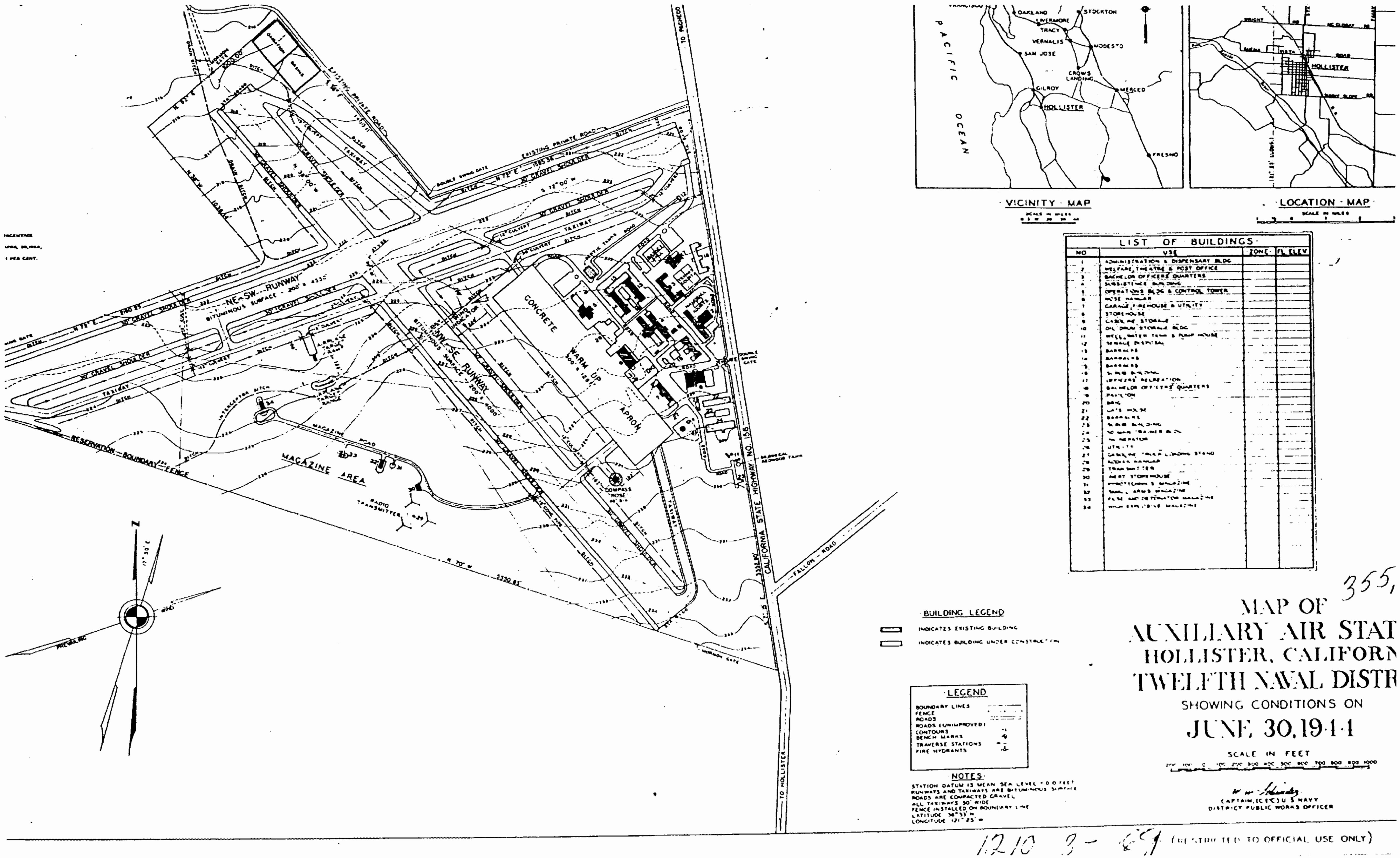
K-2 12th Naval District
1944 *Map of Auxiliary Air Station Hollister Showing Conditions On June 30 1944,* 30 June 1944. Cartographic and Architectural Branch, RG 71, Entry Microfilm Reels Series #2, Sheet1210-3-69, NARA-College Park, MD.

PARCEL NO.	AREA (ACRES)	OWNER	LAST KNOWN ADDRESS
1	440	PAUL J. & MARY HUDNER	R.F.D. HOLLISTER, CAL.

HOLLISTER AIR FIELD (U.S. NAVY)
HOLLISTER
PARCEL NO.1 - 440 Ac.
ASSESSED VALUE R.E. - $9100.00
IMP. $ 560.00
PAUL J. & MARY HUDNER
HOUSE
FENCE
SUBMARINE
CRUISER
CIRCULAR TARGET
DANGER SIGN
LOCATION OF PROPERTY
LOCATION SKETCH
SCALE IN MILES
P.W. 1121
DRAWN BY
NAVAL AIR STATION ALAMEDA, CALIF.
PROPERTY ACQUISITION MAP
BOMBING TARGET
HOLLISTER, CALIF.
APPROVED _____ 1944
PUBLIC WORKS OFFICER
B.T. No.5
Scale: 1" = 1 Mile
COPY OF DB 13330

Appendix K – Historical Maps / Drawings
Map K-1


520'
4'
180'
4'
50'
20'
100'
10'
4
CRUISER
SCALE: 1" = 100'-0"
SUBMARINE
SCALE: 1" = 50'-0"
CIRCLE
SCALE: 1" = 25'-0"
NOTE:
SEE P.W. DRG. No. 1121
B.T. No. 5
U.S.N.A.S. ALAMEDA, CALIF.
U.S.N.A.C. ALAMEDA, CALIF.
HOLLISTER BOMBING
TARGET DETAILS
Approved
Date
P.W. No. 1122


NE–SW–RUNWAY
NW–SE–RUNWAY
CONCRETE
WARM UP
APRON
MAGAZINE AREA
RESERVATION BOUNDARY FENCE
CALIFORNIA STATE HIGHWAY NO. 156
FALLON ROAD
TO PACHECO
TO HOLLISTER
COMPASS ROSE
RADIO TRANSMITTER
VICINITY · MAP
LOCATION · MAP
PACIFIC OCEAN
OAKLAND
STOCKTON
LIVERMORE
TRACY
VERNALIS
MODESTO
SAN JOSE
CROWS LANDING
GILROY
MERCED
HOLLISTER
FRESNO
LIST OF BUILDINGS
NO
USE
ZONE
FL. ELEV.
BUILDING LEGEND
INDICATES EXISTING BUILDING
INDICATES BUILDING UNDER CONSTRUCTION
LEGEND
NOTES
MAP OF
AUXILIARY AIR STAT
HOLLISTER, CALIFORN
TWELFTH NAVAL DISTR
SHOWING CONDITIONS ON
JUNE 30, 1944
SCALE IN FEET
CAPTAIN, (CEC) U S NAVY
DISTRICT PUBLIC WORKS OFFICER
355,
1210 3 – 69
(RESTRICTED TO OFFICIAL USE ONLY)

APPENDIX L

SITE SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT

SITE SAFETY AND HEALTH PLAN / SITE INSPECTION REPORT

Section No.	Plan / Report
L-1	Site Safety and Health Plan – Hollister 12th Naval District Target No. 5
L-2	Site Inspection Report – Hollister 12th Naval District Target No. 5

APPENDIX L-1

Site Safety and Health Plan - Hollister 12th Naval District Target No. 5

SITE SAFETY AND HEALTH PLAN (SSHP)
Hollister 12th Naval District Target No. 5
Hollister, CA
SITE # 01

The purpose of this site visit is to reconnoiter, document, and photograph areas on Hollister 12th Naval District Target No. 5, Hollister, California suspected to be contaminated with unexploded ordnance and/or toxic chemical munitions.

