

DIGEST OF PHOTO-INTELLIGENCE

PREPARATORY TO AND DURING THE OPERATION

"HUSKY"

10 JULY 1943

BY THE

PHOTOGRAPHIC INTERPRETATION UNIT

N-2 G-2 SECTION

AMPHIBIOUS FORCE ATLANTIC FLEET

CONFIDENTIAL

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INTRODUCTION

This book presents examples of typical natural and man-made features of the coast of southern Sicily as they appear both from the air and from the ground. It is intended primarily for the use of photo-interpreters who may be engaged in preparation for future amphibious operations.

It is designed to serve the following purposes:

1. Presenting examples of beach, road and airport defenses used by Germans and Italians.
2. Analyzing typical features of beaches, vegetation and terrain in the Mediterranean Area.
3. Acquainting the reader with the scope and accuracy of photographic intelligence.

The book is divided into three parts. The annotated mosaics comprising the first section are copies of 20" x 24" mosaics which were distributed to army and navy commands prior to Operation HUSKY. The second section of the book is made up of photographs on which are indicated the results of both aerial and ground observations over the area. The third section is a collection of vertical photographs of installations which have not been so confirmed, but which are particularly clear examples of Axis military practice.

Vertical photographs appearing in this book are copies of operational pictures used for interpretation before and during the operation. They were selected from sorties flown by the RAF and AAF. Where photographs appear side by side on the same page they are intended for study by pocket stereoscopes. Ground photographs used were taken by Amphibious Force staff photographers.



A. G. KIRK,
Rear Admiral, U. S. Navy,
Commander Amphibious Force, Atlantic Fleet.

A N N O T A T E D M O S A I C S

S O U T H E R N S I C I L Y

Cent Area

Beaches and Adjacent Airfields

29 June 1943

Date of Latest Information Available
at Time of Release; 14 June 1943

LAND AND VEGETATIVE TYPES CHARACTERISTIC OF
THE CENT AREA

Description

That portion of the South coast of Sicily shown on the accompanying mosaics is situated on an alluvial plain and is characterized by a definite sequence of land types with associated vegetation as one progresses inland from the coast. These plant-soil types have distinct features which directly affect the ease of movement of foot troops, and several of them possess, to different degrees, the ability to afford concealment from air and ground observation.

There are primarily 7 land types with associated flora within 1-3 kilometers of the coastline. They are listed below in the order of their normal occurrence from the coast inland. Due to the variations in soil fertility, however, this order may be found to be altered or incomplete in certain locations.

1. Smooth Sandy Beaches:

All of the many beaches shown in the mosaics are composed of smooth sand. It appears to be quite soft and devoid of any vegetation.

2. Sand Dunes:

These dunes, which are frequently quite rough, usually lie just inland from the smooth sandy beaches and are also scattered along the coastline. The dunes are rough, undulating, and have no vegetation on them.

3. Sand-Scrub Growth:

This type consists of isolated areas of natural vegetation on sand dunes. They are not extensive in the Cent Area and are usually long and narrow. This type is characterized by the semi-desert type of plants much like those found in the Southwestern parts of the United States. The growth is low, averaging about 5 feet, is tough, and frequently of the form of plant bearing needles or thorns which obstruct foot movement, particularly if dense. Trails are visible from the air winding through this type. Of all the vegetative types encountered while progressing inland from the beaches, this scrub growth provides the most concealment from both ground and air observation, but should be avoided if it is desired to make rapid advancement on foot. Beach 66B has considerable amounts of this growth on it.

4. Controlled Sand:

These areas represent the first stages of bringing sand dunes under control by means of employing windbreaks of natural and cultivated vegetation to stabilize shifting sand. These controlled sand areas are found on both sand dunes and relatively level sandy fields. The plants used for windbreaks are usually native species that will grow on sand soils, are planted in rows about 20 feet apart, and they seldom reach a height in excess of 6 feet. In some instances vineyards have been established illustrating a combined effort at crop production and sand stabilization. In general the sand is soft, the vegetation low, and only moderate to slight concealment is provided against air view, and concealment from ground observation is furnished only if the rows are bisected while progressing inland.

5. Reclaimed Sand:

These areas usually lie inland from the controlled sand areas and represent an advancement in the effort to reclaim waste sand sections. Orchards, usually olive trees, predominate. Trees range from 10 to 25 feet in height if mature, and are spaced approximately 30 feet apart. Due to the wide spacing of the trees and to the small canopies of the tree-crowns, little concealment is afforded from air observation. Small grain, such as wheat, is sometimes grown between the rows of orchard trees, but this close grown crop is very low and would not form much concealment from ground view. These orchards appear quite open and the sand soil should prove more firm than that found on the beaches or sand dunes.

6. Cultivated Fields:

Cultivated fields are usually found inland from all of the sand soil or land types listed above. The cultivated land represents the best soil type, probably a loam, and small grain production predominates where water supplies permit. The field pattern is generally small, soil is firm, and the fields are relatively level, thus making military movements much easier. Little or no concealment is afforded to troops because of the low form of growth and practically no concealment from air observation.

7. Pasture Land:

Pasture land is very common 1-3 kilometers inland from the coast. The field pattern is usually larger than that found in the cultivated sections, and the field boundaries are frequently accented by stone or rock walls about 4 feet high. It is common to see these pastures sprinkled with such trees as oaks, chestnuts, and mature olive trees. These trees are quite dense at their crowns and often the trees are spaced close together resulting in good concealment from air view, but the grass-weed flora on the pastures are usually severely grazed and would yield little or no concealment from ground observation.

River Valleys:

River valleys do not constitute a distinct vegetative type, but rather a combination of pasture and cultivated land. The valleys of the major streams in the Cent Area shown on these accompanying mosaics lead to the coast and are not characterized by the sand soil types mentioned above. Instead, once the beach is invaded at the mouth of these valleys, level, firm cultivated and pasture land should afford much quicker access to the interior as compared with fighting the loose sand, tough vegetation, few trails, etc., encountered when crossing the sand types.

Examples

Approximate Scale = 1/10,000



2



3



4



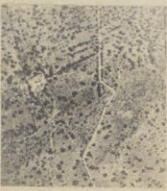
5



6



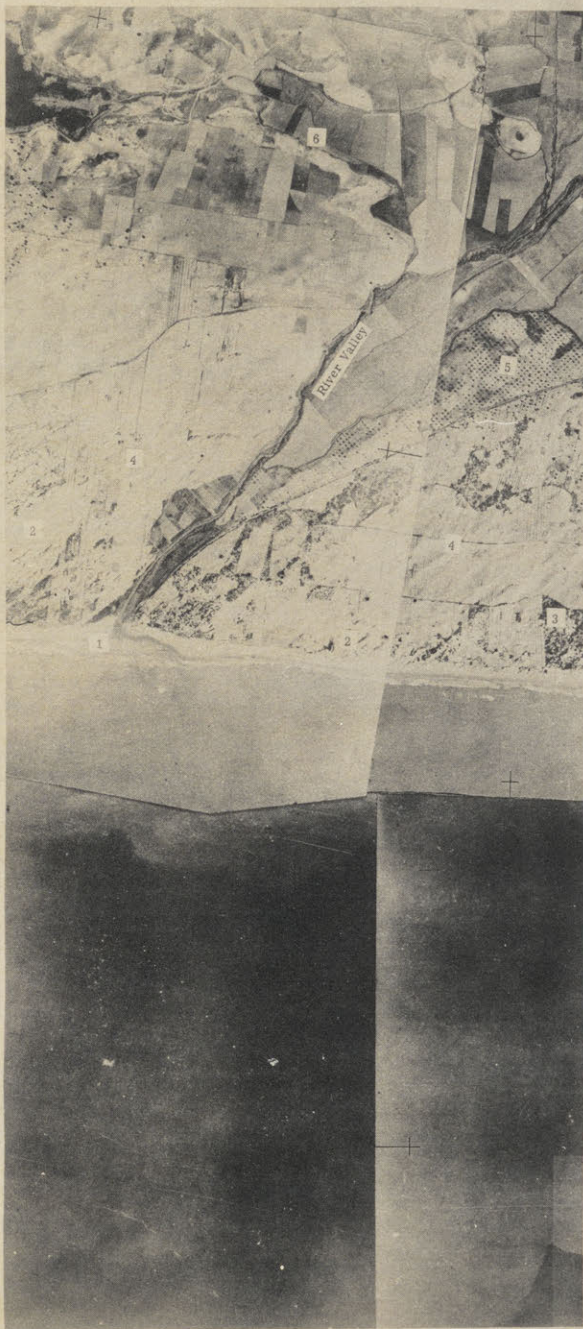
7



8

Typical Strip From Coast Inland

Approximate Scale = 1/10,000





The Area Characterized By
Sandy Light-Colored Soil of Limestone
with Irregularly Shaped and Clay

CENT 65
(90 YDS.)
(150 YDS.)

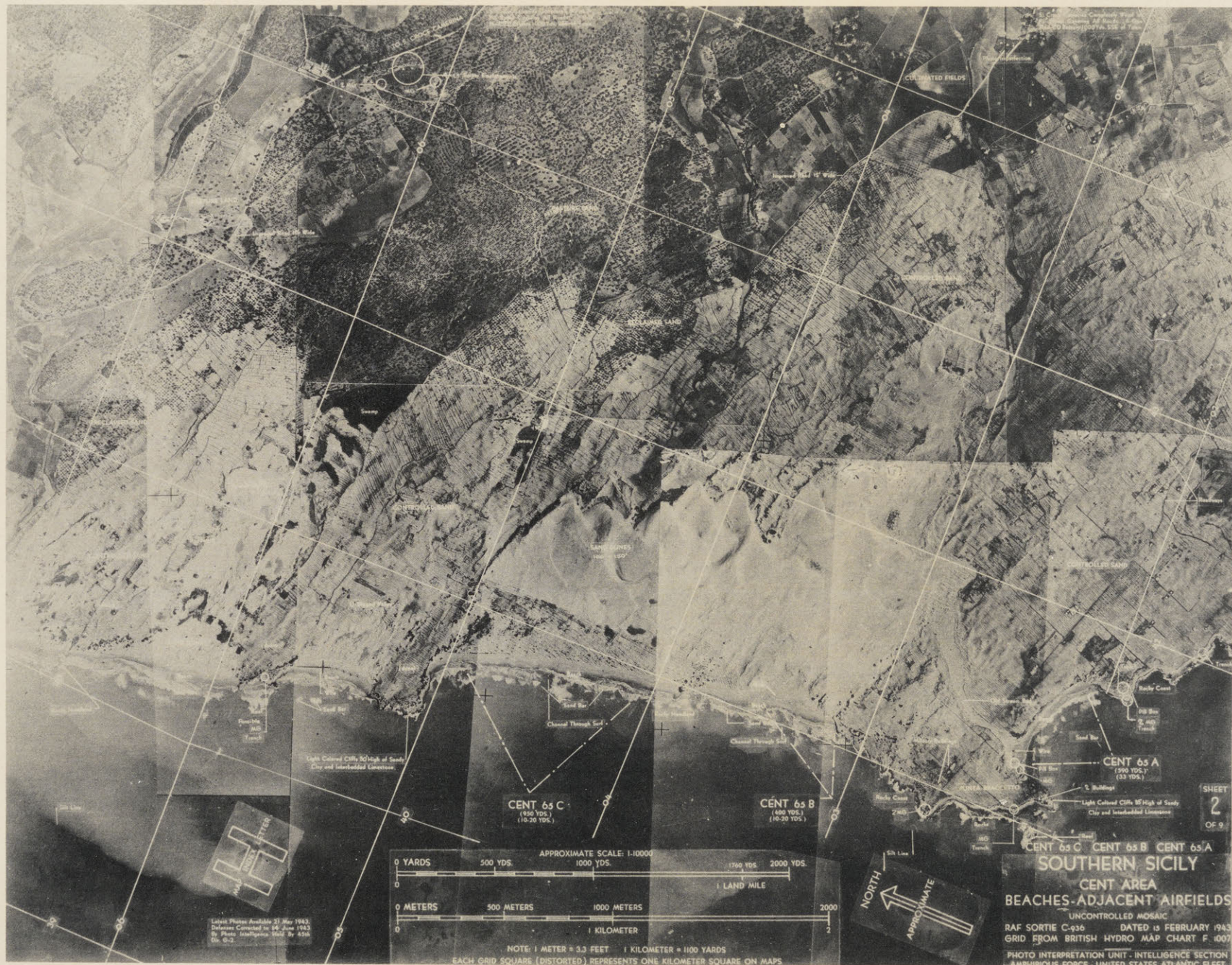
CENT 65 A
(100 YDS.)
(150 YDS.)

