

~~CONFIDENTIAL~~

Defense Installations

on

IWO JIMA

Prepared Jointly

by

Intelligence Staffs

of

CINCPAC-CINCPDA

FLEET MARINE FORCE

V AMPHIBIOUS CORPS

3rd, 4th & 5th MARINE DIVISIONS

Table of Contents

JAPANESE DEFENSIVE PLAN AT IWO JIMA	2-6
ILLUSTRATIONS	7-119
General Terrain Features	7-16
Beaches	7-10
Terrain Inland	11-16
Obstacles and Mines	17-20
Mines	17-18
Trip Wire	19
Anti-Tank Ditches	20
Caves	21-25
Coast Defense - Artillery	26-39
15 cm CD Guns	26-28
14 cm CD Guns	29-31
12 cm CD Guns	32-33
12 cm (Short) Naval Guns	34-37
8 cm CD Guns	38-39
Antiaircraft and Dual Purpose Batteries	39-64
12 cm DP Guns	39-42
10 cm DP Guns	43-45
7 cm AA Guns	46-48
25 mm AA MG	49-58
13 mm MG	59-60
Searchlights	61-64
Blockhouses	65-70
Covered Artillery Emplacements	71-86
120 mm Howitzers	71-74
75 mm (Type 38) Field Guns	75-78
75 mm (Type 90) Field Guns	78-80
47 mm Anti-Tank Guns	81-85
37 mm Anti-Tank Guns	86
Open Artillery Emplacements	87-88
47 mm Anti-Tank Guns	87
37 mm Anti-Tank Guns	88
Mortars	89-95
320 mm Spigot Mortars	89
150 mm Mortars	90-92
81 mm Mortars	93-94
Grenade Launchers	95
Rockets	96-100
200 mm Rocket Launcher	96-98
250 kg Rocket Launcher	99
63 kg Rocket Launcher	100
Pillboxes	101-103
Rifle Pits	104-105
Tanks	106-108
Dummies	109-111
Radar and Radio Station	112
Revetted Vehicles	113
Air Raid Shelters	114-115
Ammunition Storage	116-117
Miscellaneous	118-119

MAP APPENDIX

- Enemy Defense Installations as observed from ground study.
- Aras of Fire for Casemated Coastal Defense Guns on Iwo Jima.
- Anti-Aircraft Defenses.
- Blockhouses with principal directions of fire indicated.
- Covered Artillery with principal directions of fire indicated.

Japanese Defensive Plan At Iwo Jima

The strategic importance of IWO JIMA need hardly be emphasized. Its value as an airbase midway between the MARIANAS and the heart of JAPAN has already been proved. After the occupation of SAIPAN, the Japs must have known that IWO would be attacked. The only question was *WHEN*. The story of their haste in constructing defenses is told in aerial photographs from 15 June 1944 until D-Day, 19 February 1945.

INCREASE OF FORTIFICATIONS

At the time SAIPAN was invaded, only AA defenses, hasty fire trenches, and preliminary beach defenses had been prepared at IWO JIMA. By September 1944, positions had been constructed in depth behind the beaches. Company and platoon positions were then in evidence, and concrete pillboxes and covered artillery emplacements were under construction. By December, most beach positions were completed and had been strengthened by the construction of heavy concrete blockhouses. A cross-island defense line in depth protecting the northern part of the island was springing up along the high ground north of Airfield No. 1. Additional AA defenses, increased numbers of covered artillery and coast defense guns, and more and more concrete positions and minefields on the beaches were noted on each succeeding photographic sortie. By D-Day, key positions had been connected with pillboxes and were protected by covering fire from artillery, anti-tank guns, and mortars, previously sighted in.

Intelligence prior to the invasion of IWO indicated a formidable garrison force with many major caliber weapons and extensive tank and personnel obstacles; however, aerial photographs and maps gave only a limited picture of one of the enemy's best defensive weapons, the terrain. An amphibious assault in force was limited to the east and west beaches of the narrow southern part of the island. These conditions gave the Japs an advantage in preparing defensive positions for all-around security. Only small groups were needed to cover very narrow beaches with steep exits along the northern coast.

COVER AND DISPERSAL

Captured documents, confirmed by ground study, indicate the enemy's battle strength was conserved by countermeasures against shelling and bombing. The terrain was well suited for cover, and caves were so numerous in some sections of the island that it was impossible to plot them all on a 1:10,000 map. The coarse, loose, volcanic ash kept damage from shell fragmentation to a minimum. Ammunition, stores, and personnel were dispersed in caves and behind protective terrain where naval gunfire and artillery could not reach them.

CAMOUFLAGE

Camouflage encountered and camouflage discipline during construction, as evaluated from aerial photographs, was excellent. Positions were at all times covered with materials which blended into the surrounding terrain and vegetation. Spoil from excavations was planted with grass to obliterate traces of military activity. Natural vegetation was used to a large extent to conceal well-built positions from aerial attack. While such practices could not always elude photographic interpretation, nevertheless many positions were not detected until gun fire had blown away the concealing vegetation. Maximum use was made of IWO's sparse growth for concealing trenches, rifle pits, machine gun and artillery emplacements. Positions as large as those housing 120 mm Howitzers were undetected under the protective covering of trees in their natural state.