PREPARED BY:	George Sloan
OFFICE	USACE, CEMVS-ED-P
ADDRESS	1222 Spruce St. St. Louis, MO
PHONE	314-331-8796
DATE PREPARED	13 August 2001

REVIEWED/APPROVED BY: _____
SSHO

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

A. SITE DESCRIPTION AND PREVIOUS INVESTIGATIONS

1. Site Description

a. Size: 440 acres

b. Present Usage (check all that apply)

[ ] Military	[ ] Recreational	[ ] Other (specify)
[X] Residential	[ ] Commercial	
[ ] Natural Area	[ ] Industrial	
[X] Agricultural	[ ] Landfill	

[ ] Secured	[ ] Active	[X] Unknown
[ ] Unsecured	[ ] Inactive	

2. Past Uses: The Hollister BT (Navy) used the former Hollister 12th Naval District Target No. 5 as a practice-bombing target from 1942-46.

3. Surrounding Population (check all that apply)

[X] Rural	[X] Residential	[ ] Other (specify)
[ ] Urban	[ ] Industrial	
[ ] Commercial		

4. Ordnance/Explosives (OE) Potential: practice bombs.

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

[X] Walk-through	[ ] Drive-through	[ ] Other (specify)
[ ] On-Path	[X] On-road	
[ ] Off-Path	[ ] Off-road	

C. SITE PERSONNEL AND RESPONSIBILITIES

1. Responsibilities

a. Project Manager: The Corps of Engineers Project Manager (PM) is overall responsible for the site visit. He will assign a Team Leader, (in most situations this will be the PM). The PM will ensure that the SSHP is completed along with coordinating and executing the site visit.

b. Site Safety and Health Officer: The SSHO is designated to conduct safety, enforce the SSHP, conduct safety briefings and ensure that the team leader can safely fulfill his objectives. The SSHO will maintain the safety gear

and monitor on-site operations. The SSHO is responsible for identifying, marking and reporting any unexploded ordnance and explosives.

2. Team Members

Name	Position	Address	Phone
Randal Curtis	PM	CEMVS-ED-P	314-331-8786
George Sloan	SSHO	CEMVS-ED-P	314-331-8796
Alex Borrok	Historian	CEMVS-ED-P	314-331-8043

D. OVERALL HAZARD EVALUATION (check one)

[ ] High [ ] Moderate [X] Low [ ] Unknown

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

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

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

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

2. Material Handling Procedures: Do not handle.

3. Drum Handling Procedures: Do not handle.

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

5. Electrical Protection: Overhead power lines, downed electrical wires and buried cables pose a danger of shock and electrocution. In addition, buildings may

contain exposed wiring that may hold a potential load. Workers should avoid contact with any and all exposed wire and cables

6. **Spill Containment:** N/A

7. **Excavation Safety:** Do not enter trenches/excavations.

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

9. **Sanitation:** Use existing sanitary facilities.

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

11. **Engineering Controls:** N/A

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

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

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

15. **Hot Weather:** In hot environments, cool drinking water shall be made available and workers shall be encouraged to frequently drink small amounts, e.g., one cup every 15 - 20 minutes; the water shall be kept reasonably cool. In those situations where heat stress may impact worker safety and health, work regimens shall be established. Environmental monitoring of the Wet Bulb Globe Temperature Index shall be conducted and workloads and work regimens categorized as specified in the American Conference of Governmental Industrial Hygienist (ACGIH) publication "Threshold Limit Values and Biological Exposure Indices". For more information on Heat Stress refer to Appendix A of this SSHP.

16. **Cold Weather:** Cold injury (frostbite and hypothermia) and impaired ability to work are dangers at low temperatures and when the wind-chill factor is low. To

guard against them; wear appropriate clothing; have warm shelter readily available; carefully schedule work and rest periods, and monitor workers' physical conditions.

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

18. Ordnance

a. General Information

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

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

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

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

b. On-Site Instructions

(1) DO NOT TOUCH or MOVE any ordnance items regardless of the markings or apparent condition.

(2) DO NOT conduct a site visit during an electrical storm or an approaching electrical storm. If a storm approaches during the site visit leave the site immediately and seek shelter.

(3) DO NOT use a radio or cellular phone in the vicinity of a suspect ordnance item.

(4) DO NOT walk across an area where the ground cannot be seen.

(5) DO NOT drive a vehicle into a suspected OE area; use clearly marked lanes.

(6) DO NOT carry matches, cigarettes, lighters or other flame producing devices into an OE site.

(7) DO NOT rely on color code for positive identification of ordnance items or their contents.

(8) Approach ordnance items from the side; avoid approaching from the front or rear.

(9) Always assume ordnance items contain a live charge until it can be determined otherwise.

(10) Dead vegetation and animals may indicate potential chemical contamination. If a suspect area is encountered, personnel should leave the immediate area and evaluate the situation before continuing the site visit.

c. Specific Action Upon Locating Ordnance

(1) DO NOT touch, move or jar any ordnance item, regardless of its apparent condition.

(2) DO NOT be misled by markings on the ordnance item stating "practice", "dummy" or "inert". Practice munitions may contain an explosive charge used for spotting the point of impact. The item may also be mislabeled.

(3) DO NOT roll the item over or scrape the item to read the markings.

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

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

19. Other (specify)

G. SITE CONTROL AND COMMUNICATIONS

1. Site Map: Any maps will be maintained by the PM or Safety Officer.

2. Site Work Zones: N/A

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

4. Communications

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

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

[X] Cellular phone

[X] Public/private phone

[ ] Other

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

[X] Verbal

[X] Nonverbal - whistle

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

1. Emergency/Important Telephone Numbers

San Benito County Sheriff 831-637-5711
3d Ordnance Bn (EOD) Ft. Lewis 253-967-1972/3090
787th Ordnance Co (EOD) Moffitt Field.....650 603 8301/8302
Huntsville Safety Office.....(205) 895-1598/1596
Huntsville Safety (after hours).....(205) 895-1180
St Louis Corps of Engineers .....(314) 331-8036

2. Hospital/Medical Facility Information

Name: Hazel Hawkins Memorial Hospital
Address: 911 Sunset Dr., Hollister, CA
Phone: 831-637-5711

Distance to hospital: approximately 5 miles

Route to Hospital: refer to the site map included with this SSHP.

I. MONITORING EQUIPMENT AND PROCEDURES

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

a. Monitoring Equipment To Be Utilized N/A

b. Equipment Calibration Results N/A

c. Action Levels N/A

2. Heat/ Cold Stress Monitoring

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

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

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

be short sleeve shirt, long trousers, and leather or other protective work shoes or boots. If a higher level of protection is to be used initially or as contingency, a brief discussion will be attached.