CENT 65 A CENT 65

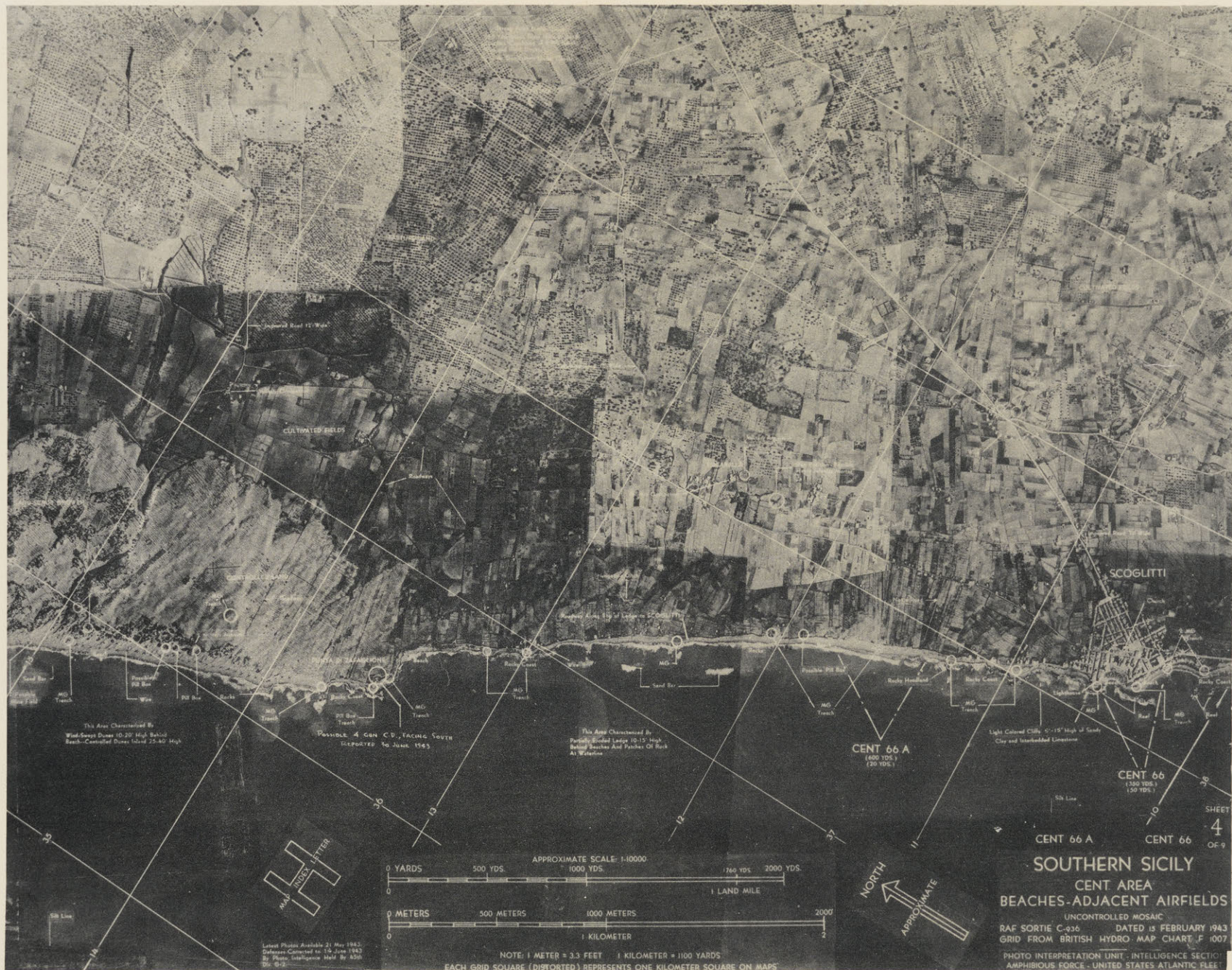
SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

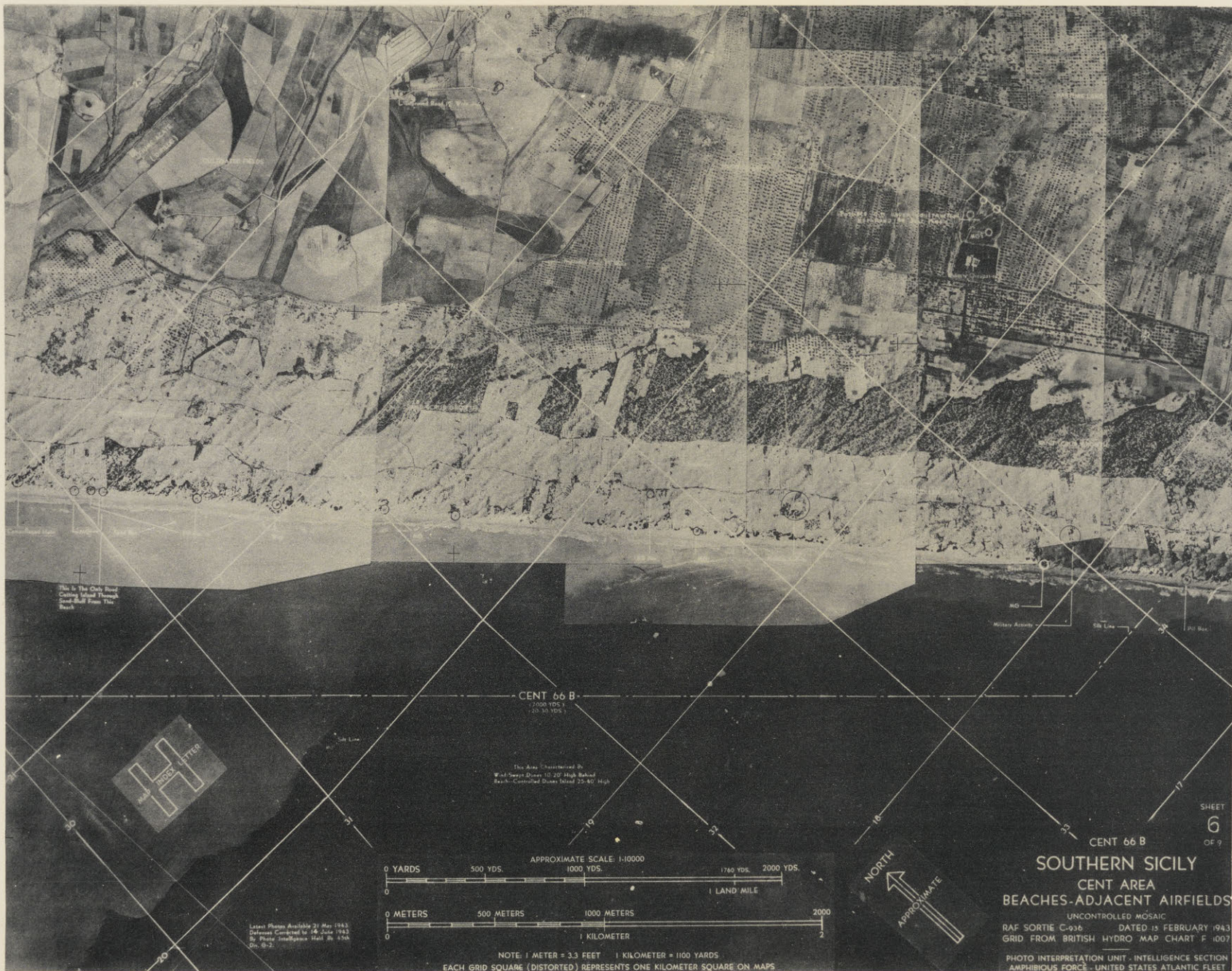
UNCONTROLLED MOSAIC
RAF SORTIE C-936 DATED 13 FEBRUARY 1943
GRID FROM BRITISH HYDRO MAP-CHART F.1007
PHOTO INTERPRETATION UNIT-INTELLIGENCE SECTION
AMPHIBIOUS FORCE, UNITED STATES ATLANTIC FLEET

Latest Photos Available 21 Mar 1953
Reference Coordinates No. 39 June 1952
No. 39, Photo Interpretation Unit, No. 138
SIC. B-2





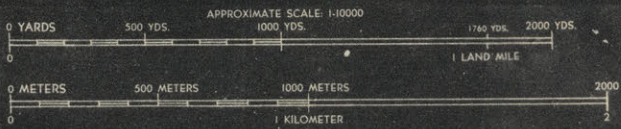
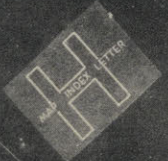




This is the Only Road
Coming Inland Through
Sand-Belt From The
Beach

CENT 66 B
(7000 YDS.)
(100 to 1000)

This Area Characterized by
Wind-Swept Dunes 10' to 20' High Behind
Beach. Controlled Dunes About 22-40' High



Latest Photos Available 21 May 1943
Defense Completed by 16 June 1943
By Photo Intelligence Staff in 45th
Div. (A-3)

NOTE: 1 METER = 3.3 FEET 1 KILOMETER = 1100 YARDS
EACH GRID SQUARE (DISTORTED) REPRESENTS ONE KILOMETER SQUARE ON MAPS



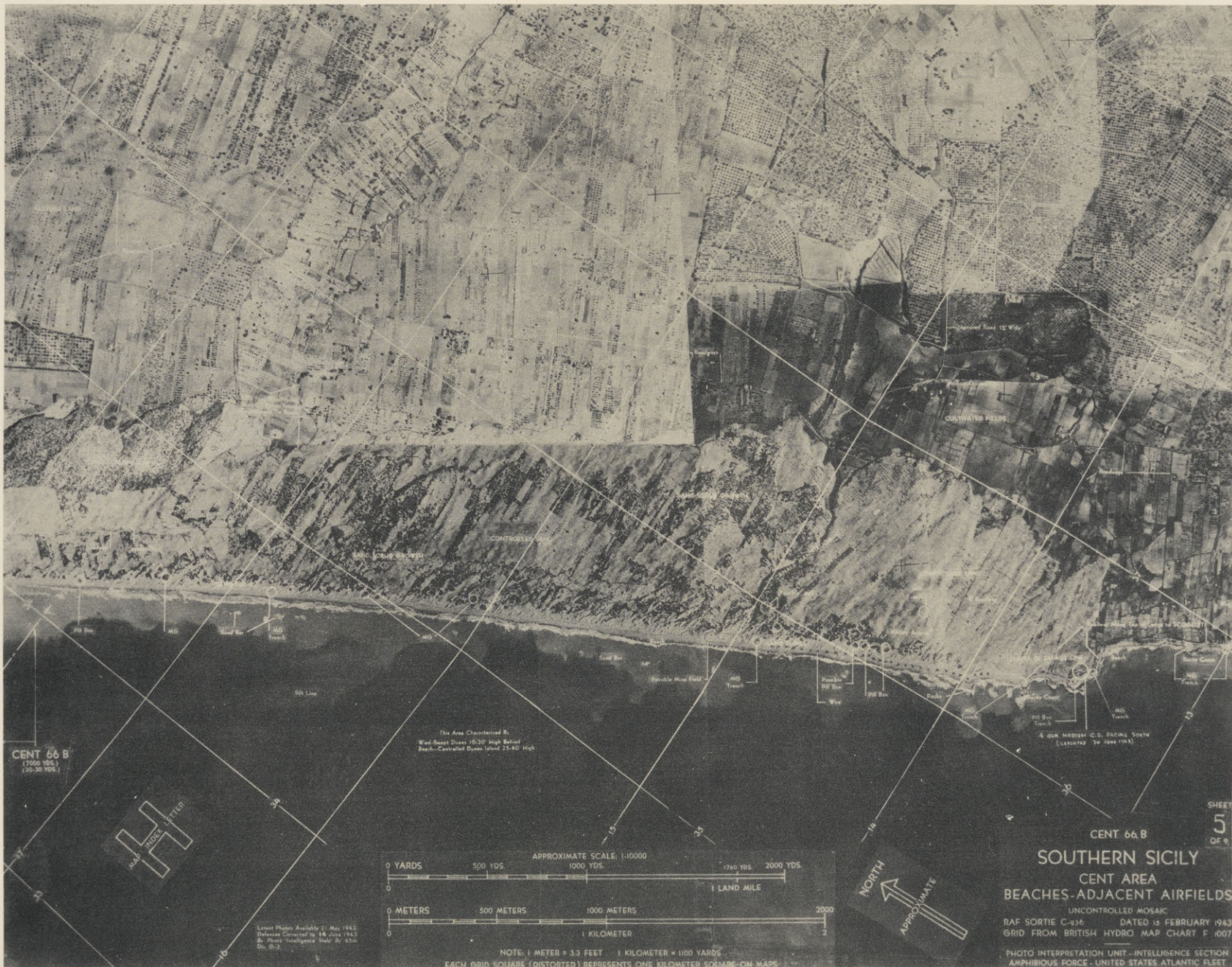
SHEET
6
OF 9

CENT 66 B

SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

UNCONTROLLED MOSAIC
RAF SORTIE C-936 DATED 15 FEBRUARY 1943
GRID FROM BRITISH HYDRO MAP CHART F 1007

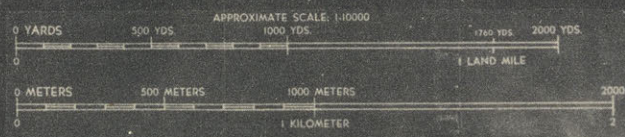
PHOTO INTERPRETATION UNIT - INTELLIGENCE SECTION
AMPHIBIOUS FORCE - UNITED STATES ATLANTIC FLEET



CENT 66 B
(1500 100)
(50-50 100)



The Area Characterized By:
Wind-Swept Dunes 10-20' High Behind
Beach; Central Dunes 25-50' High



NOTE: 1 METER = 3.3 FEET 1 KILOMETER = 1100 YARDS
EACH GRID SQUARE (DISTORTED) REPRESENTS ONE KILOMETER SQUARE-ON MAPS



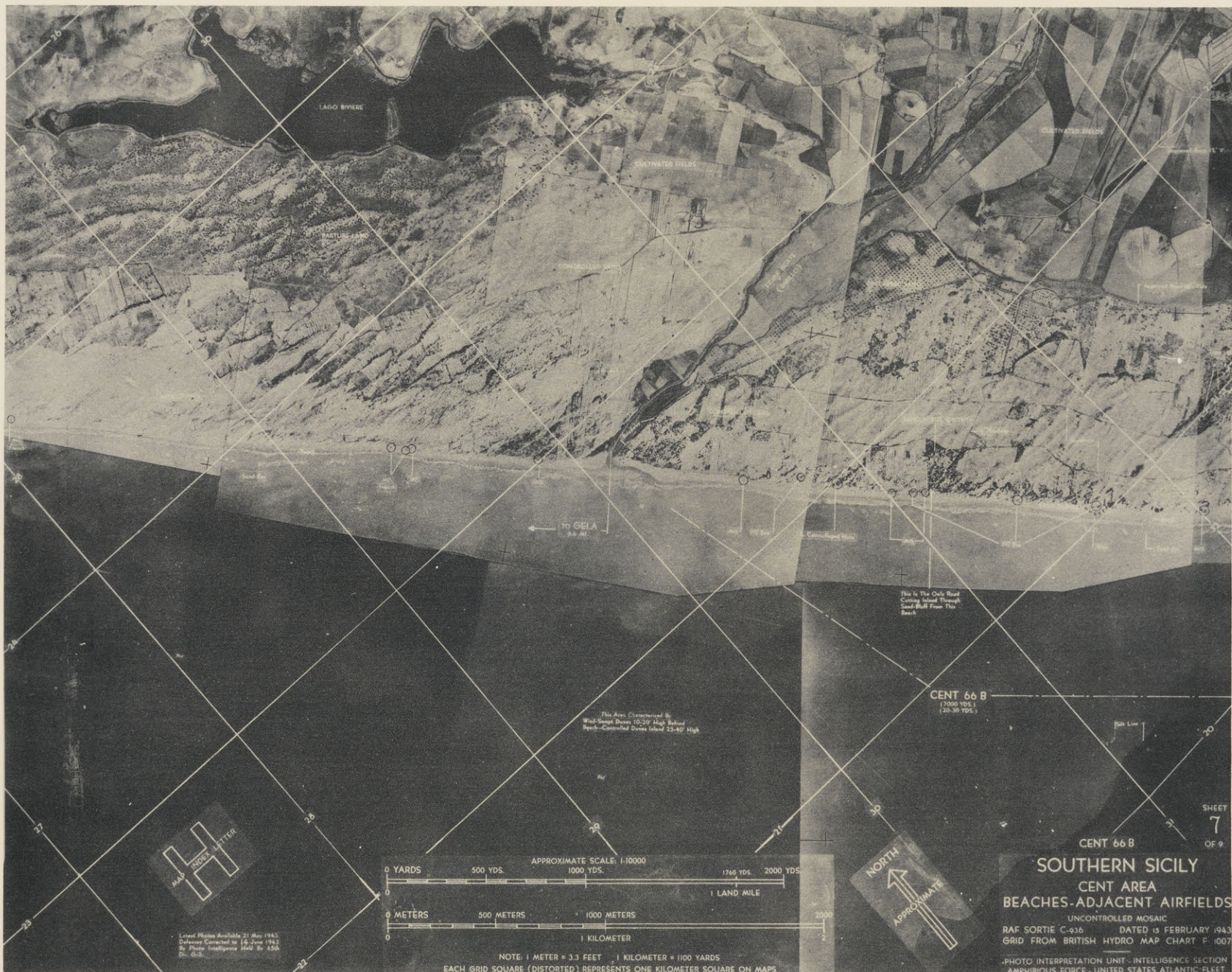
CENT 66 B
SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

UNCONTROLLED MOSAIC
RAF SORTIE C-936 DATED 15 FEBRUARY 1943
GRID FROM BRITISH HYDRO MAP CHART F 1007

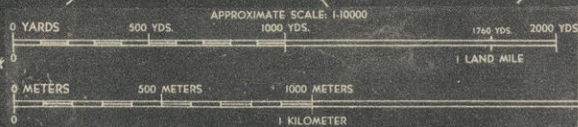
PHOTO INTERPRETATION UNIT - INTELLIGENCE SECTION
AMPHIBIOUS FORCE - UNITED STATES ATLANTIC FLEET

SHEET
5
OF 9

Latest Photos Available: 21 May 1943
Reference Completed: 14 June 1943
By: Photo Intelligence Staff No. 650
Dn. 902



Latest Edition Available 21 May 1963.
 Defense Corrupted to 16 June 1963.
 By Photo Interpretation Unit, AFSA,
 DC, 633.