COAST DEFENSE

Coast defense artillery ranging from 4.7" (120 mm) to 6" (155 mm) guns was initially effective against our ships. All CD guns were casemated in four to six feet of reinforced concrete. Each emplacement was so positioned in the terrain that

it was normally protected from naval gunfire. A ship taking a CD gun under direct fire necessarily exposed itself to the gun at which it was firing. Many guns were so camouflaged that their location was unknown until they opened fire.

ANTI-AIRCRAFT

Antiaircraft batteries were numerous, including 120 mm DP, 100 mm, 75 mm, and 25 mm in triple, twin, and single mounts. The Japs could not satisfactorily conceal these weapons, but their continued use against aircraft and our personnel ashore testifies to the sound construction of their emplacements.

EAST BEACH POSITION

The elaborate trench system facing the eastern beaches had been entirely abandoned. The loose nature of the sand suggests their presence as dummies, although they may have been prepared originally as hasty beach defenses before adequate concrete positions were built. Well-constructed blockhouses enclosing 25 mm machine cannons to 120 mm short naval guns were the first defenses encountered on and near the beach. Some concrete pillboxes and sandstone revetted rifle pits gave infantry protection to the heavier weapons. The ground at the base of Airfield No. 1 was more suitable for dug in positions, and most of the infantry positions protecting the east beach were here. The positions were not so much the target for naval gunfire, and excellent observation and good fields of fire were afforded here. The position of Airfield No. 1 limited the depth of these positions to approximately 500 to 700 yards. Supporting fires were delivered from the flanks using the observation provided by Mt. SURIBACHI and the high ground over the East Boat Basin and around Airfield No. 2. The area between the beach and Airfield No. 1 was steep and impossible for wheeled vehicles to traverse. Movement of infantrymen and tanks was impeded by this loose soil with the result that they offered excellent targets to anti-tank and anti-personnel guns and tactics.

WEST BEACH POSITIONS

The defenses of the West Beaches were probably more extensive and elaborate than East Beach defenses. Airfield No. 1 permitted these defenses to be 700 to 1,400 yards deep giving considerably longer fields of fire and permitting a more elaborate system of dummy positions fronting the actual main positions and designed to draw our preliminary bombardment. The terrain was much more substantial for caves and underground shelters, and positions were better protected from our naval gunfire.

SURIBACHI POSITIONS

In the south a cross-island defense line was constructed on the terraced slopes which guarded the approaches to Mt. SURIBACHI. It consisted of a maze of concrete pillboxes, bunkers, shelters, and blockhouses which were capable of all-around defense and were mutually supporting. In addition to this elaborate surface organization, there was an equally elaborate subsurface organization of shelter, passageway, living quarters, storage areas, and cave-type firing positions which provided adequate protection against the heaviest of bombs and shells. The excellent observation from the heights of SURIBACHI and the high ground around Airfield No. 2 were the key to controlled artillery and mortar fire.

MAIN DEFENSE BELT

Since landings in strength were limited to the east and west beaches near the southern end of the island, the enemy prepared his main defense in depth in a cross-island belt. Beginning in the west at the rocky cliffs to the north of the western beaches, it stretched east across the island to skirt the southern end of Airfield No. 2, and terminated in the cliffs which form at the northern end of the eastern beaches. The center of this belt was 2600 yards deep. It gained its strength from its depth and its concrete and steel structures, positioned so as to obtain long fields of fire which were carefully calculated and tied into the overall defense system. Reliance on caves as a shelter and a fighting position was increased here.

Most of the positions showed excellent engineering and terrain appreciation. Communications were maintained by trenched wire, radios, and a labyrinth of underground tunnels connecting all areas. One of these tunnels was explored for 800 yards, and 14 entrances were found; it housed two battalion command posts and was equipped with lights and telephones. Artillery, including heavy mortars and rockets in and behind this defense belt, could cover most of the beach area. Positions were provided with complete preregistration data.

Strong points were established around commanding ground. Concrete-faced caves and infantry positions in the erosion-made crevices were frequently so close together that an equally strong defensive position existed only a few yards to the rear or flank. Contact became so close that safety of our own troops prevented use of artillery, naval gunfire, or air support in reducing these positions. One bluff, forming something similar to an amphitheatre, contained two terraces and three tiers of concrete pillboxes and caves.

FINAL DEFENSIVE AREA

North of this cross-island defensive sector, the extremely rough terrain from the coast to 2000 yards inland created a natural defensive area. The number of caves and terrain characteristics somewhat compensated for the reduced amounts of concrete and steel. These features, coupled with the masses of men employed, tended to make this final defensive area equally as strong as the main defensive positions. In attacking these positions no Japs were to be seen, all being in caves or crevices in the rocks and so dispersed as to give an all-around interlocking defense to each small compartment. Attacking troops frequently were subjected to fire from flanks and rear more than from their front. It was always very difficult and frequently impossible to locate exactly where defensive fires originated.