1. **Footwear** Footwear providing protection against puncture shall meet the applicable requirements as stated in EM 385-1-1, paragraph 05.A.08. All activities which personnel are potentially exposed to foot hazards will be identified and documented in a hazard analysis. As an exception to wearing steel-toed boots, GSA-approved protective-soled boots are authorized.

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

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

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

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

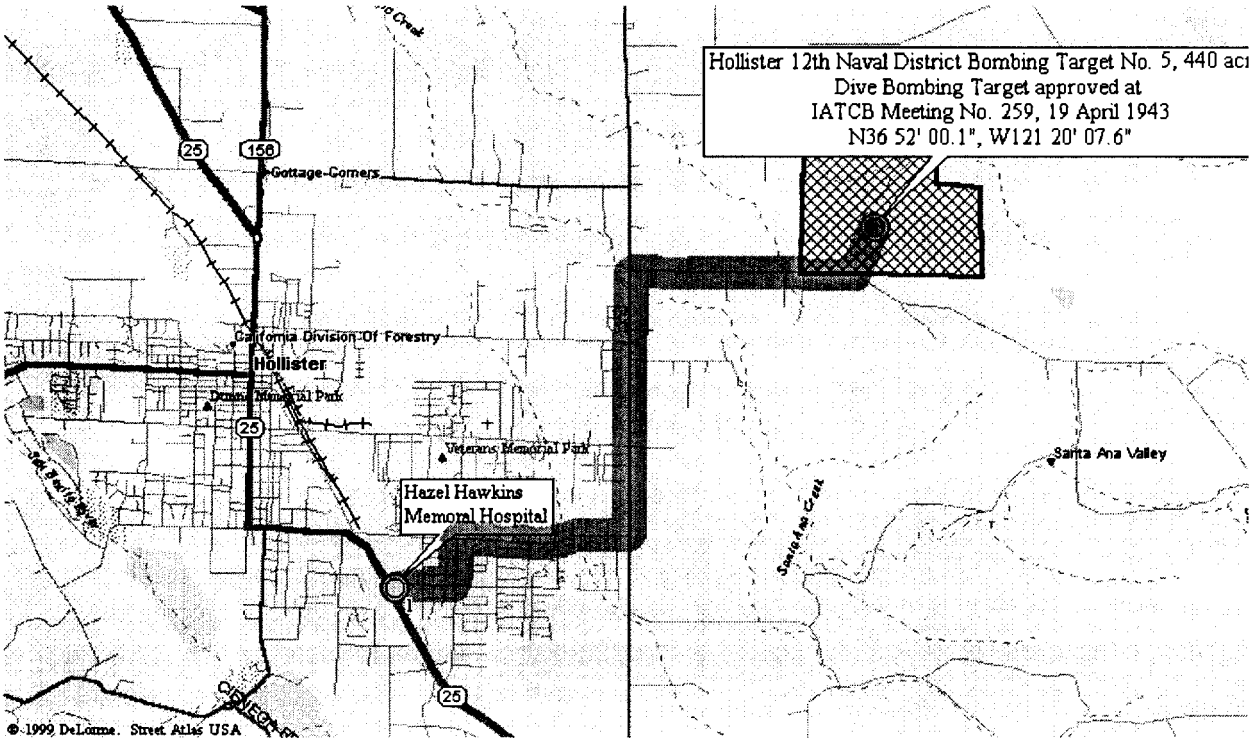
L. TRAINING All site personnel shall have completed the training required by Engineer Manual (EM) 385-1-1 and Title 29, Code of Federal Regulations (29 CFR, Part 1910.120 (e)). The U.S. Army Corps of Engineer (USACE) Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel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

M. MEDICAL SURVEILLANCE PROGRAM The USACE Project Manager shall ensure, and the SSHO shall verify, that all on-site personnel meet the requirements of 29 CFR 1910.120. This includes enrollment in a Medical Surveillance Program, and complying with the standards of ANSI Z-88.2, as appropriate, depending on the personnel protective equipment (PPE) and site-specific tasks.

	HAZWOPER		MEDICAL
NAME	DATE	PROVIDER	DATE
Randal Curtis	20 Nov. 00	Corps of Engineers	11 Aug 99
George Sloan	10 Oct. 00	Corps of Engineers	June 2001
Alex Borrok	4 Jun 01	Corps of Engineers	14 Jun 01

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

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



APPENDIX A

HEAT- RELATED INJURIES

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

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

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

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

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

WHAT TO DO:

Have the individual rest in a cool place.
Give cool water or a commercial sports drink.
Lightly stretch the muscle and gently massage the area.

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

HEAT STROKE Heat stroke is the least common but most severe heat emergency. It most often occurs when people ignore the signals of heat exhaustion. Heat stroke develops when the body systems are overwhelmed by heat and begin to stop functioning. **Heat stroke is a serious medical emergency.** *Symptoms* include: red, hot, dry skin; changes in consciousness; rapid, weak pulse; and rapid, shallow breathing.

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

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

APPENDIX B

BITES AND STINGS

Scorpions, Bees and Spiders

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

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

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

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

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

Reptiles

Venomous snakes exist in all parts of the continental United States. The pit viper family represents the greatest hazard in the field. This group includes the rattlesnakes and moccasins (copperhead and cottonmouth). Consider wearing snake chaps in areas of known infestation. Walking in grasses and shrubs that prevent seeing exactly where you are stepping, should be avoided. Extreme caution should be exercised in areas where alligators are present, particularly during the nesting season. Consulting a local resident or authority, such as a fish and wildlife or park ranger, is prudent before entering such areas.

First Aid: Often, a venomous snake will strike without injecting any venom into the wound. This is known as a dry bite. In any event, whenever bitten by a snake, especially if positive identification cannot be made, medical help should be sought immediately. Reassure and keep the victim calm. Keep limbs below the level of the heart. Clean the bite area, and get the person to a medical facility. Do not make incisions or suck the poison with the mouth. If medical help is many hours away, place a constricting band between the wound and the heart (it should be at least two inches wide and be able to slip a finger underneath).

Ticks - Lyme Disease

Transmission:

Lyme Disease (LD) is most commonly transmitted by a tick bite (usually painless). The tick vectors include Ixodes scapularis (Deer Tick), Ixodes dammini (Deer tick), Amblyomme americanum (Lone Star Tick) and Ixodes pacificus. Ixodes dammini was thought to be the only species responsible for transmission until it was shown to be the same as Ixodes scapularis in 1993. The ticks prefer to live in wooded areas, low growing grassland, seashores and yards. Depending on the location, anywhere from less than 1% to more than 90% of the ticks are infected with spirochetes.

The Deer tick has a 2-year life cycle and must feed 3 times. In the larvae stage, it is tan, the size of a pinhead and feeds on small animals like the mouse where it can pick up the spirochete. During the nymph stage the tick is the size of a poppy seed, beige or partially transparent and feeds on larger animals such as cats, dogs and humans. The adult ticks are black and/or reddish and feed on cattle, deer, dogs and humans. The Lone Star tick is gray with a white dot. April through October is considered the "tick season" even though Lyme disease is a year round problem. Ticks are very active in the spring and early summer.