NOTE: 1 METER = 3.3 FEET | 1 KILOMETER = 1100 YARDS
 EACH GRID SQUARE (DISTORTED) REPRESENTS ONE KILOMETER SQUARE ON MAPS

CENT 66 B
 (17000 YDS.)
 (20-30 YDS.)

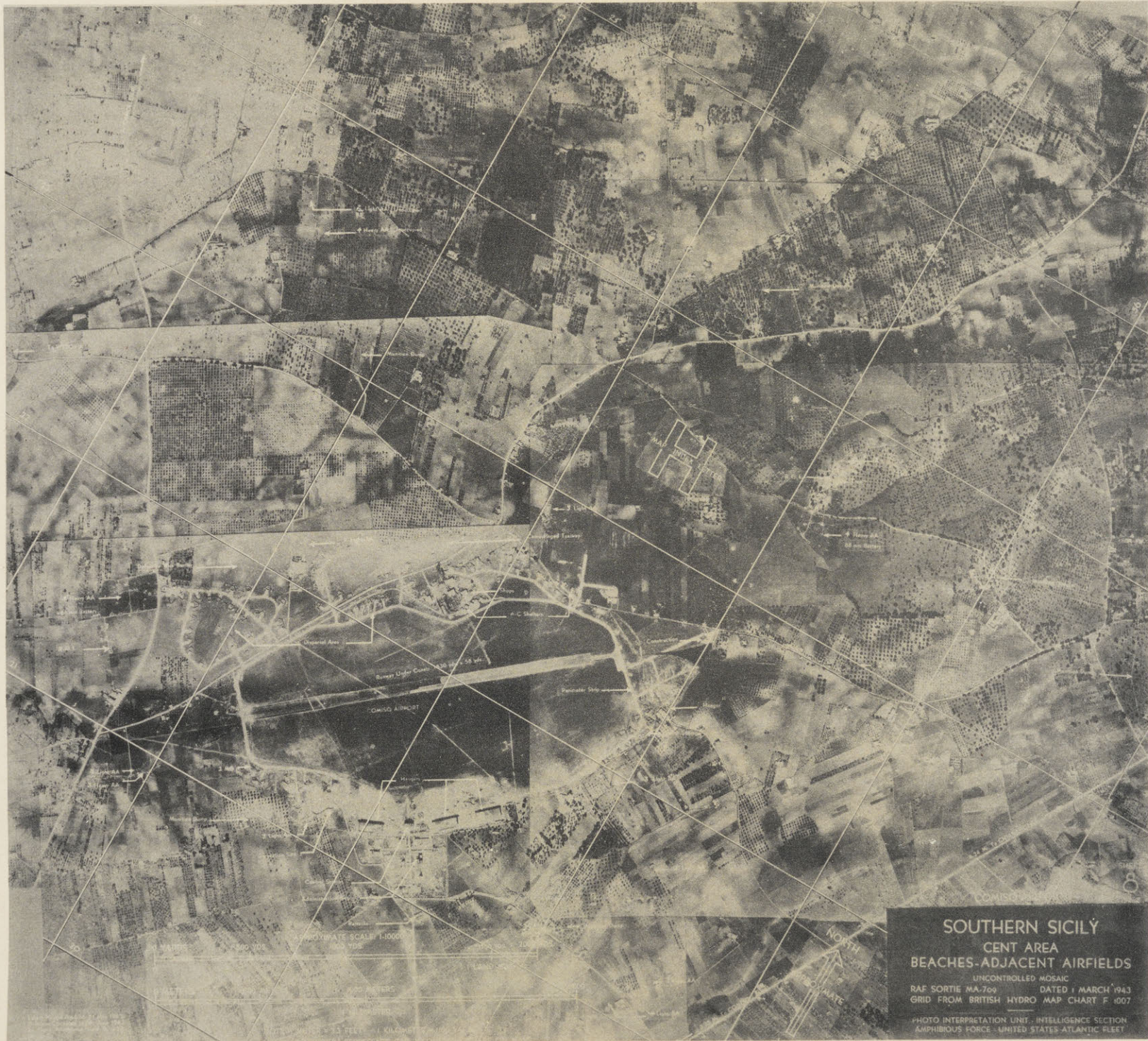
CENT 66 B

SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

UNCONTROLLED MOSAIC
 RAF SORTIE C-216 DATED 13 FEBRUARY 1943
 GRID FROM BRITISH HYDRO MAP CHART F.1007

PHOTO INTERPRETATION UNIT - INTELLIGENCE SECTION
 AMPHIBIOUS FORCE - UNITED STATES ATLANTIC FLEET

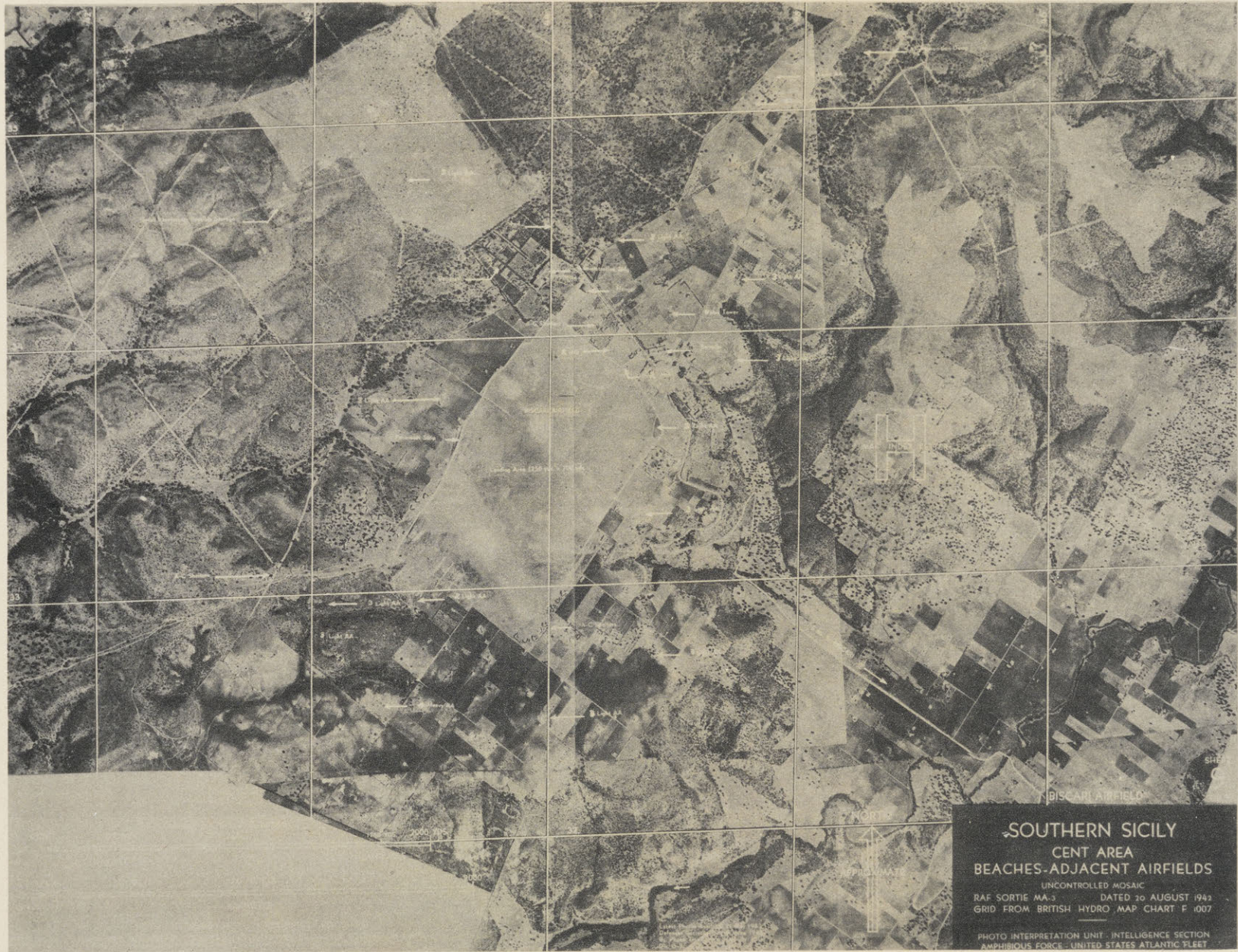
SHEET
 7
 OF 9



SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

UNCONTROLLED MOSAIC
RAF SORTIE MA-709 DATED 1 MARCH 1943
GRID FROM BRITISH HYDRO MAP CHART F 1007

PHOTO INTERPRETATION UNIT, INTELLIGENCE SECTION
AMPHIBIOUS FORCE - UNITED STATES ATLANTIC FLEET



SOUTHERN SICILY
CENT AREA
BEACHES-ADJACENT AIRFIELDS

UNCONTROLLED MOSAIC
RAF SORTIE MA.3 DATED 30 AUGUST 1943
GRID FROM BRITISH HYDRO MAP CHART F 1007

PHOTO INTERPRETATION UNIT, INTELLIGENCE SECTION
AMPHIBIOUS FORCE, UNITED STATES ATLANTIC FLEET

C O N F I R M E D I N F O R M A T I O N
I N F O R M A T I O N C O N F I R M E D B Y G R O U N D S H O T S O R B Y
G R O U N D O B S E R V A T I O N S .

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DEFENSES



Embrasures in sea-wall (p.13)

Barbed wire

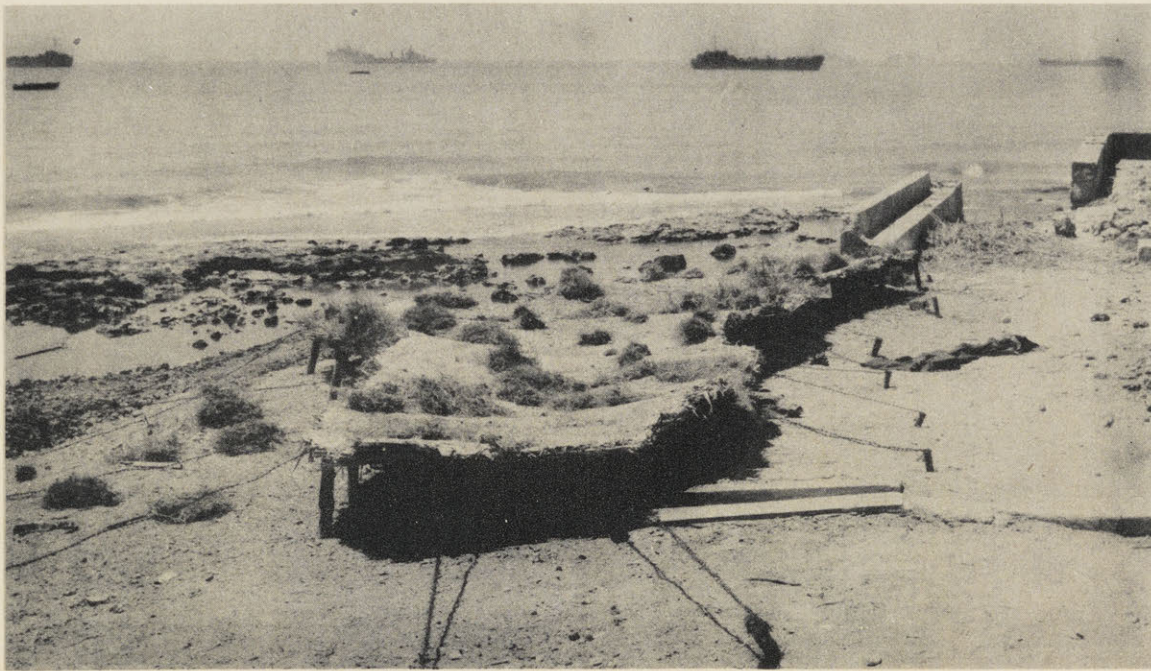
Approx. scale 1:5000

MACHINE GUNS: MG positions along water-front at Scoglitti.
For ground shots see pages 12 and 13.



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DEFENSES



MACHINE GUNS: Example of a camouflaged trench and machine gun position located in front of roofless building on south side of cove at Scoglitti. For vertical view, see page 11.



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DEFENSES



MACHINE GUNS: Slit trench and a camouflaged machine gun position located on beach at southwest corner of Scoglitti. For vertical view and diagrams, see pages 11 and 16 respectively.



MACHINE GUNS: Utilization on an existing embrasure in a cellar in Scoglitti. For location in sea-wall, see page 11.

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DEFENSES



MACHINE GUNS: MG position south of Scoglitti. For ground shots see page 15.