In defending IWO JIMA, the Japs employed one basic tactic which in a sense was a departure from the Japanese defensive operations hitherto generally encountered. This tactic was simply to occupy previously determined D-Day positions and maintain them, without recourse either to costly "main effort" counterattacks or organized withdrawals. This plan was not only simple in conception but in general was skillfully executed and well adapted to the terrain of IWO JIMA. There were no organized attempts made to counterattack our beachhead, no large scale night counterattacks, no "all-out" banzai charge. Instead, the enemy committed a minimum number of troops to the southern beach area and defended it by delivering heavy volumes of fire from both SURIBACHI and the north so that even when the southern area was finally taken, the bulk of the enemy's forces remained intact and were well entrenched in the most heavily fortified part of the island. The enemy, by continuing to follow his simple but basic defensive tactic of occupying a position and refusing to yield until dug out and killed without counterattacking and without withdrawing, was able to maintain organized resistance for over twenty days. There were no tactical withdrawals, no retrograde or delaying actions in the military sense, though in some instances isolated withdrawals were made to preserve units and individuals threatened with inevitable destruction. It is now known that this defense of holding to the end without counterattack or withdrawal was the express plan conceived by the Commanding General. It was this simple tactic, coupled with the incredible rocky terrain and the maximum use the enemy had made of this terrain in constructing fortified positions which made the capture of IWO JIMA so difficult.

ANTI-TANK TACTICS

Captured battle plans indicate the enemy's fear of our tanks. Mine fields, magnetic mines, and explosives carried by hand were employed at the beach where the loose sand seriously impeded the movement of even full-tracked vehicles. Anti-tank guns, mainly the high velocity 75 mm and 47 mm, were the principal weapons employed inland. Many anti-tank guns had one or more supplementary or alternate positions. These weapons were sited in terrain affording fields of fire covering possible tank routes from the beach; however, considerable emphasis appears to have been placed on locating an emplacement where it was protected by an abutting bluff or terrace, which shielded it from frontal flat trajectory fire.

BLOCKHOUSES AND PILLBOXES

Blockhouses and pillboxes near the beaches on the more open terrain were almost invariably sited for flanking fire. Wherever possible, a pillbox was behind a natural mound of sand. It often had only a small fire port which allowed approximately 30° of traverse; however, there was a sufficient number of mutually supporting pillboxes to offset the restricted field of fire of each weapon.

Many blockhouses near the beach had sand piled as high as 50 feet in front of them. A narrow fire lane through the sand revealed the direction of fire, but many positions were so well protected that they were still firing until reduced by infantry. Pillboxes were protected similarly; infantry commanders often found it necessary to request main battery fire from naval vessels when secondary battery fire could not blast the sand from in front of well built positions.

EMPLOYMENT OF TANKS

Relatively few tanks, medium and light, were present on IWO JMA. The rough terrain, size of the island, and fixed nature of defenses probably account for the limited number. Their manner of employment was as an anti-tank weapon. They were used in support of the main cross-island defense belt either in a revetment or behind protective terrain, camouflaged and stationary. Their 37 mm, 47 mm, and 57 mm guns fired anti-tank and personnel missions like the many 47 mm guns. Reports indicate small tank units were to be employed to support local counterattacks. There is little evidence they were so used. The torn up condition of roads and constant artillery fire may well have prevented any movement.

ARTILLERY

Artillery tactics were characterized by good observation and careful preplanning of fires. Range stakes were found in the vicinity of landing beaches. The elaborate casemated structures in which artillery pieces were housed, the cave positions from which mortars and rockets were fired, operated to limit the number of pieces which could be brought to bear on a single area. Despite perfect observation, artillery, rocket, and mortar fires were never massed against us in the same manner in which we mass artillery fires. Dual purpose guns were used to fire time fire over our troops.

An artillery group gave coordination to all field artillery and mortar employment; coast defense and AA artillery were not included in this command. Mortars had the primary mission of filling in the gaps between the fires of the other guns, but after the land fighting stage was reached they shifted to control of sector infantry commanders.

The principal locations of mobile artillery were in the higher ground north of Airfield No. 2 with forward OPs in prominent elevations along the main defensive belt. There definitely were more weapons at the disposal of commanders than were organically assigned to the units. The fixed nature of the defenses permitted personnel normally used for ammunition carriers and for the movement of mobile weapons to be employed to man additional weapons added to basic tables of organization.