Location:

Cases of Lyme disease have been reported in virtually every state, although the Northeastern, Great Lakes, and Pacific Northwest areas are particularly endemic.

Symptoms:

Lyme disease is called the "Great Imitator" because it can mimic many other diseases, which makes diagnosis difficult. A rash can appear several days after infection, or not at all. It can last a few hours or up to several weeks. The rash can be very small or very large (up to twelve inches across). A "bulls-eye" rash is the hallmark of LD. It is a round ring with central clearing. Unfortunately, this is not the only rash associated with Lyme. Various other rashes associated with LD have been reported. One bite can cause multiple rashes. The rash can mimic such skin problems as hives, eczema, sunburn, poison ivy, flea bites, etc. The rash can itch or feel hot or may not be felt at all. The rash can

disappear and return several weeks later. For those with dark skin the rash will look like a bruise. If you notice a rash, take a picture of it. Some physicians require evidence of a rash before prescribing treatment.

Early Symptoms: Several days or weeks after a bite from an infected tick, a patient usually experiences "flu-like" symptoms such as aches and pains in their muscles and joints, low-grade fever, and/or fatigue.

Other Possible Symptoms -- No organ is spared:

- Jaw -- pain, difficulty chewing
- Bladder -- frequent or painful urination, repeated "urinary tract infection"
- Lung -- respiratory infection, cough, asthma, pneumonia
- Ear -- pain, hearing loss, ringing, sensitivity to noise
- Eyes -- pain due to inflammation, sensitivity to light, scleritis drooping of eyelid, conjunctivitis, blurring or double vision
- Throat -- sore throat, swollen glands, cough, hoarseness, difficulty swallowing
- Neurological -- headaches, facial paralysis, seizures, meningitis, stiff neck, burning, tingling, or prickling sensations, loss of reflexes, loss of coordination, MS like syndrome
- Stomach --pain, diarrhea, nausea, vomiting, abdominal cramps, and anorexia
- Heart -- weakness, dizziness, irregular heartbeat, myocarditis, pericarditis, palpitations, heart block, enlarged heart, fainting inflammation of muscle or membrane, shortness of breath, chest pain
- Joint -- arthralgias or arthritis, muscle inflammation and pain
- Other Organs -- liver infection, elevated liver enzymes, enlarged spleen, swollen testicles, irregular or ceased menses
- Neuropsychiatric -- mood swings, irritability, poor concentration, cognitive loss, memory loss, loss of appetite, mental deterioration, depression, disorientation, sleep disturbance
- Pregnancy -- miscarriage, premature birth, birth defects, stillbirth
- Skin -- single or multiple rash, hives

The above is a list of possible symptoms. They can occur in any combination. You may have one or several symptoms but not everyone will experience every symptom. Lyme affects each host in a different way. Having one or many of these symptoms does not indicate that you have Lyme disease. Diagnosis for Lyme is a clinical one and must be made by a physician experienced in recognizing LD. Serological testing is not reliable.

Lyme Disease Prevention:

- Dress properly, wear long-sleeved shirts that button at the wrist, long pants tucked into socks, and closed shoes. Choose light-colored fabric so you can spot and brush of ticks.

- Apply approved tick repellant and use only as directed. Products that contain DEET are tick repellents. They do not kill the tick and are not 100% effective in discouraging a tick

from feeding on you. Products like Permanone contain premethrin and are known to kill ticks. However, they are not to be sprayed on the skin. Permanone can be sprayed on clothing. Once it is dry it is assumed to be safe. Ticks are anti-gravitational. They are generally seeking the highest point. If they get on your body below the clothes line, one hopes they will travel up and die once they come in contact with treated clothing.

- Always do regular tick checks when outdoors.

- Shower after all outdoor activities are over for the day. If the tick is still wandering it may wash off. Check all body parts that bend. Run fingers gently over skin. If there is a tick and it is attached, it will feel like the last piece of scab left before a cut completely heals. Remove ticks promptly and properly from yourself.

Proper Tick Removal:

Using fine-tipped tweezers, grasp tick close to the skin. Apply gentle, steady straight upward pressure to remove. Disinfect the bite site. Do not squeeze the body, apply Vaseline, use a burnt match, or clean with alcohol while the tick is attached. Any of these actions could cause transmission of the bacteria. Save the tick for testing. Put it in a vial or zip lock bag with a blade of grass. Contact your doctor for further instructions.

The best defense against LD is education. Know your facts.

APPENDIX C

SSHP ACCEPTANCE FORM

ABBREVIATED SITE SAFETY AND HEALTH PLAN

FOR

Hollister 12th Naval District Target No. 5

Hollister, California

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

NAME	OFFICE	SIGNATURE	DATE
Randal Curtis	CEMVS-ED-P	Randal L Curtis	21 Aug 01
George Sloan	CEMVS-ED-P	G. F. Sloan	21 Aug 01
Alex Borrok	CEMVS-ED-P	Alex Borrok	21 Aug. 01

SITE SURVEY SAFETY BRIEFING

(Check subjects discussed)

Date 23 Aug 01

GENERAL INFORMATION

- ✓ Purpose of Visit
- ✓ Identify Key Site Personnel

SITE SPECIFIC INFORMATION

- ✓ Site Description/Past Use
- ✓ Results of Previous studies
- ✓ Potential Site Hazards
- ✓ OE Safety Procedures
- ✓ Site SOP
- ✓ Site Control and Communications
- ✓ Emergency Response
  - (✓) Location of First aid Kit
  - (✓) Emergency Phone Numbers
  - (✓) Map to Facility
- ✓ PPE
- ✓ Weather Precautions
  - (✓) 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
Randal S. Curtis	USACE-CEMVS-ED-P	
George Sloan	USACE-CEMVS-ED-P	
Alex Borrok	USACE-CEMVS-ED-P	

APPENDIX L-2

Site Inspection Report - Hollister 12th Naval District Target No. 5

CEMVS-ED-P 5 September 2001

MEMORANDUM FOR RECORD

SUBJECT: ASR Site Inspection: Hollister 12th Naval District Target No. 5 - California

1. Personnel from the St. Louis District Corps of Engineers traveled to California to perform a site survey of the former Hollister 12th Naval District Target No. 5. The Ordnance and Explosive (OE) and Chemical Warfare Materials (CWM) Archive Search Report (ASR) program requires a site inspection. The ASR program supports the Defense Environmental Restoration Program (DERP) at Formerly Used Defense Sites (FUDS).

2. The ASR site inspection characterized OE and CWM potential based on a visual examination at the former Hollister 12th Naval District Target No. 5. Landowners granted verbal permission for right-of-entry prior to the site inspection. The site inspection included only visual and non-intrusive methods of inspection. The team followed a site safety and health plan (SSHP) prohibiting digging or handling of potential OE/CWM. The inspection team consisted of the following personnel: Alix Borrok, Randal Curtis and George Sloan.