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DEFENSES

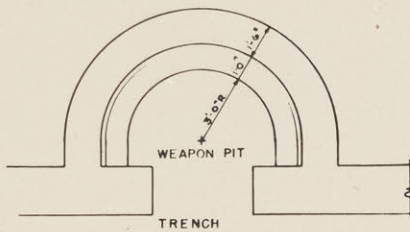
Pta. della Camerina



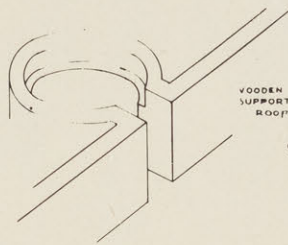
MACHINE GUNS: A camouflaged machine gun position with slit trench. For vertical view see page 14.



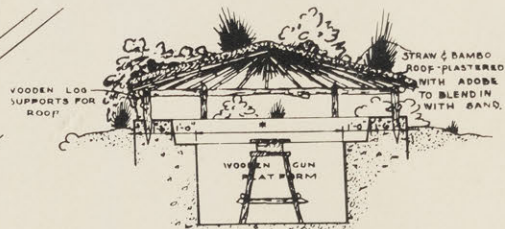
CONFIDENTIAL



PLAN



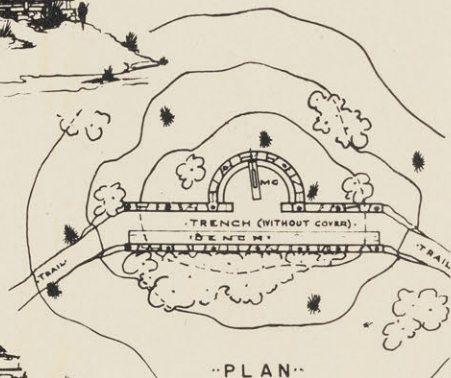
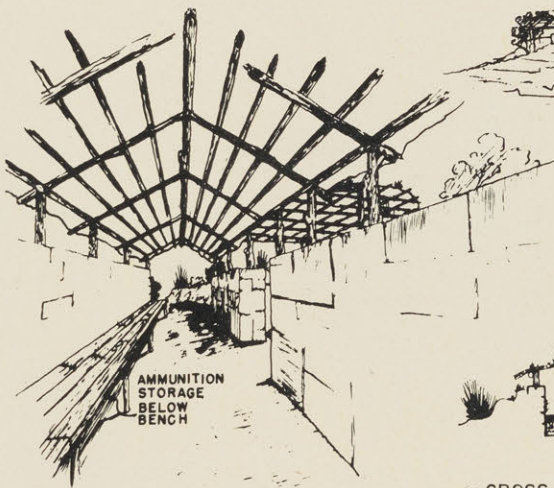
OBLIQUE



4'-0" FOR WEAPON PIT
 5'-0" FOR BREDA 37 (8mm)
 6'-6" TO 7'-0" FOR 20mm

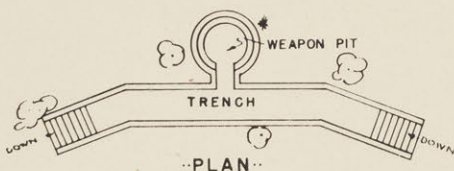
CROSS SECTION

TYPICAL DETAILS



PLAN

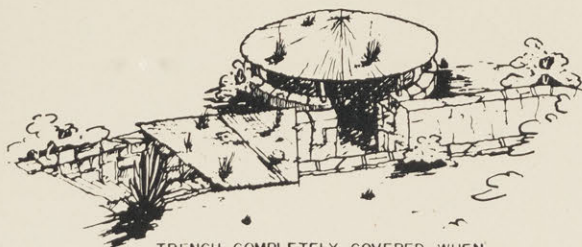
CROSS SEC. THRU TRENCH & M.G. PIT



PLAN



AERIAL PERSPECTIVE



TRENCH COMPLETELY COVERED WHEN NOT IN USE

TYPICAL POSITIONS ON HILLOCKS IN SANDY AREAS
 FOR PHOTOGRAPHS SEE PAGE 18

TYPICAL POSITIONS IN FLAT COASTAL HEADLANDS

SICILIAN BEACH DEFENSE

MACHINE GUN EMBLEMMENTS

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D E F E N S E S



MACHINE GUNS: Two views of a camouflaged 20mm machine gun position with slit trench south of Scoglitti. For vertical view see grid reference H385100 on page 4.



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DEFENSES



MACHINE GUNS: A camouflaged machine gun position on sand dune overlooking the beach north of Scoglitti. For vertical view see grid reference H320207 on page 7.

NOTE: This type of camouflage was particularly effective in the sandy scrub growth areas as machine gun positions matched perfectly existing scrub covered hillocks. Prisoners-of-war stated that no special allowances or materials were furnished for camouflage of coastal defenses, but that the technique of camouflage was left to the ingenuity of individual troops.

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DEFENSES



Battery positions under constr.

75mm GUNS: 75mm Italian battery on the Scoglitti-Vittoria highway under construction as of 13 May 1943. For ground shots see pages 21 and 22.



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DEFENSES

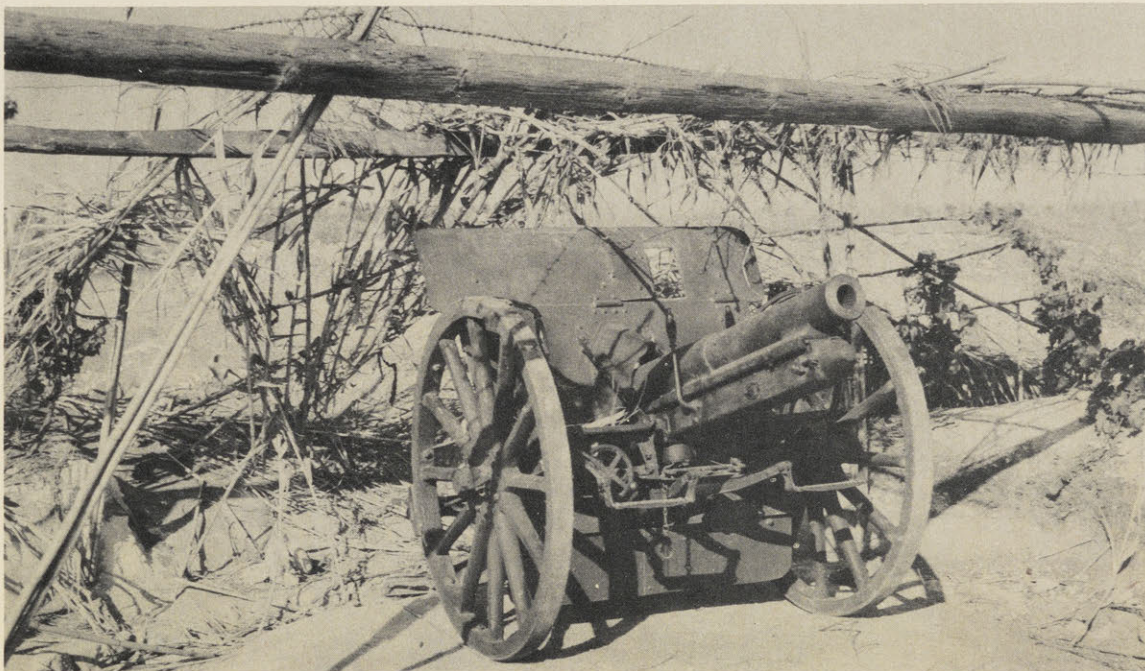


75mm GUNS: 5-gun 75mm Italian battery on Scoglitti-Vittoria highway as of 10 July 1943. For ground shots see pages 21 and 22.



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D E F E N S E S

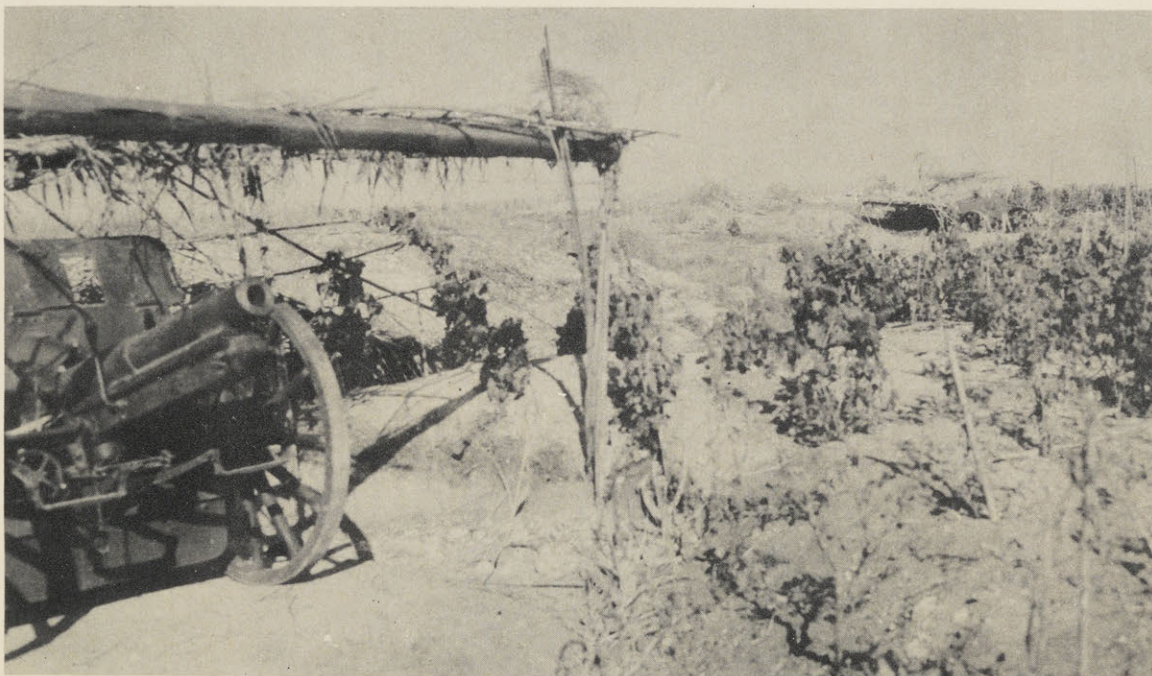


75mm GUNS: 75mm gun battery on the Scoglitti-Vittoria highway.
For vertical views of battery development see pages 19 and 20.



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DEFENSES



75mm GUNS: 75mm gun battery on the Scoglitti-Vittoria highway.
For vertical views of battery development see pages 19 and 20.



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DEFENSES



149mm HOWITZERS: 3-gun 149mm howitzer battery on Pta. della Camerina. For vertical view see grid reference H396085 on page 4.



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DEFENSES



STRONG-POINTS: Strong-point on the Scoglitti-Vittoria highway. For ground shots see pages 25 and 27.



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DEFENSES



ROAD BLOCKS: 75mm A/T gun destroyed by naval gun fire. The field piece is seen adjacent to a road block on the Scoglitti-Vittoria highway. For vertical view, see page 24.



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DEFENSES



PILL-BOXES: A pill-box located on the outskirts of S. Croce Camerina.



PILL-BOXES: A typical pill-box found inland. Note stone walls which are estimated to be approximately 4 feet high.

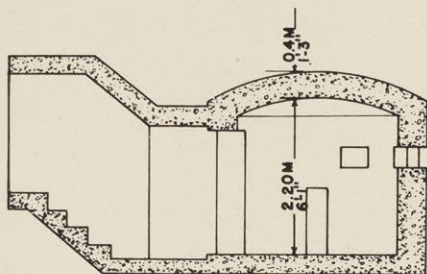
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DEFENSES

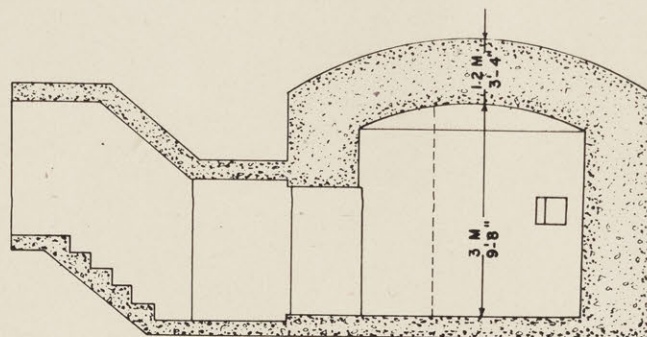


PILL-BOXES: A camouflaged pill-box adjacent to the road blocks within the strong-point on the Scoglitti-Vittoria highway. For vertical view see page 24, and for diagrams, see page 28.

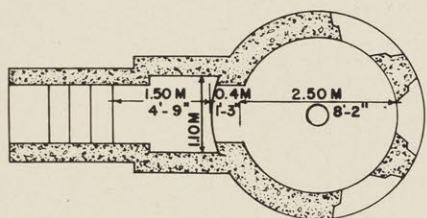
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.. CROSS SECTION ..

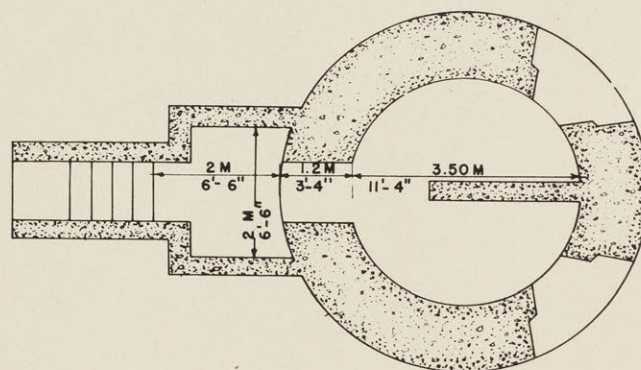


.. CROSS SECTION ..



.. PLAN ..

.. SMALL TYPE ..

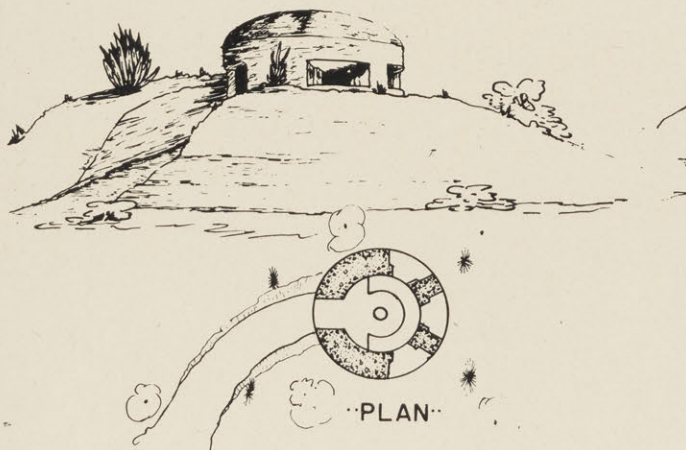


.. PLAN ..