MORTARS AND ROCKETS

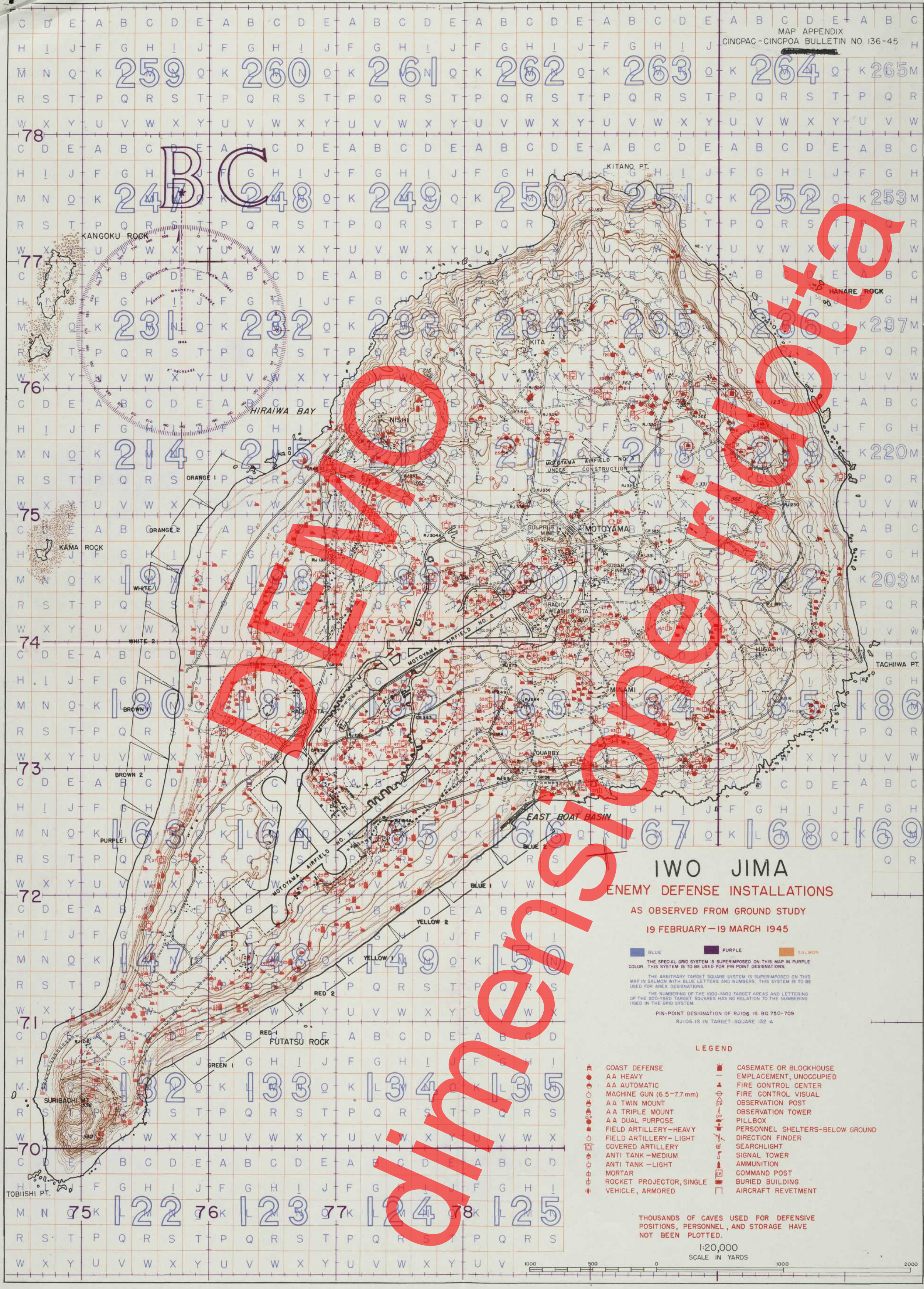
Although approximately twelve 320 mm spigot mortars were encountered on the island, their effectiveness is doubtful. Emplacements were well constructed and concealed but only a few rounds were fired. IWO's terrain was suited for the use of the many 150 mm, 81 mm and smaller mortars found there. Ammunition was stored throughout the northern half of the island in caves and hasty firing positions were utilized at the entrances. The 150 mm mortars were used to fire on landing beaches. These weapons and the smaller mortars were withdrawn as the situation demanded.

Three types of rockets were used as artillery weapons. Several positions were sighted for firing at ships approaching close to shore. The V-trough launcher was used for 63 kg and 250 kg aerial bombs with rocket motors providing the propelling force. A 200 mm rocket was used from a mobile-type launcher and a launcher which is mounted on a mortar-type bipod. Rockets were dispersed in deep draws over the northern portion of the island and the launchers could be moved to the site of the ammunition.

* * * * *

It is evident that little was left undone by the Japs in constructing as formidable ground defenses as possible on an island with the size and particular terrain of IWO JIMA. A study of Japanese defense installations encountered in the field is presented with photographs and drawings on the following pages.

DENOC
dimensione ridotta



IWO JIMA ENEMY DEFENSE INSTALLATIONS

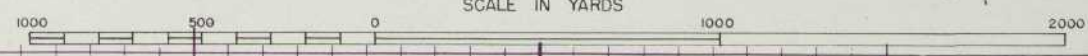
AS OBSERVED FROM GROUND STUDY
19 FEBRUARY - 19 MARCH 1945