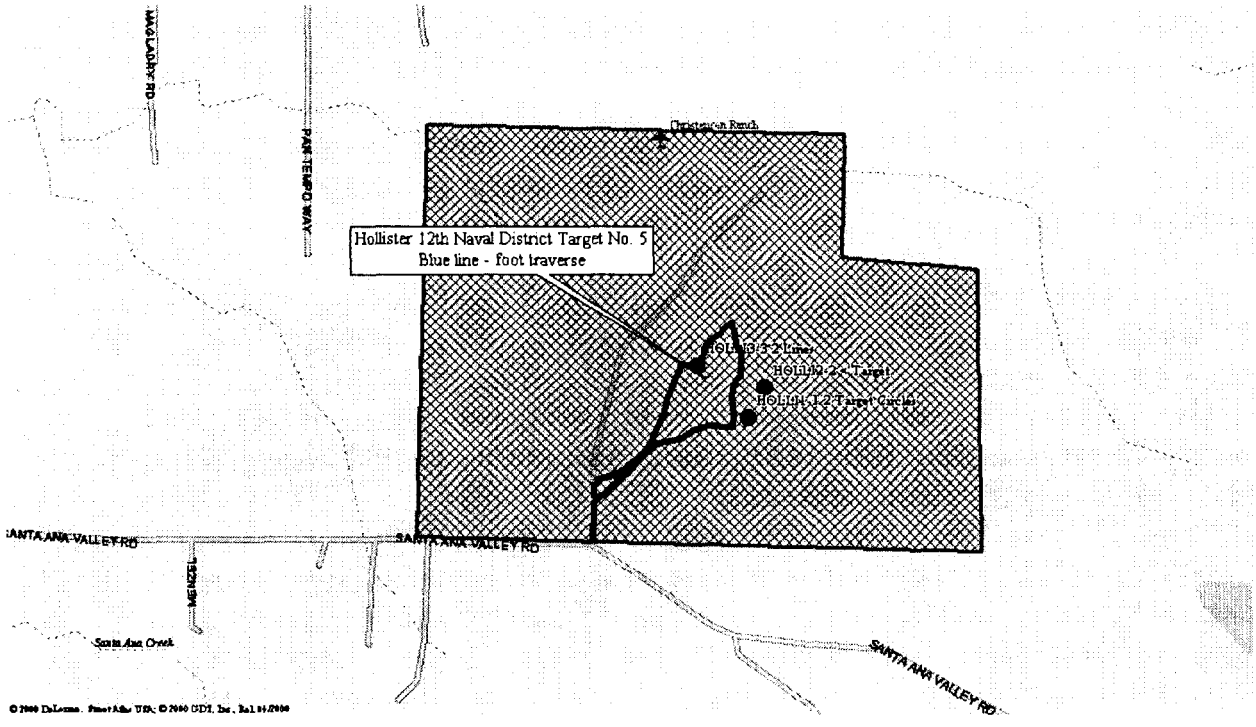
3. The team traveled to Hollister, California to begin a site inspection of the Hollister 12th Naval District Target No. 5 on Thursday morning, 23 August 2001. The site visit team met with Tom Grant, the owner of the property, Tom Stirewalt, the leaser of the property, and John Trebino, a man who grew up in the area. The team held a short meeting. Those assembled reviewed the aerial imagery, the general history of this site and discussed items found in the past.

4. Mr. Stirewalt who also grew up in the area, recalled seeing men who had gone AWOL being sentenced to collect the scrap from the field on the weekends. He and his cousins would sit on the bend of Lone Tree road and watch the dropping of practice bombs. He began farming the former target site in 1963. The ground proved marginal for crops and was last tilled in 1972. Since then, it has been in use as seasonal pasture lands with occasional mowing. When Mr. Stirewalt started working the land, he could still discern the outlines of the targets since the Navy had used crushed white dolomite to mark them (There are two dolomite mines in the area).

5. Mr. Trebino also remembers watching the Navy bomb the site as a child but did not remember ever seeing any big explosions. He brought the broken body portion of a lead antinomy 13-lb. AN–MK19 Miniature Practice Bomb that had been found on the property for the ASR team to examine. Mr. Grant said they had additional pieces of

debris back at the ranch house, which he offered to show the team. The group then proceeded to the north end of the FUDS, which had been developed in 1968 as a private residence, light industrial site and airstrip by a prior owner. The ranch currently consists of over 2,000 acres total, including the 440 acre FUDS.

6. From the maintenance barn, Mr. Grant brought out a bucket of OE debris gathered on site by a friend of his who had a metal detector. The material consisted primarily of pieces of lead antinomy from the AN–MK19 Miniature Practice Bombs. It also included a sheet that metal ring may be from 100-lb. Navy MK VII or XV Practice Bombs. Though there was no other mention of finding sheet metal debris at the targets. They also had a pair of fairly intact, inert iron AN–MK23 Miniature Practice Bombs. When specifically asked about other items found on site, such as 2.25-inch pipes a couple feet long (indicative of practice rockets) or any thick metal with sharp jagged edges (indicative of High Explosive use), they replied that they never recalled finding any. The team parted company with Misters Grant and Trebino and returned to the south gate with Mr. Stirewalt to traverse the former targets.



7. The ASR team had a GPS to help reach the former target locations[1] but Mr. Stirewalt recollection of the target locations appeared on par. Near the circular targets he found several pieces of the non-native crushed dolomite stone used to mark the target. A little further on, in the vicinity of the target circles, the team found a cache of a couple dozen

[1] Target feature coordinates were determined using georeferenced historic aerial imagery. The resulting waypoints were uploaded into a Garmin Etrex Legend GPS (Global Positioning System) receiver using mapping datum WGS 1984

iron AN–MK23 miniature practice bombs that had been gathered and piled there by Mr. Stirewalt but not removed. A few other iron practice bombs were found, but no pieces of the lead-antinomy bombs. No evidence of the any sheet metal debris was found on site. The team traversed around the other targets, returned to the gate and parted company with Mr. Stirewalt.

Range Feature Locations based on Georeferenced Aerial Photography				
Latitude	**Longitude**	**Easting**	**Northing**	**Feature**
N36° 51' 51"	W121° 20' 07"	648373	4080896	Hollister-1 2 Target Circles
N36° 51' 54"	W121° 20' 05"	648443	4080938	Hollister-2 < Target
N36° 51' 56"	W121° 20' 13"	648241	4081059	Hollister-3 2 Lines

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

GEORGE SLOAN
Safety and Occupational Health Specialist

ALIX BORROK
Project Historian

APPENDIX M

REPORT DISTRIBUTION LIST

Addressee	No. Copies
Commander, U.S. Army Engineering and Support Center Huntsville, ATTN: CEHNC-ED-SY-O (D. MARDIS) P.O. Box 1600 Huntsville, Alabama 35807-4301	2
Commander, U.S. Army Engineer District, Sacramento ATTN: CESPK-PM-H, Gerald Vincent 1325 J Street Sacramento, California 95814-2922	1
Project Manager Chemical Demilitarization, Non-Stockpile ATTN: SFAE-CD-NM, Bldg E 4585 Aberdeen Proving Ground, Maryland 21010-5401	1
Commander, U.S. Army Soldier, Biological, and Chemical Command ATTN: AMSSB-CIH, Bldg. E 5027 Aberdeen Proving Ground, Maryland 21010-5424	1
Defense Ammunition Center ATTN: SMAAC-ESM 1C Tree Road, Bldg. 35 McAlester, Oklahoma 74501-9053	1

PLATES

REPORT PLATES

1 **Hollister 12th Naval District Target No. 5** - 12th Naval District Bombing and Gunnery Areas 1940's to Early 1950's
2 **Hollister 12th Naval District Target No. 5** - Vicinity Map
3 **Hollister 12th Naval District Target No. 5** – Aerial Photography 1959

Thematic Computer-Aided Design and Drafting (CADD) map files completed in association with this Archives Search Report are based on historic cartographic, aerial and site visit data collected during this investigation. The thematic maps were created using Intergraph's Microstation.