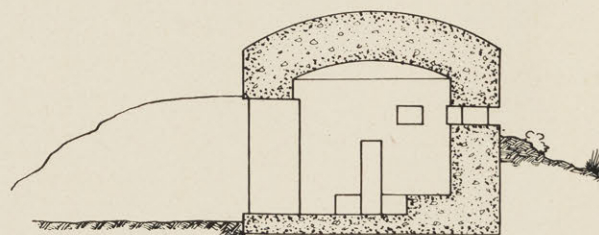
.. LARGE TYPE ..

.. TYPICAL PILLBOX ..

FROM
P/W DOCUMENT



.. PLAN ..



.. CROSS SECTION ..

.. TYPICAL PILLBOX OBSERVED ..
IN THE
.. SICILIAN OPERATION ..

THIS INFORMATION IS COMPILED FROM REPORTS AND
PHOTOGRAPHS
ENTRANCE TO PILLBOX VARIES (STEPS, TRENCH, ETC.)

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DEFENSES



BARBED WIRE: A barbed wire entanglement on beach south of Scoglitti.



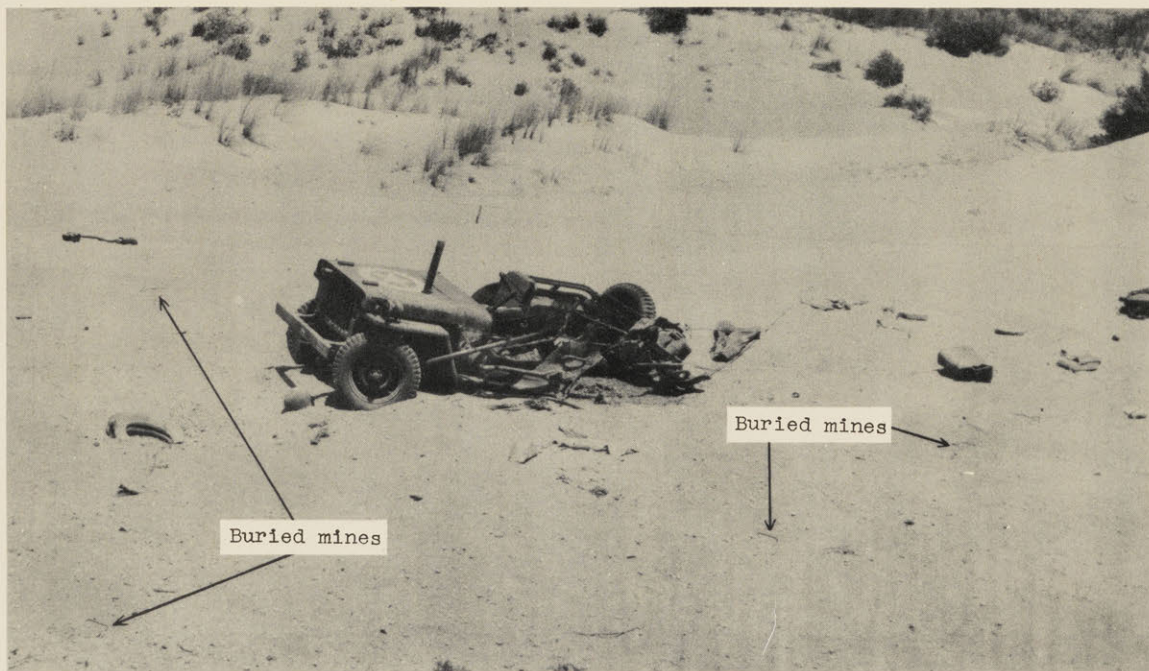
BARBED WIRE: A barbed wire enclosure on street in Scoglitti.

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DEFENSES

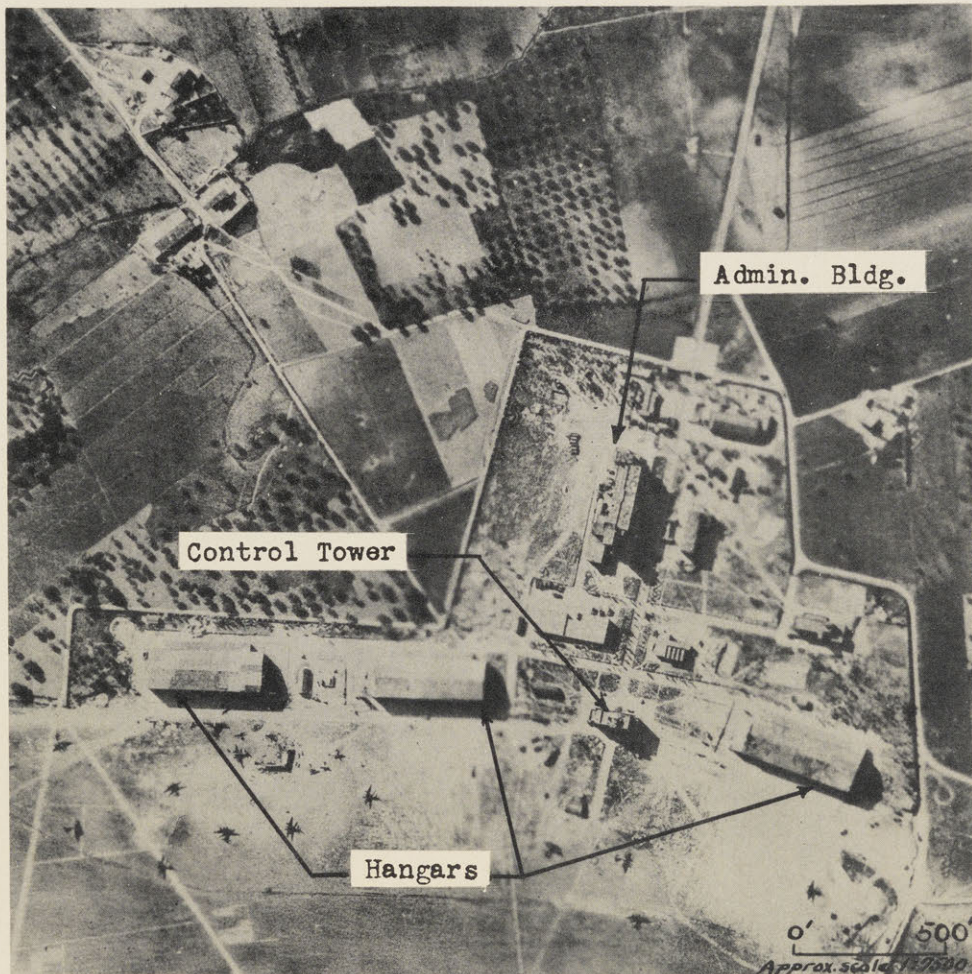


MINE FIELDS: Mine field north of Pta. Di Zafaglione. For vertical view, see grid reference H358151 on page 6.



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AIRFIELDS

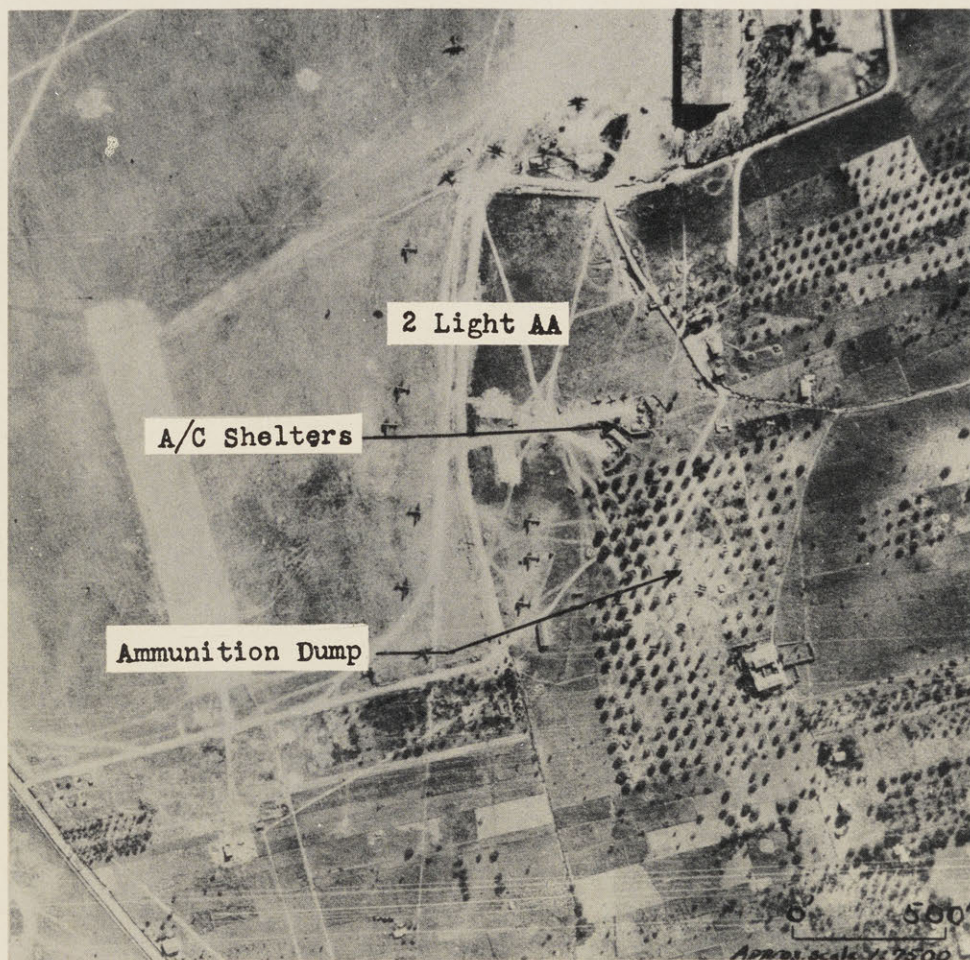


HANGARS: Hangars and administration building at the Comiso Airport. For groundshot, see page 33.

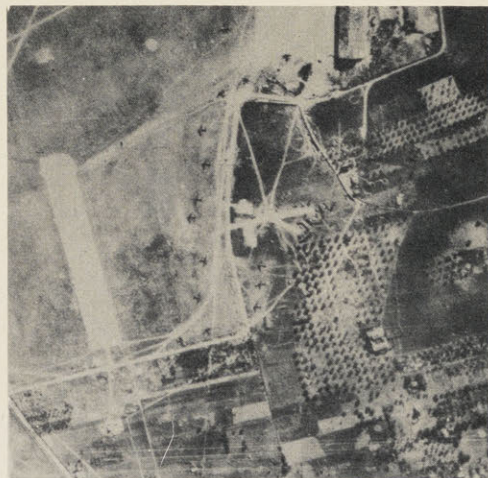


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AIRFIELDS



AMMUNITION DUMPS: Ammunition stored at base of orchard trees at the Comiso Airport. For ground shot, see page 33.

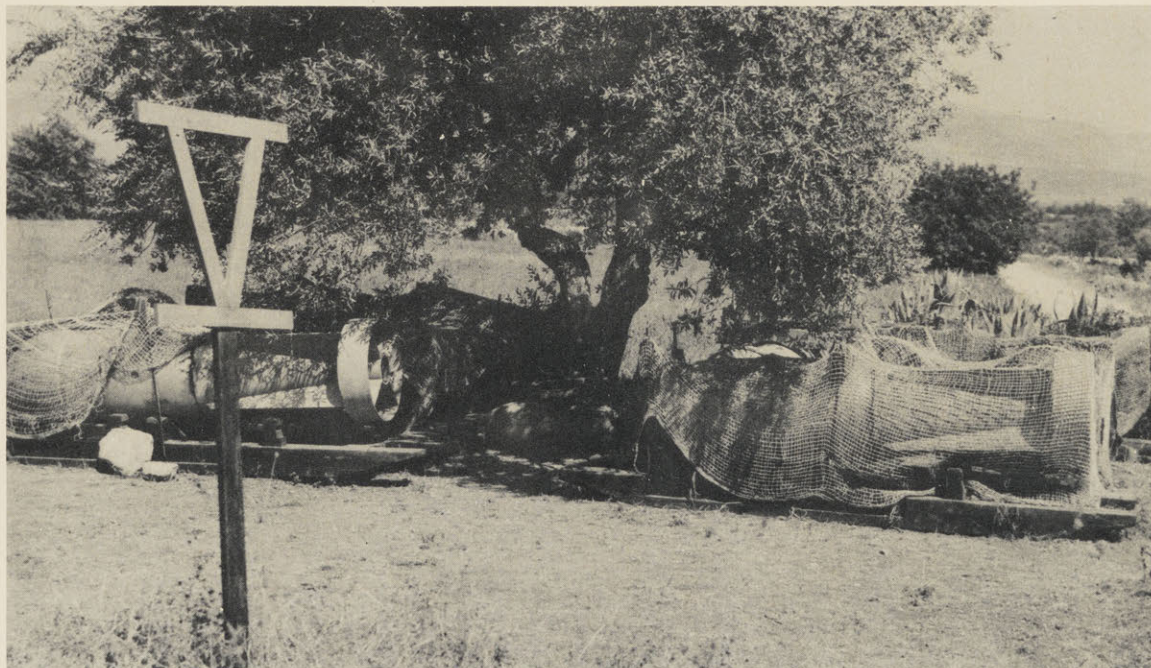


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AIRFIELDS



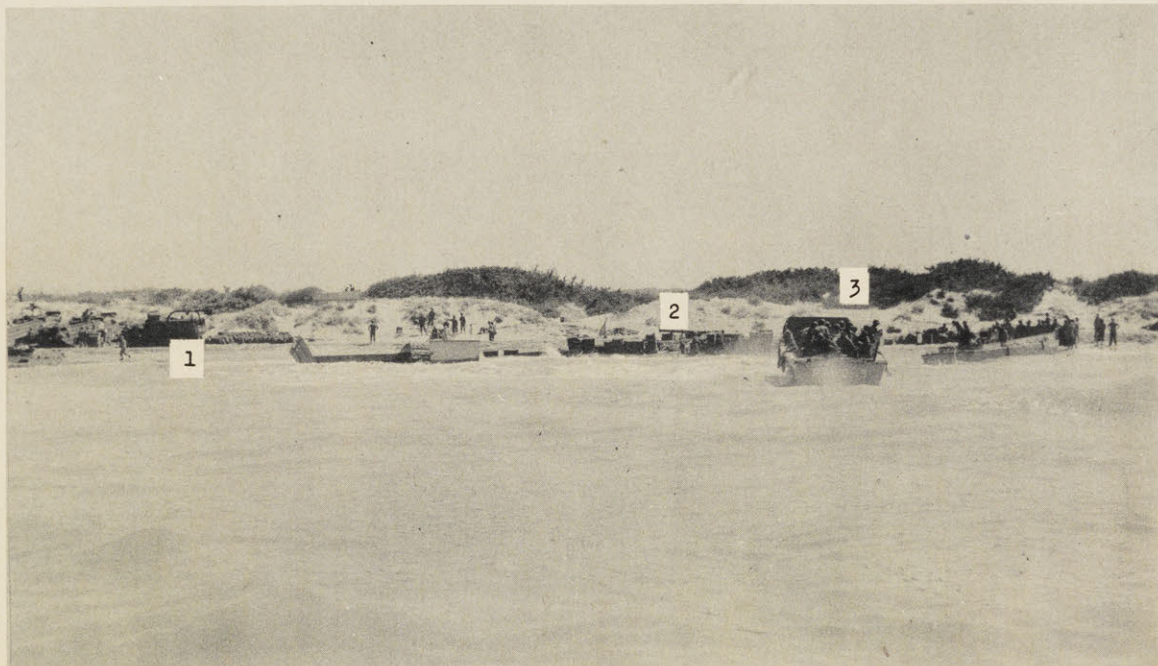
HANGARS: Hangars and control station at the Comiso Airport. For vertical view, see page 31.