BLUE PURPLE SALMON
THE SPECIAL GRID SYSTEM IS SUPERIMPOSED ON THIS MAP IN PURPLE COLOR. THIS SYSTEM IS TO BE USED FOR PIN POINT DESIGNATIONS.
THE ARBITRARY TARGET SQUARE SYSTEM IS SUPERIMPOSED ON THIS MAP IN SALMON WITH BLUE LETTERS AND NUMBERS. THIS SYSTEM IS TO BE USED FOR AREA DESIGNATIONS.
THE NUMBERING OF THE 1000-YARD TARGET AREAS AND LETTERING OF THE 200-YARD TARGET SQUARES HAS NO RELATION TO THE NUMBERING USED IN THE GRID SYSTEM.
PIN-POINT DESIGNATION OF RJ106 IS BG 750-709
RJ106 IS IN TARGET SQUARE 132-4

- #### LEGEND
- | | | | |
|---|--------------------------|---|--|
| ● | COAST DEFENSE | ⊠ | CASEMATE OR BLOCKHOUSE EMPLACEMENT, UNOCCUPIED |
| ● | AA HEAVY | ⊠ | FIRE CONTROL CENTER |
| ● | AA AUTOMATIC | ⊠ | FIRE CONTROL VISUAL |
| ● | MACHINE GUN (6.5-7.7 mm) | ⊠ | OBSERVATION POST |
| ● | AA TWIN MOUNT | ⊠ | OBSERVATION TOWER |
| ● | AA TRIPLE MOUNT | ⊠ | PILLBOX |
| ● | AA DUAL PURPOSE | ⊠ | PERSONNEL SHELTERS-BELOW GROUND |
| ● | FIELD ARTILLERY-HEAVY | ⊠ | DIRECTION FINDER |
| ● | FIELD ARTILLERY-LIGHT | ⊠ | SEARCHLIGHT |
| ● | COVERED ARTILLERY | ⊠ | SIGNAL TOWER |
| ● | ANTI TANK-MEDIUM | ⊠ | AMMUNITION |
| ● | ANTI TANK-LIGHT | ⊠ | COMMAND POST |
| ● | MORTAR | ⊠ | BURIED BUILDING |
| ● | ROCKET PROJECTOR, SINGLE | ⊠ | AIRCRAFT RETRYMENT |
| ● | VEHICLE, ARMORED | | |

THOUSANDS OF CAVES USED FOR DEFENSIVE POSITIONS, PERSONNEL, AND STORAGE HAVE NOT BEEN PLOTTED.