The thematic maps were created by scanning and warping selected historic data to reference points collected from non-stable selected base maps such as U.S. Geological Survey (USGS) 7.5 minute, quadrangle sheets or National Imaging and Mapping Agency (NIMA) maps. The horizontal scale and horizontal datum of the base maps is generally known. In this case the datum used was 1927 North Atlantic Datum/World Geodetic System (WGS) 1984. Attempts have been made to rectify the data to the referenced base maps. However, distortions in scale and contortions of the features are present. These distortions are a result of inaccuracies in the source data, as well as the processes of scanning and rectifying the data. Much of the data on the maps lack sufficient information to support a determination of accuracy.

Many of the historic maps used were hand-drawn or built on locations that were inaccurate by modern standards. In general, historic map inaccuracies are unknown and not quantifiable. The unknown inaccuracies may then be magnified by the georeferencing process. Therefore, thematic maps generated from historic maps and drawings will have accuracy no greater than the least accurate source.

The historical aerial photography has been semi-rectified (georeferenced) to the base map; however, the photos have not been corrected for photogrammetric displacements such as those due to topography or the altitude of the aircraft at the time of imaging. They are not orthorectified images. Locations of features noted on aerial photography are not exact due to the rectifying of both the image and the base map.

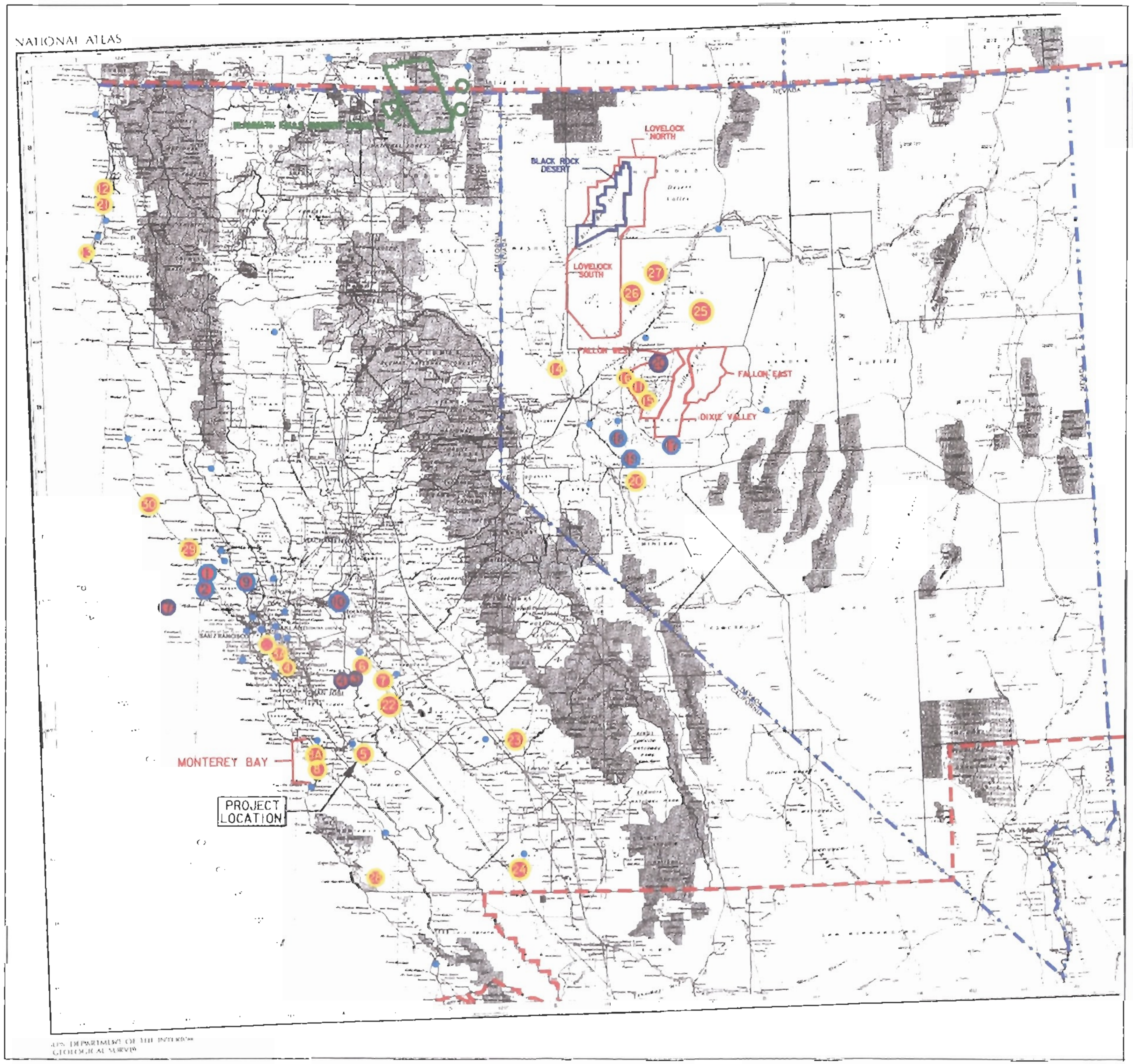
The horizontal and vertical locations of selected features noted in the ASR and located on the thematic maps have been established utilizing Global Positioning System (GPS) technology. These coordinates were acquired using the Federal Version PLGR96+ GPS receiver. Features located utilizing GPS techniques are so noted in the ASR. The PLGR+96 uses the Precise Positioning Service (16 m SEP) and Wide Area GPS Enhancement (WAGE) 4 m CEP.

The lineage and source of the historic data used to generate the thematic maps is unknown. The majority of Federal Geographic Data Committee (FGDC) Metadata fields

are therefore unknown. A metadata file that gives all available pertinent information has been provided with this product. The statements above are inclusive of all available information regarding the historic data sources and the thematic maps generated. The thematic maps are not original digital mapping data; are scanned and warped data with selected unique feature annotation. The intended purpose of the mapping data is for photo-interpretation and not design. The vector data and associated symbology is unique to the intended purpose. The majority of the digitized features are not part of the current Tri-Service CADD Standards list of features and associated line types and symbology (ie. range fans, pits, disturbed land). The mapping data produced does comply with applicable Tri-Service Standards.