AMMUNITION DUMPS: German bomb storage in orchard at Comiso Airport. For vertical view, see page 32.

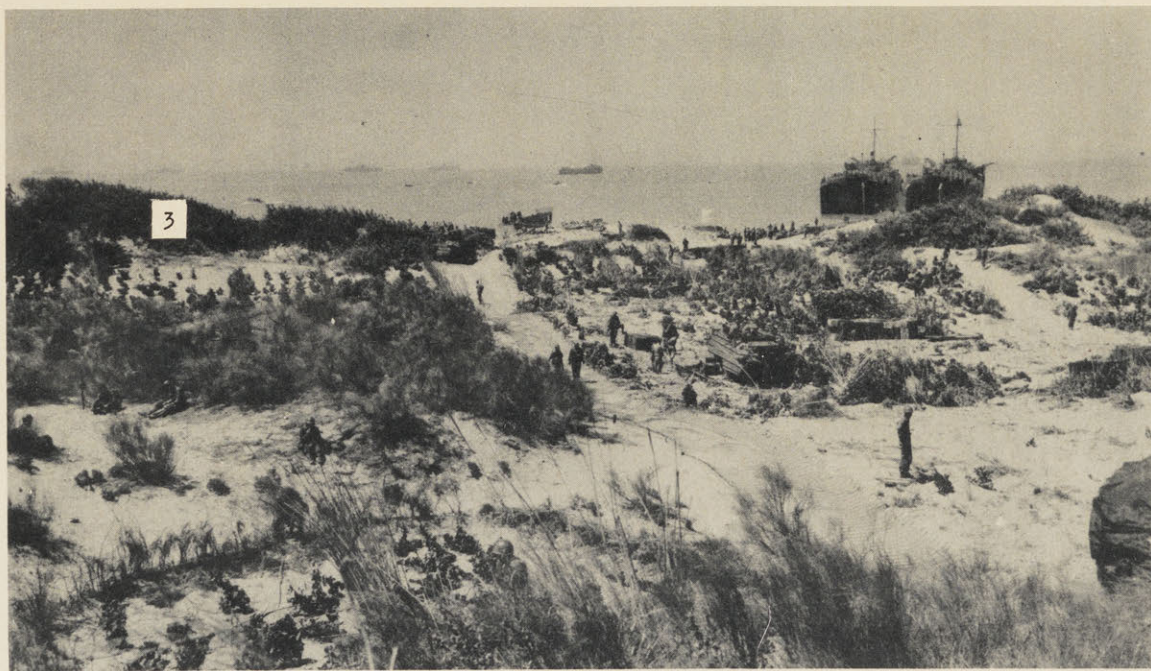
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COVER AND CONCEALMENT



VEGETATIVE TYPES: Numbers correspond to the vegetative types discussed on page 1.

- 1-----Smooth sand.
- 2-----Sand dunes--devoid of vegetation.
- 3-----Sand--Scrub growth.



CONFIDENTIAL COVER AND CONCEALMENT



VEGETATIVE TYPES: Example of controlled sand, vegetative type No. 4 on page 1. This grass growth was found to measure 6 to 8 feet in height.



VEGETATIVE TYPES: Reclaimed sand, vegetative type No. 5 on page 1. This is an example of an olive orchard showing small tree canopy sizes and little or no ground cover.

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M I S C E L L A N E O U S



LANDMARKS: Church and Lighthouse in Scoglitti. For ground shots, see page 37, and for obliques, see page 39.



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MISCELLANEOUS



LANDMARKS: Views of church and lighthouse at Scoglitti. For vertical view see page 36.



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LANDMARKS: Lighthouse on Cape Scalambri. For oblique view, see page 39.

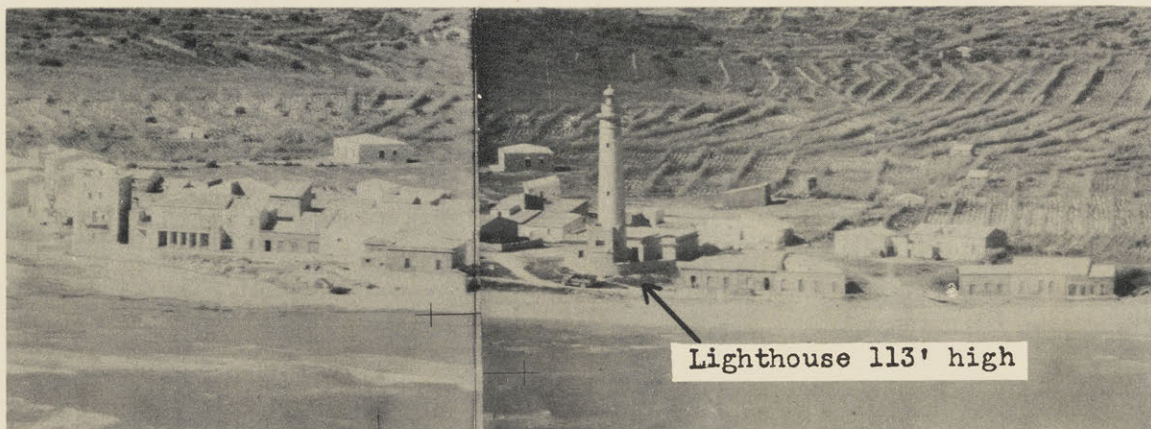


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LANDMARKS: Oblique view of Scoglitti. For vertical view, see page 36.



LANDMARKS: Oblique view of Pta. Secca. For vertical view, see page 38.



LANDMARKS: Oblique view of Pta. Di'Zafaglione. For vertical view see grid reference H365135 on page 6.

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GENERAL VIEWS OF BEACHES: Beach north of Scoglitti. For ground shots, see page 41.

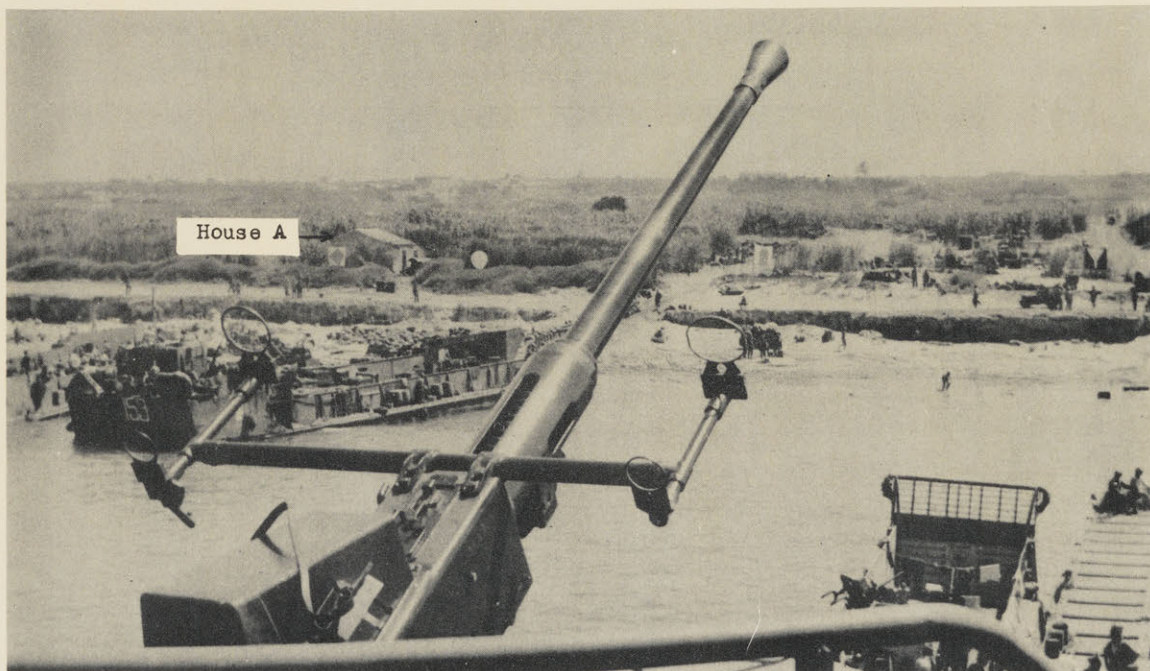


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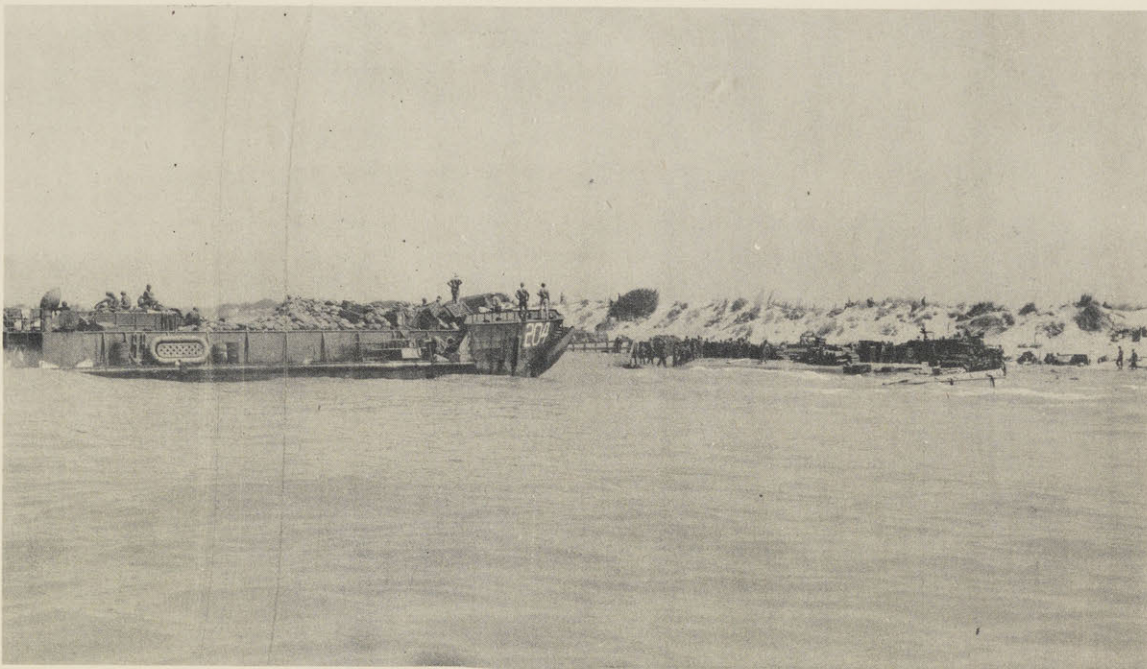


GENERAL VIEWS OF BEACHES: Views of beach north of Scoglitti. Ledge height was estimated to be between 10 and 15 feet. For vertical view between houses A and B, see page 40.

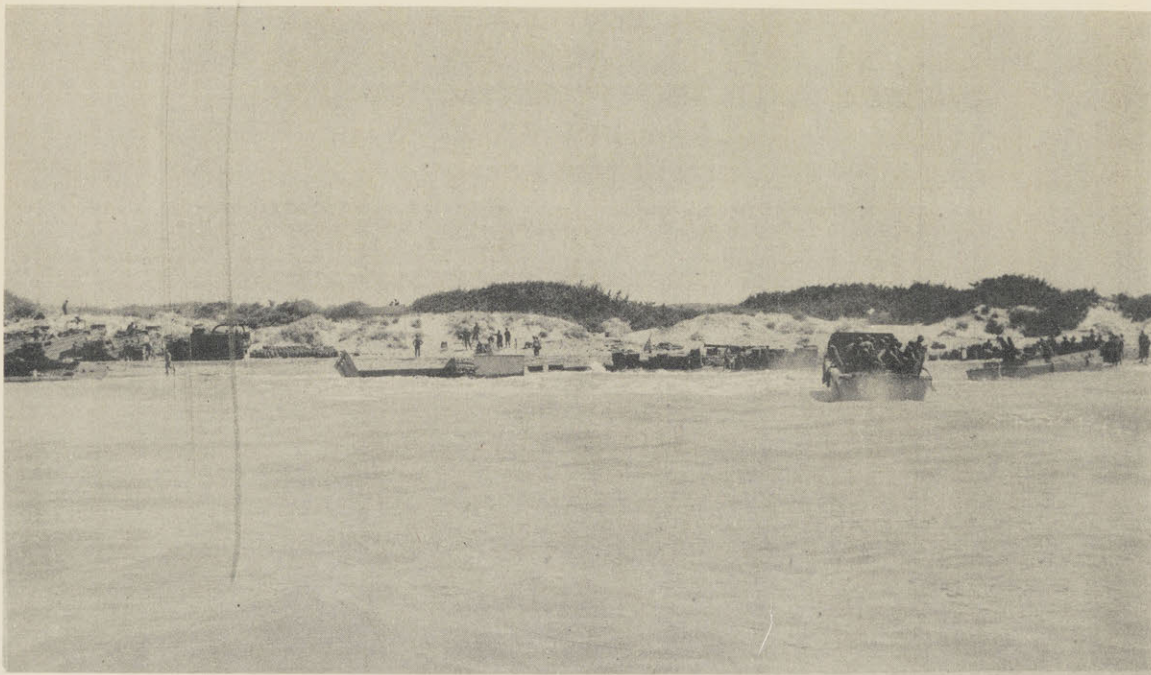


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GENERAL VIEWS OF BEACHES: Typical low undulating sand dunes estimated to be between 10 and 20 feet high located north of Scoglitti. For vertical view, see page 6.



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GENERAL VIEWS OF BEACHES: Partial views of beach in harbor at Scoglitti. For vertical view, see page 36.