1:20,000
SCALE IN YARDS



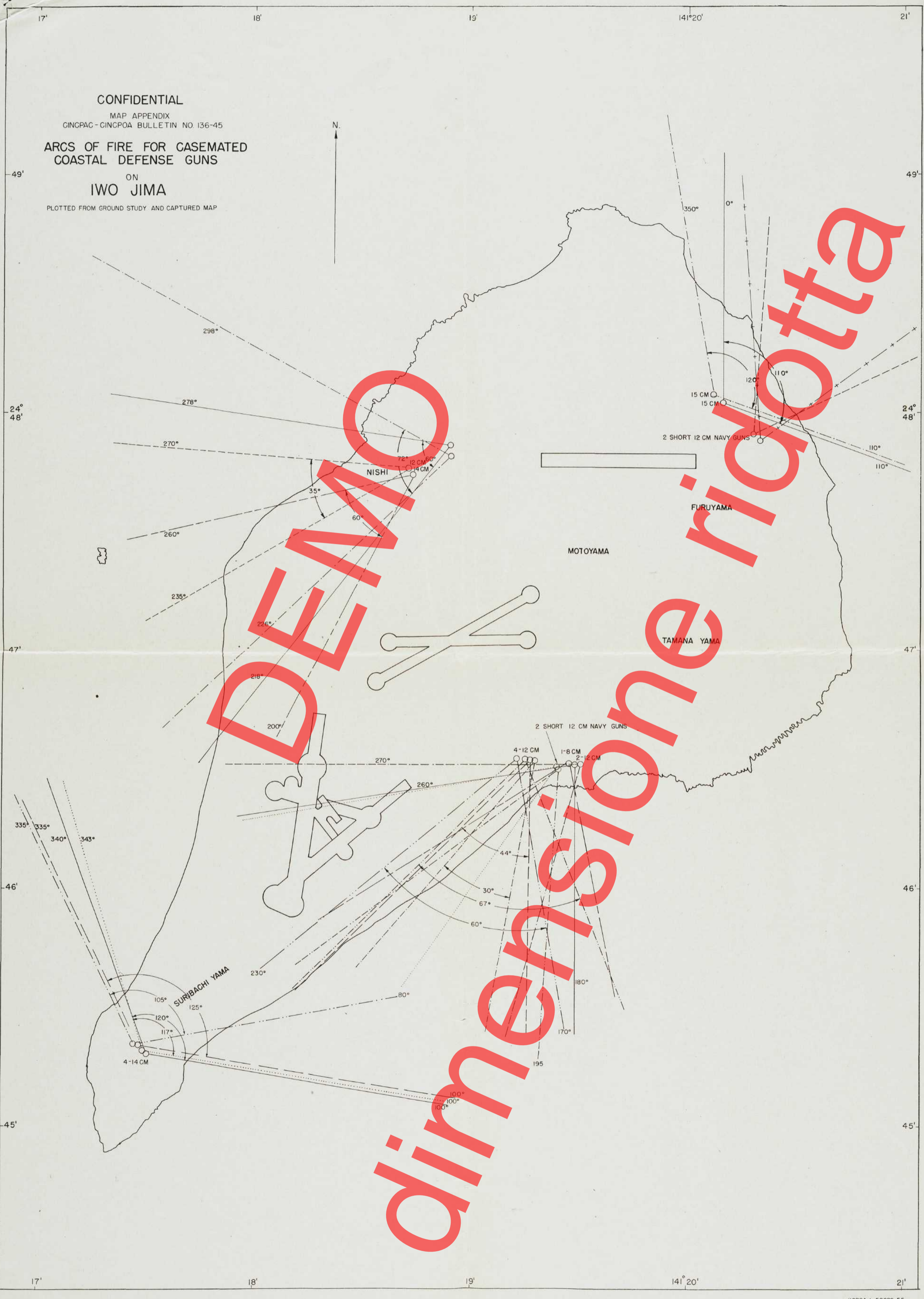
CONFIDENTIAL

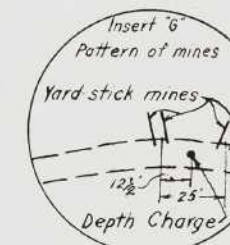
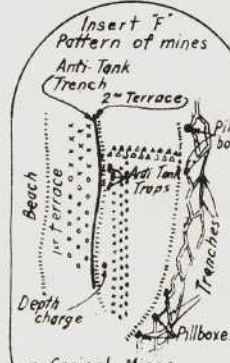
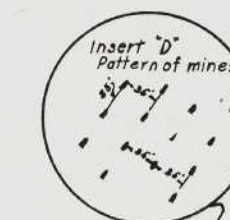
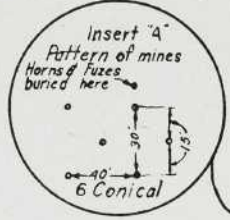
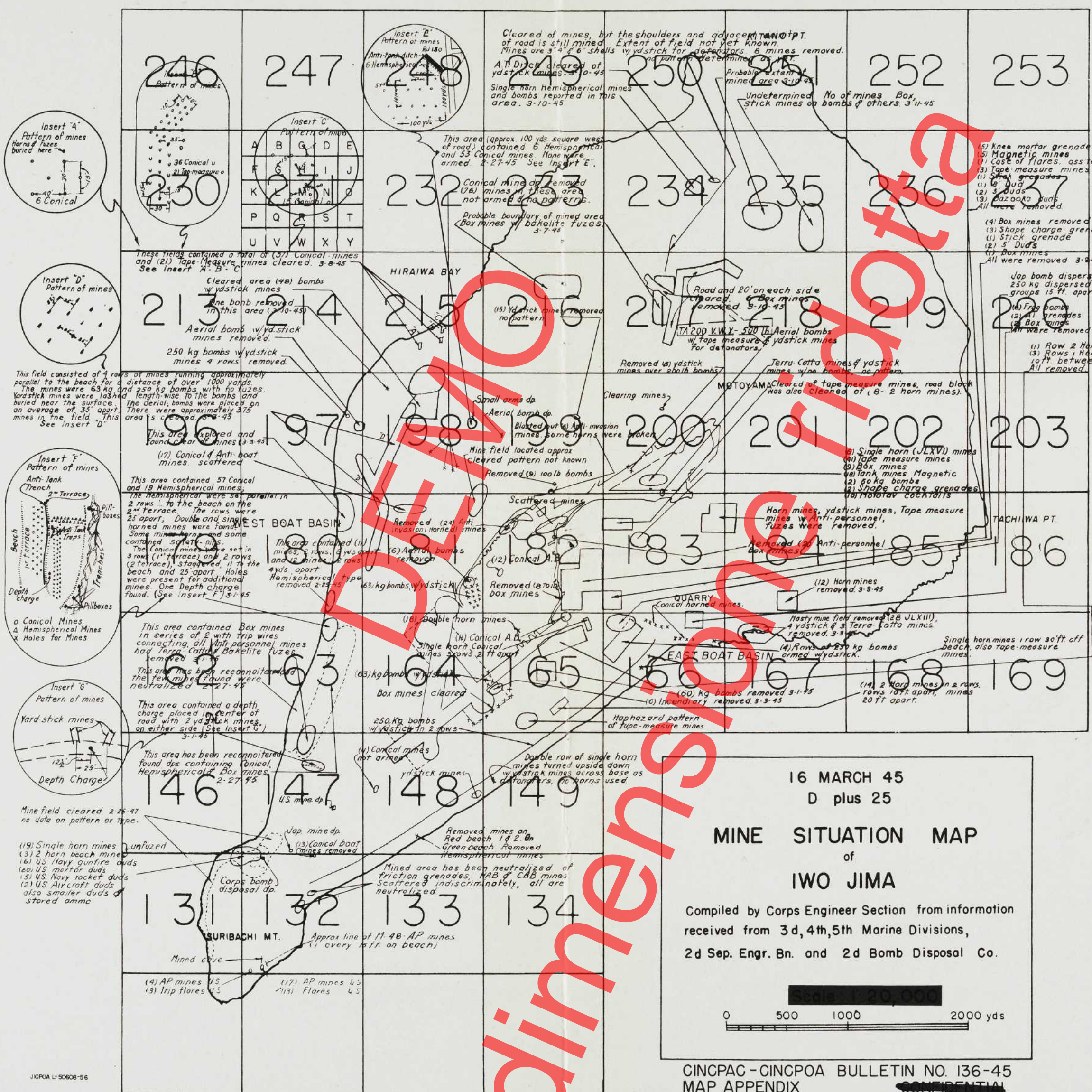
MAP APPENDIX
CINCPAC-CINCPAC BULLETIN NO 136-45