12TH NAVAL DISTRICT BOUNDARY
STATE BOUNDARY

NOTE: TARGET LOCATIONS BASED ON LATITUDES AND LONGITUDES TAKEN FROM HISTORICAL LISTING; GUNNERY RANGE BOUNDARIES ARE APPROXIMATE



1940'S NUMBER	BAKER/BRAVO 1950'S NUMBER	NAME	LATITUDE	LONGITUDE	TYPE	FUDS SITE NUMBER
1	1	TOMALES BAY	38°12'	122°56'	D	J09CA7292
2	2	ABBOTT'S LAGOON	38°07'	122°57'	D	J09CA7292
3		SAN MATEO BRIDGE	37°41'	122°17'	D	N/A WATER TARGET
3A		SKIP BOMBING	37°39'	122°15'	SK	N/A WATER TARGET
4		DD HULK	37°33'	122°09'	D	N/A WATER TARGET
5		HOLLISTER	36°52'	121°21'	D	J09CA1113
6		VERNALIS	37°34'	121°23'	D	J09CA7473
7		CROWS LANDING	37°26'	121°10'	D	J09CA1074
8		WATSONVILLE	36°44'	121°48'	D-R-X	J09CA0781
8A		WATSONVILLE	36°50'30"	121°49'30"	RA	N/A WATER TARGET
9	5	PETALUMA	38°11'	122°33'	D	J09CA7298
10	6	ANTIOCH	38°02'30"	121°37'	D	J09CA7299
11		CARSON SINK	39°41'	118°34'20"	D	J09NV1130
12		BIG LAGOON	41°11'	124°07'	R-X	J09CA0064
13		HUMBOLDT BAY	40°43'	124°15'	R-X	J09CA7471
14		PYRAMID LAKE	39°51'20"	119°26'	D-M	J09NV1118
15		CARSON SINK A	39°38'	118°31'30"	D-R-X	J09NV1130
16		CARSON SINK B	39°45'20"	118°42'20"	D-R-X	J09NV1130
17	17	BERMOND (NO.1)	39°15'	118°17'	D-M	ACTIVE DOD INSTALLATION
18	18	FALLON A (NO. 2)	39°19'	118°49'	R-X-D-SK	ACTIVE DOD INSTALLATION
19	19	FALLON B (NO. 3)	39°09'	118°41'	X-D-SK	ACTIVE DOD INSTALLATION
20		SCHURZ (NO. 4)	38°59'	118°38'	D	NONE IDENTIFIED
21		ARCATA	41°05'	124°06'	D	J09CA7297
22		GUSTINE	37°15'	121°06'	RA	J09CA7287
23		MADERA	36°59'	119°52'30"	R-D-RA-SK	J09CA1050
24		TULARE LAKE	35°59'	119°50'	RA	------------------
25		LOVELOCK 1	40°17'	117°56'30"	D	J09NV1117
26		LOVELOCK 2	40°26'34"	118°39'15"	D	J09NV1120
27		LOVELOCK 3	40°35'30"	118°24'	D	J09NV1121
28		HUNTER LIGGETT	35°55'	121°13'	R-D	ACTIVE DOD INSTALLATION
29		JENNER	38°26'	123°07'	D	J09CA1039
30		STEWART'S POINT	38°46'	123°31'	D	J09CA1032
	20	LONE ROCK	39°52'39"	118°20'39"	RA	ACTIVE DOD INSTALLATION
	7	FARALLON	37°49'15"	123°12'45"	RA	N/A WATER TARGET
	4	CROW'S LANDING A	37°23'	121°24'	D-R	J09CA7474
	3	CROW'S LANDING B	37°24'	121°20'	D-R	J09CA7474
		LOVELOCK NORTH GUNNERY RANGE				J09NV1115
		LOVELOCK SOUTH GUNNERY RANGE				J09NV1116
		FALLON WEST GUNNERY RANGE				J09NV1130
		DIXIE VALLEY GUNNERY RANGE				J09NV1123
		FALLON EAST GUNNERY RANGE				J09NV1129
		MONTEREY BAY TORPEDO RANGE				N/A WATER TARGET