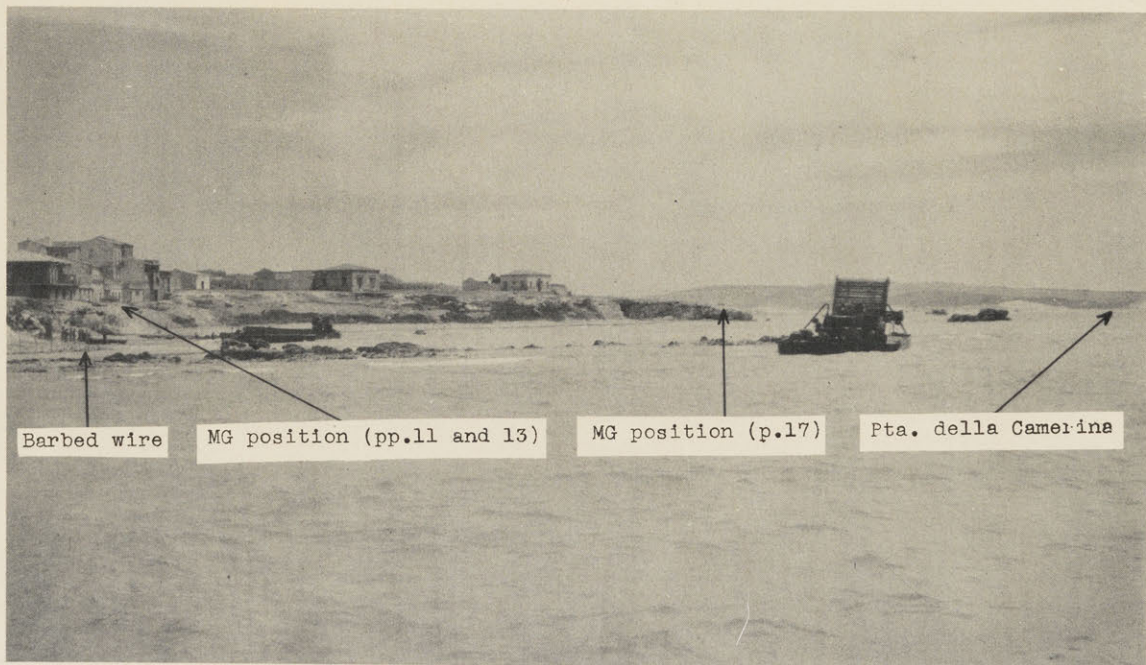


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GENERAL VIEWS OF BEACHES: Partial views of beach at Scoglitti.
For vertical view see page 36.



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GENERAL VIEWS OF BEACHES: Partial view of beach at Scoglitti.
For vertical view, see page 36.

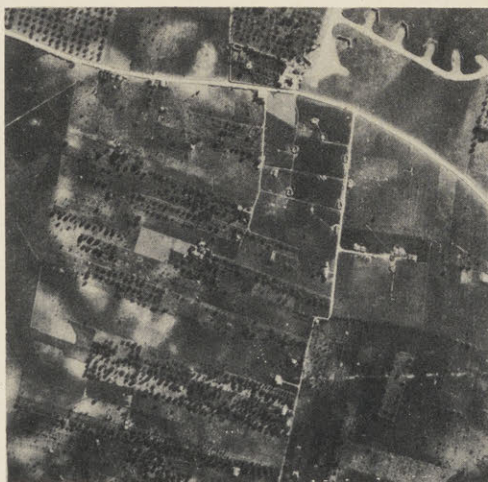
U N C O N F I R M E D I N F O R M A T I O N
I N F O R M A T I O N B E L I E V E D A U T H E N T I C , B U T N O T C O N F I R M E D
B Y G R O U N D O B S E R V A T I O N S .

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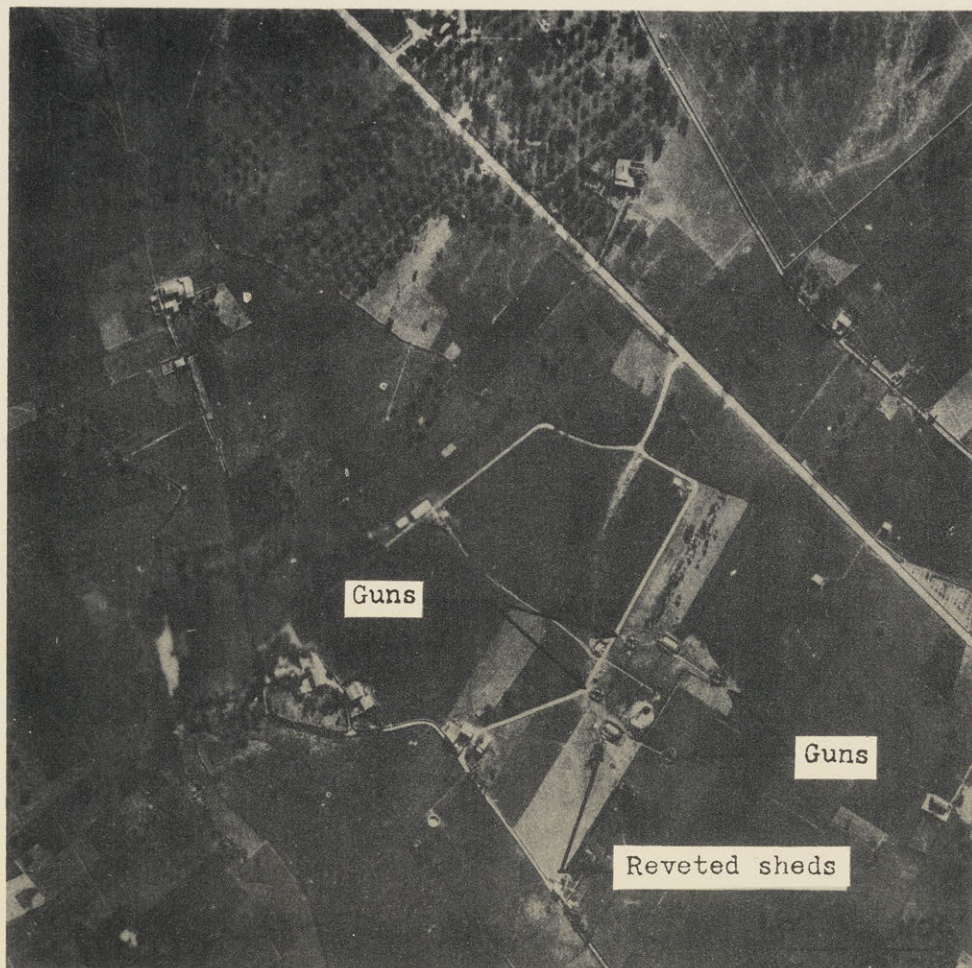


88mm GUNS: 4-gun 88mm battery at Comiso Airport. For vertical view see grid reference H525215, page 9.

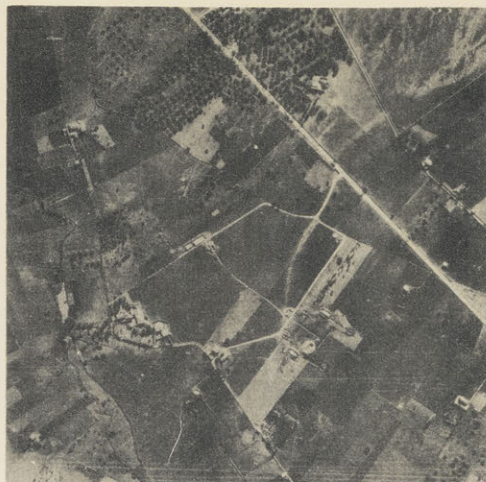
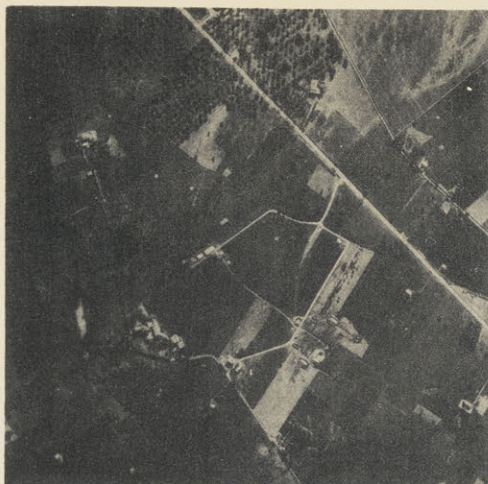


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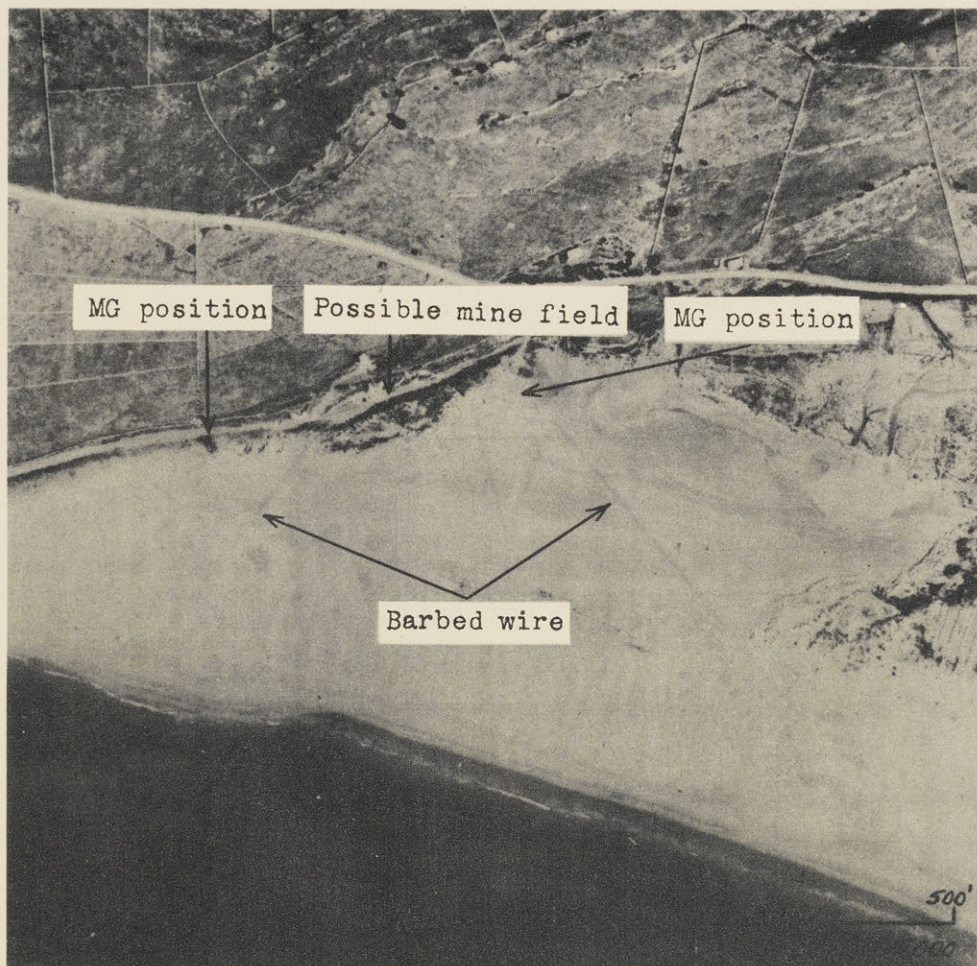


75mm GUNS: 4-gun 75mm battery north of Comiso on road to airport.

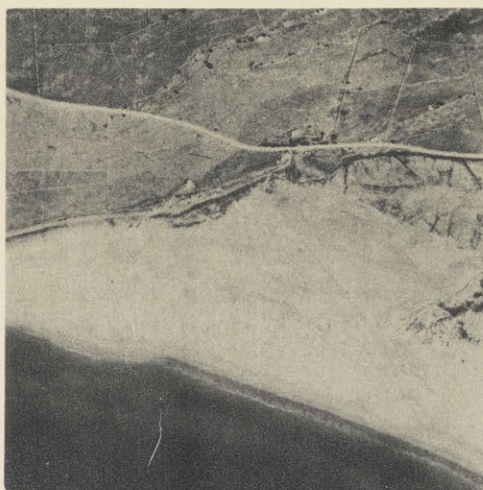
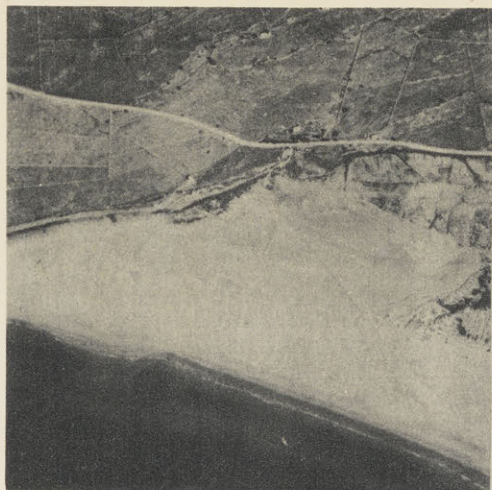


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STRONG-POINTS: Barbed wire and machine gun positions on beach east of Pozzallo.



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STRONG-POINTS: A strong-point near Gela.

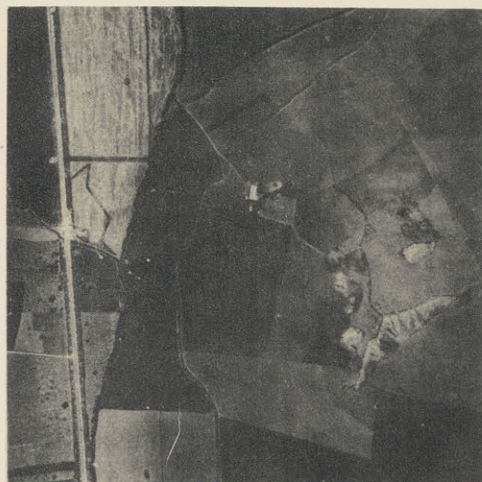
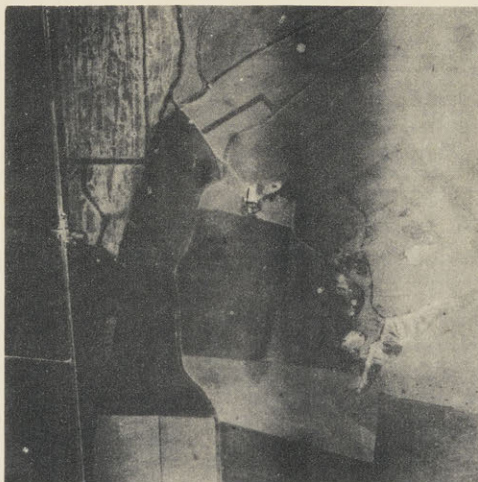


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ROAD-BLOCKS: Double road-block on highway to Gela.