ARCS OF FIRE FOR CASEMATED
COASTAL DEFENSE GUNS

ON
IWO JIMA

PLOTTED FROM GROUND STUDY AND CAPTURED MAP





Mine field cleared 2-25-47
no data on pattern or type.

(19) Single horn mines
(3) 2 horn beach mine
(16) US Navy gunfire duds
(10) US mortar duds
(5) US Navy rocket duds
(2) US Aircraft duds
also smaller duds &
stored ammo

16 MARCH 45
D plus 25

MINE SITUATION MAP

of
IWO JIMA

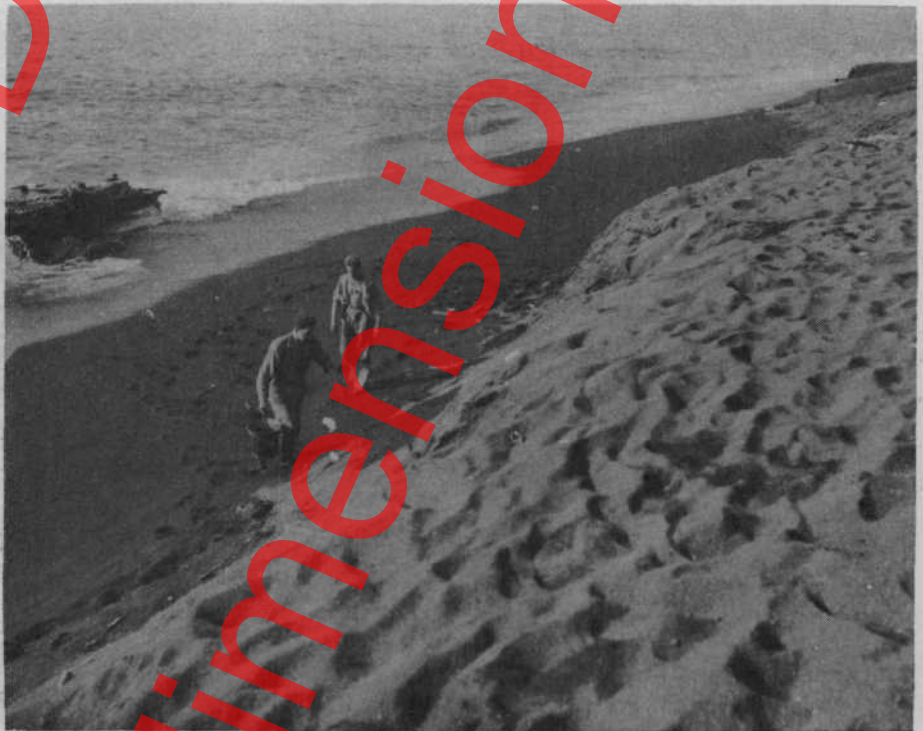
Compiled by Corps Engineer Section from information
received from 3d, 4th, 5th Marine Divisions,
2d Sep. Engr. Bn. and 2d Bomb Disposal Co.

GENERAL TERRAIN FEATURES —Beaches



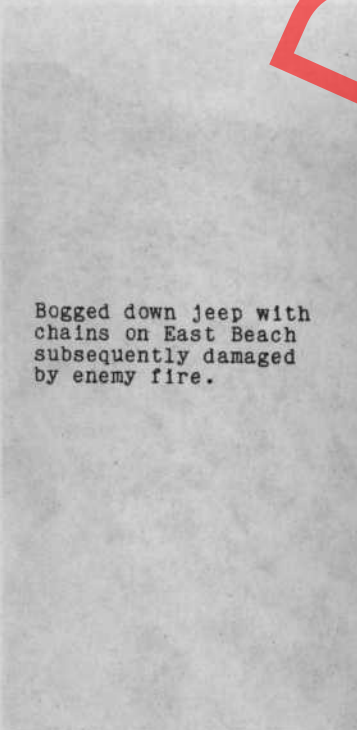
Amphibious tractor stuck in loose sand on East Beach.

Deep footprints indicate loose character of sand on beaches.