USE LEGEND
D-DIVE BOMBING
SK-SKIP BOMBING
R-ROCKET
RA-RADAR
M-MISSILE
X-RAKE STATIONS

0 500000 1000000
APPROXIMATE SCALE IN FEET

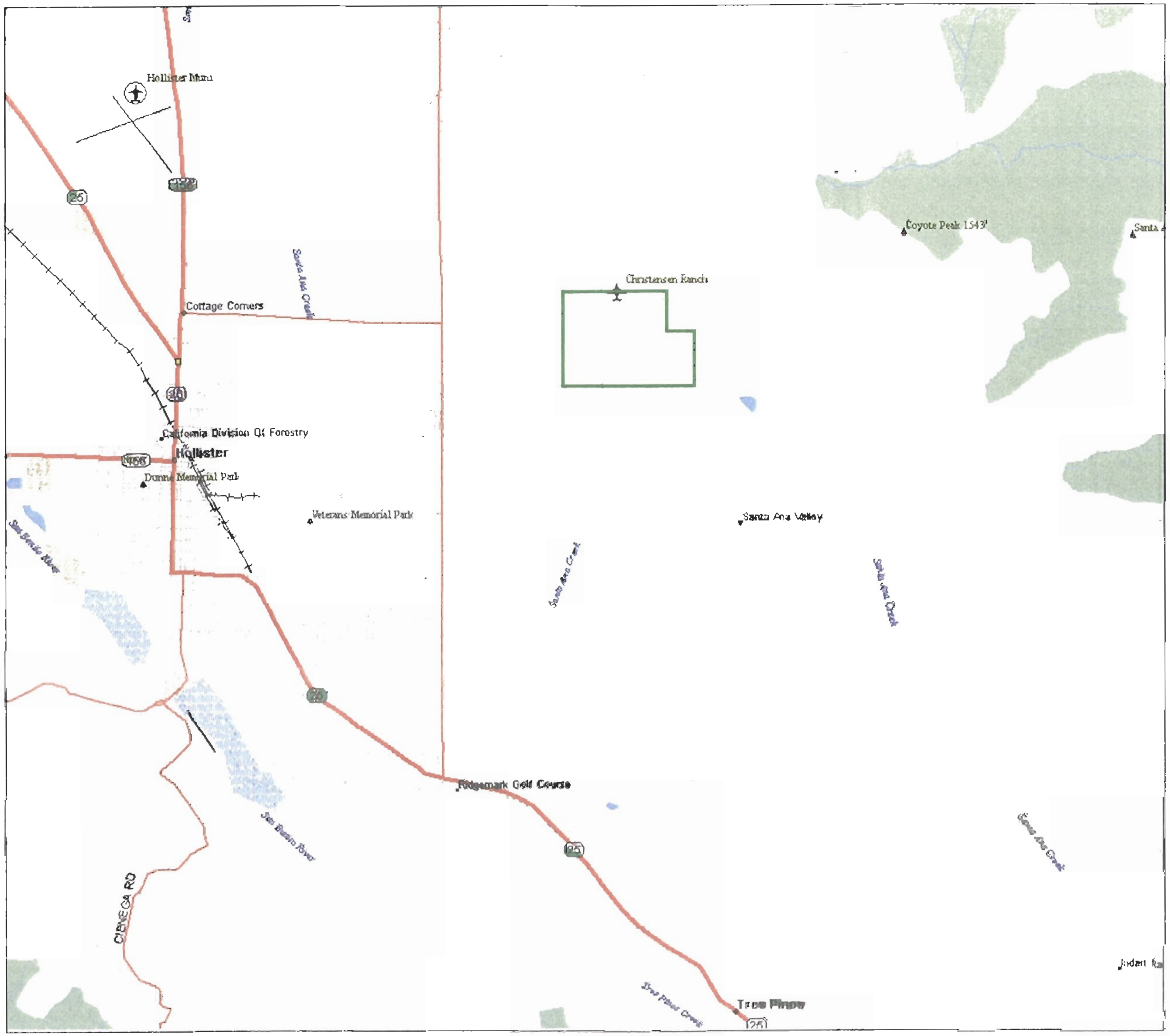
N

• NAVAL AIR FACILITY (e.g. NAS, NAAS, OLF, etc.)
● 1950'S ERA TARGET
WWII GUNNERY RANGE
1950'S GUNNERY RANGE
13TH NAVAL DISTRICT TARGETS, RANGES & AIRFIELDS
WWII ERA TARGET
● BOTH WWII & 1950'S TARGET (WWII ERA # LISTED IF DIFFERENT)

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

HOLLISTER 12TH NAVAL DISTRICT
TARGET NO. 5
SAN BENITO COUNTY
12TH NAVAL DISTRICT BOMBING AND
GUNNERY AREAS-1940'S TO EARLY 1950'S
DERP-FUDS# J09CA111301

PROJ DATE 24 SEP 2001
PLATE NO 1



LEGEND

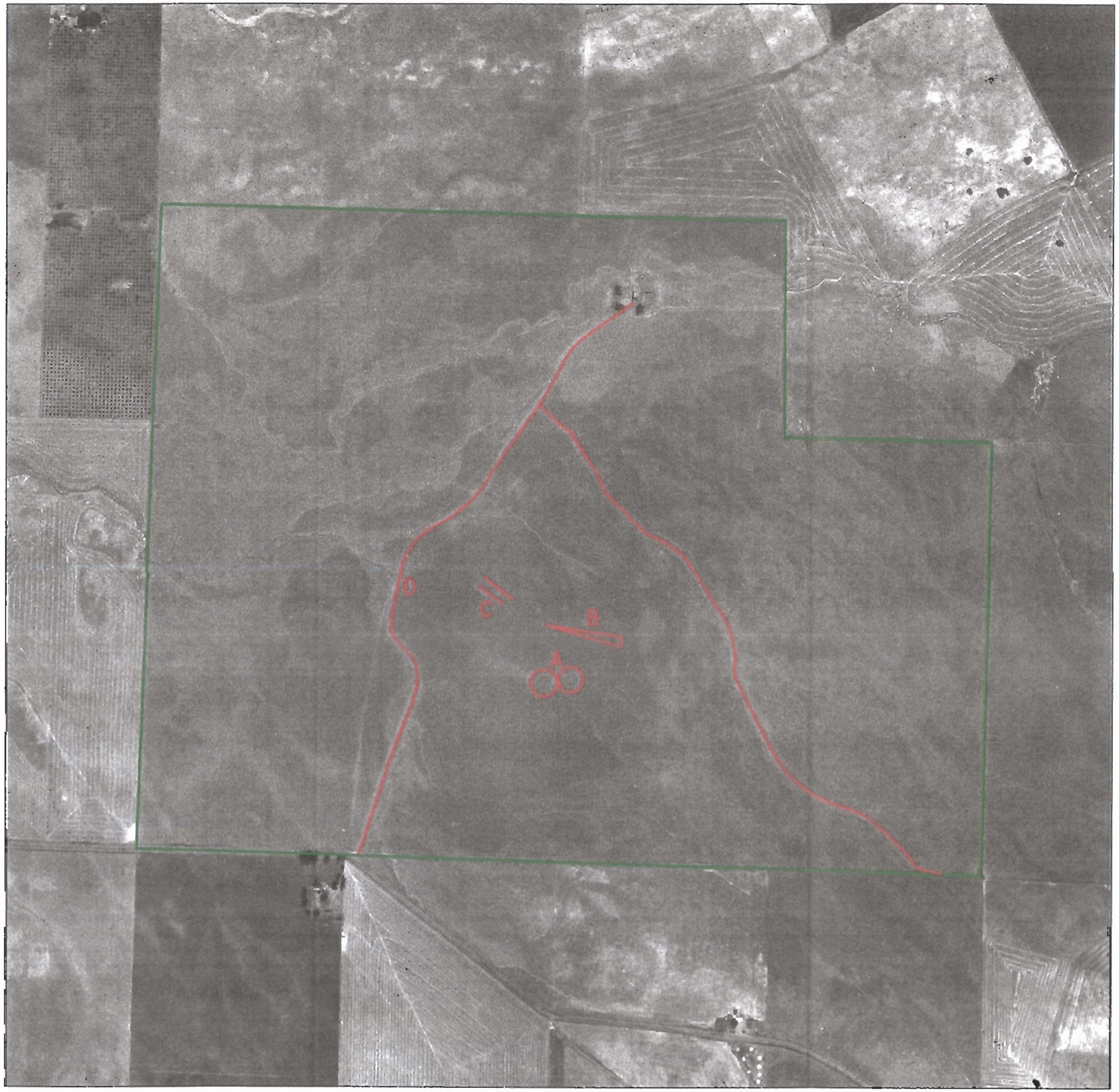
HOLLISTER 12TH NAVAL DISTRICT BOMBING TARGET NO. 5

N

U.S ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

HOLLISTER 12TH NAVAL DISTRICT
TARGET NO. 5
SAN BENITO COUNTY, CALIFORNIA
DERP-FUDS• J09CA111301
VICINITY MAP

PLATE NO. 2



Imagery: 13 June 1959, frame BUX-6V-184 scale 1:20,000

from USDA - AerialPhotography Field Office Salt Lake City, UT

A TWO 100 FOOT DIAMETER CIRCLE TARGETS, ABOUT 50 FEET APART

B 'K' TARGET ABOUT 500 FEET LONG AND 50 FEET WIDE, L LABELED AS A CRUISER TARGET ON SITE PLANS BUT ONLY ONE END IS TAPERED

C PAIR OF INDISTINCT LINEATIONS SPACED ABOUT 50 FEET APART, MAY BE PART OF ANOTHER TARGET

D ROAD DEMARKING THE 'TARGET AREA'

LEGEND

SITE LOCATION

FEATURE LOCATION

0 700 1400

APPROXIMATE SCALE IN FEET

N

U.S. ARMY CORPS OF ENGINEERS
ST. LOUIS DISTRICT

HOLLISTER 12TH NAVAL DISTRICT
TARGET NO. 5
SAN BENITO COUNTY, CALIFORNIA
DERP-FUDS• J09CA111301
1959 AERIAL PHOTO

PROJ DATE 2000	DATE OF PHOTO 1959	PLATE NO. 3
25 SEP 2001		