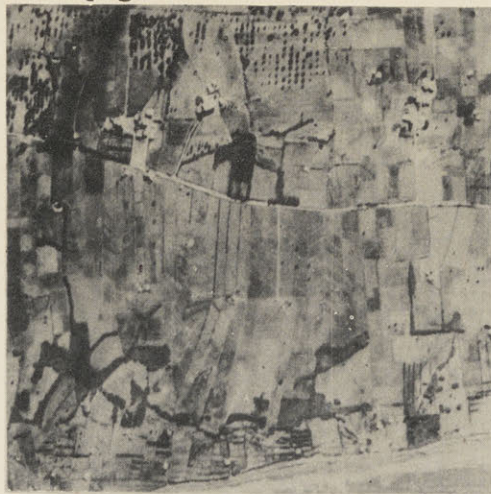


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INFANTRY MORTARS: Two 2-gun infantry mortar batteries north of Scoglitti. For vertical view see grid reference H382124 on page 5.



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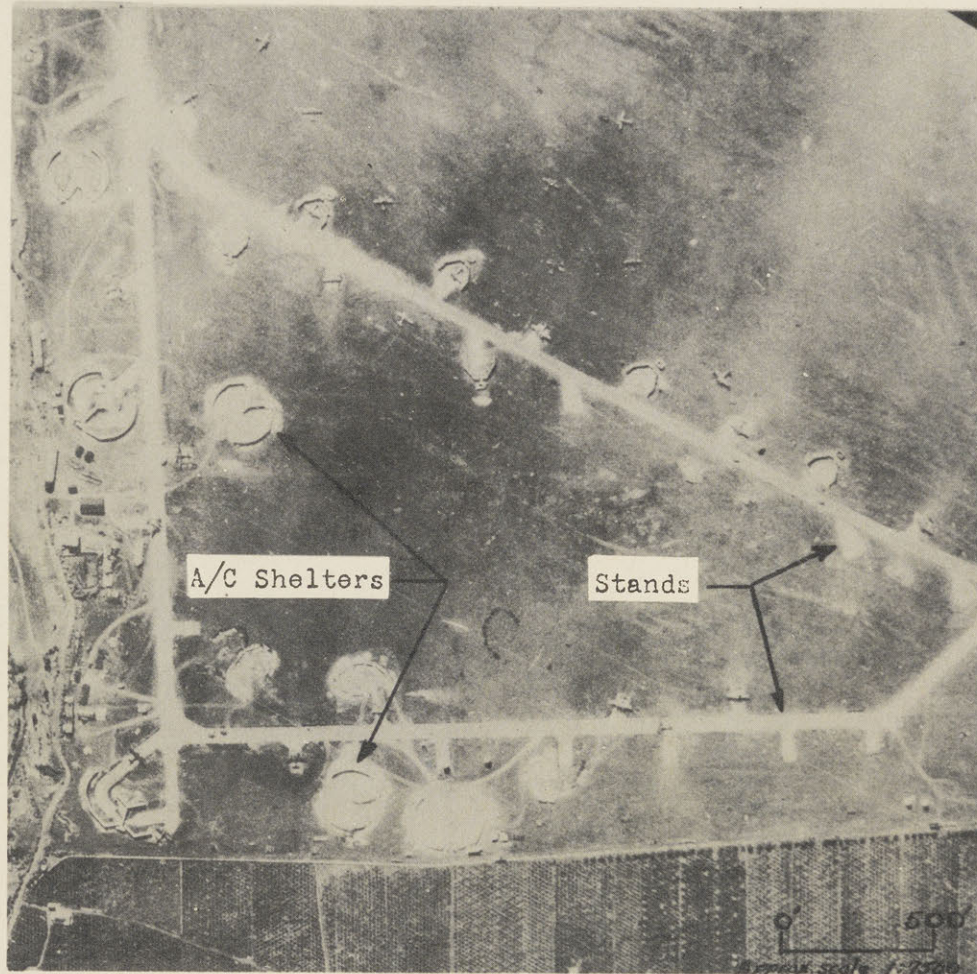


FLAK TOWERS: Six flak towers protecting north boundary of Comiso Airport. For vertical view see grid reference H531222 and H 528228 on page 9.

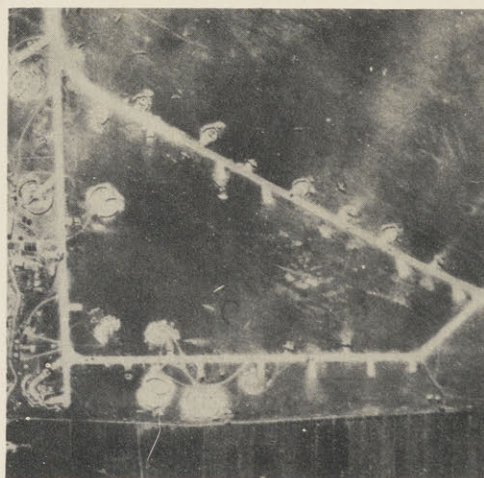
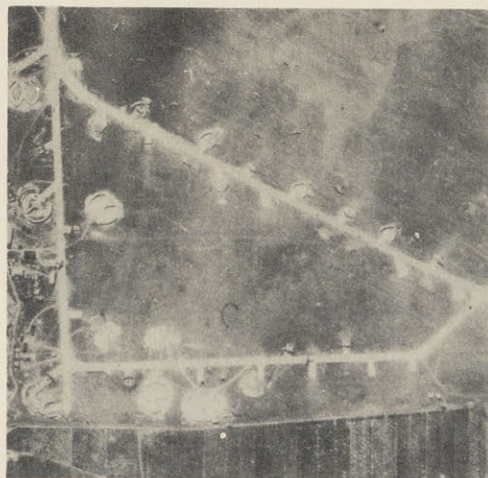


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AIR FIELDS

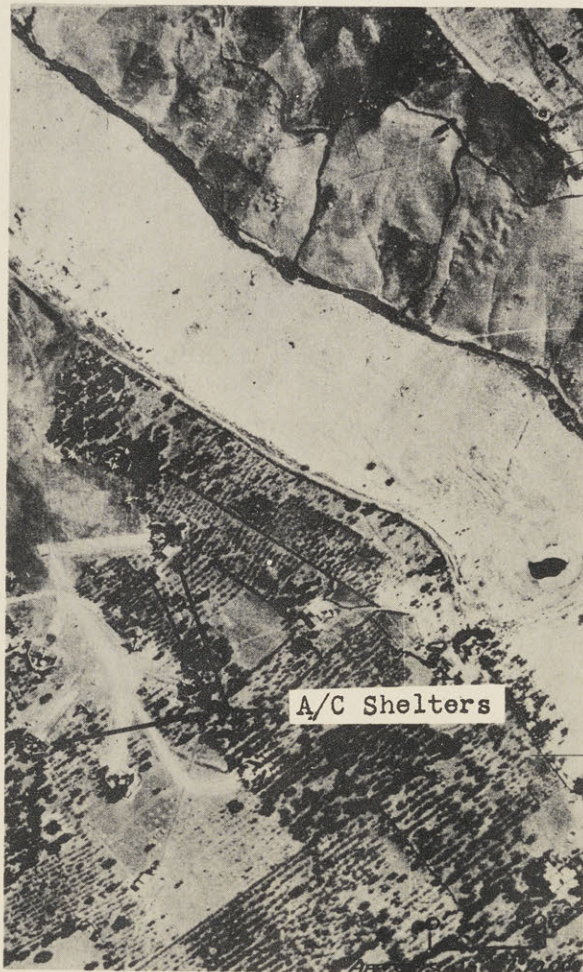


AIRCRAFT SHELTERS: Large, double aircraft shelters at the Gerbini Airport.



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AIRFIELDS

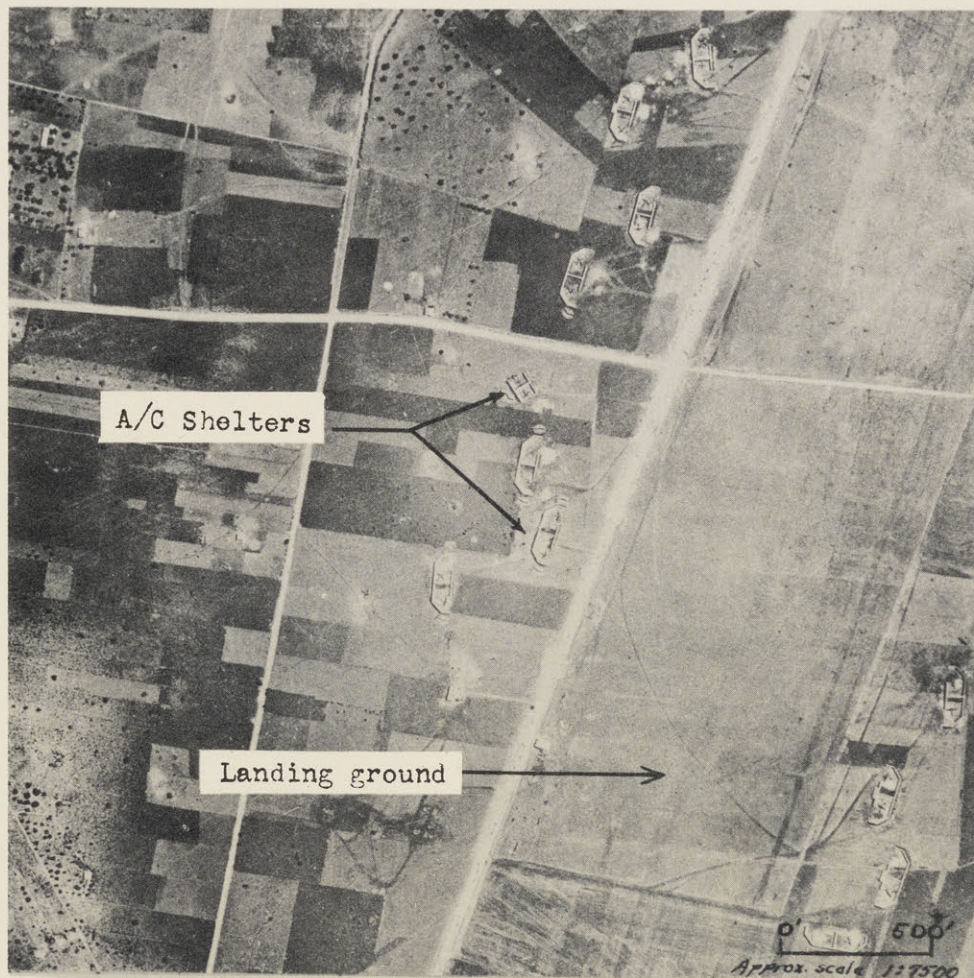


AIRCRAFT SHELTERS: Dispersal of aircraft and aircraft shelters on the Sciacca Airfield. There are 8 shelters.



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AIRCRAFT SHELTERS: Fighter-type aircraft in double aircraft shelters on the Pachino Landing Ground.



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AMMUNITION DUMPS: Ammunition storage and barracks area at the Gerbini Airport.



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BOMB STORAGE: Technique of bomb storage on perimeter-strip at Comiso Airport. For vertical view see grid reference H549223 on page 9.



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AIRFIELDS



FUEL STORAGE: Suspected method of storing individual cans or barrels of fuel. Similar trenches are seen at Gela and Catania airports.



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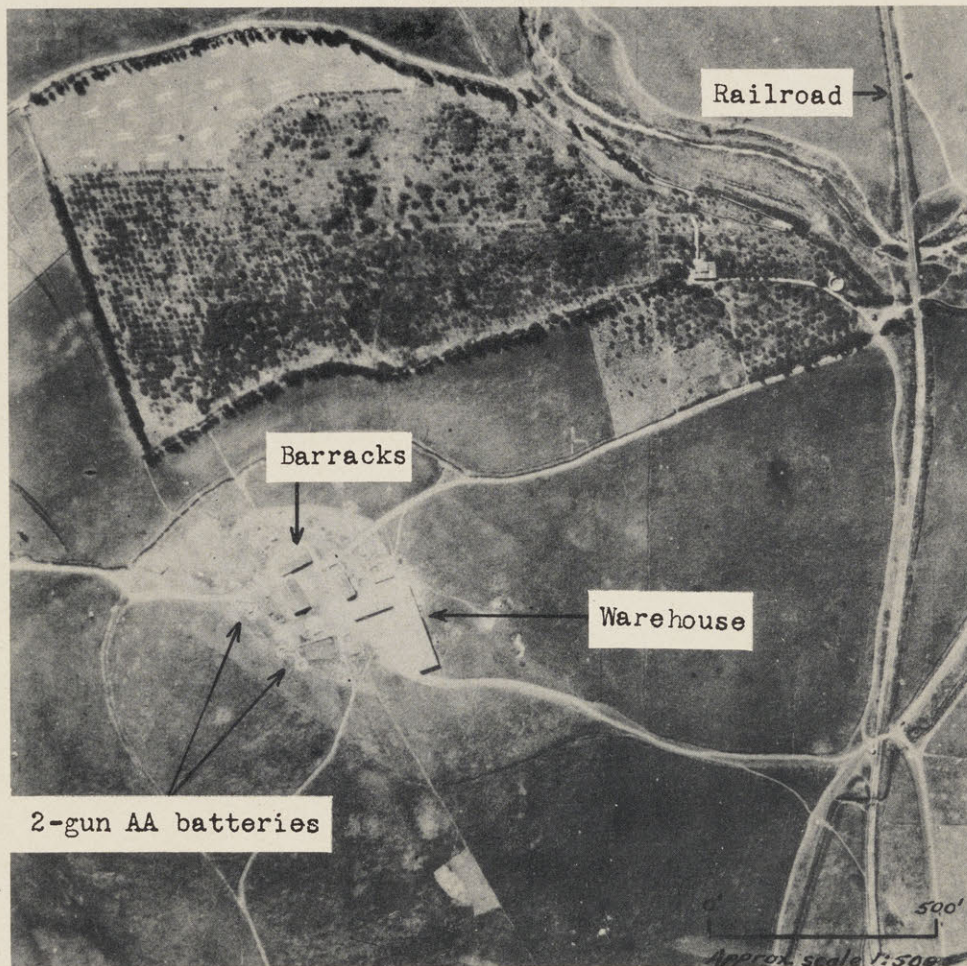


MILITARY CAMPS: A camp near Gela.



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SUPPLY DEPOTS: Supply deopt near Gela.