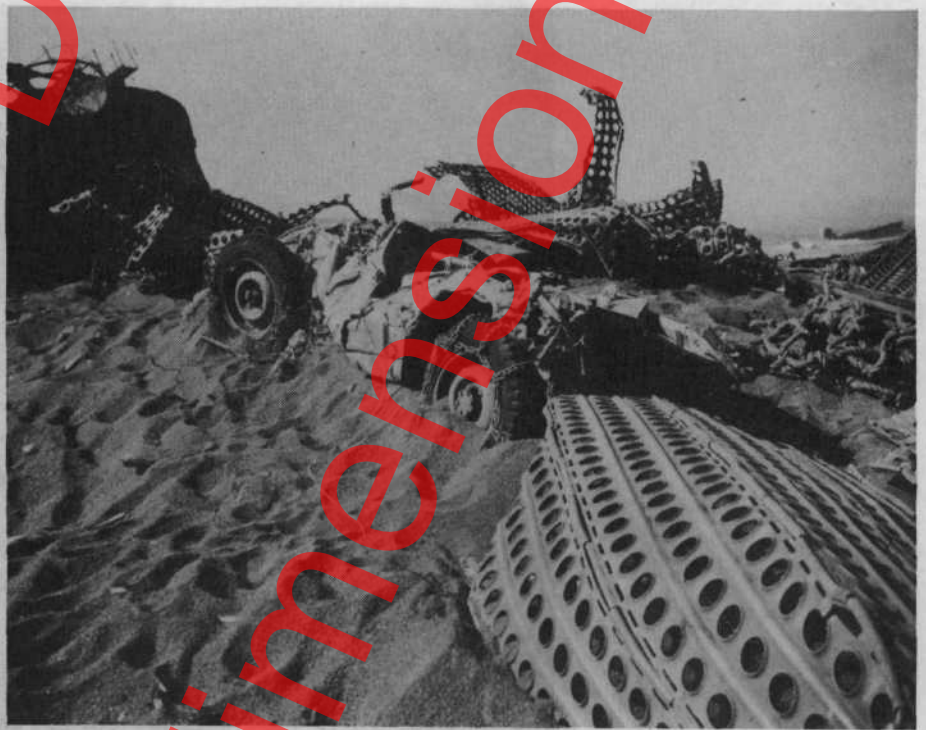




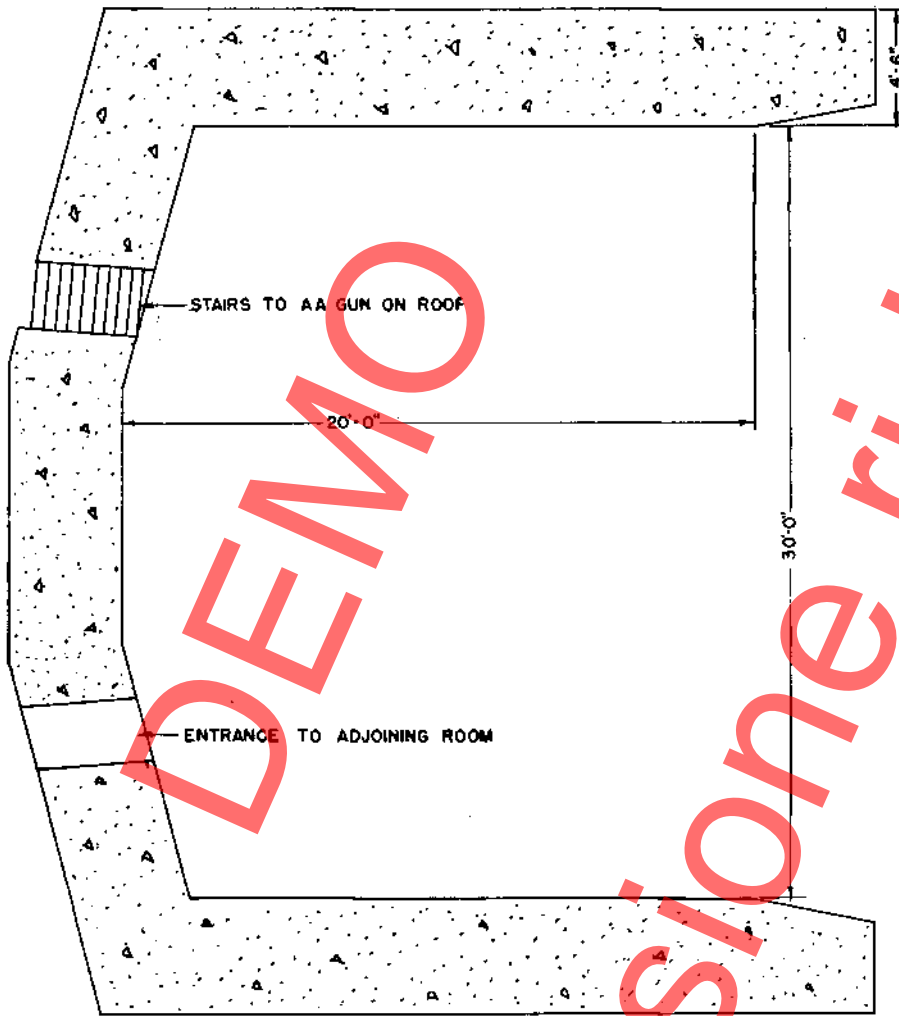
Marston matting on East Beach essential to vehicular movement over the soft sand.



Bogged down jeep with chains on East Beach subsequently damaged by enemy fire.



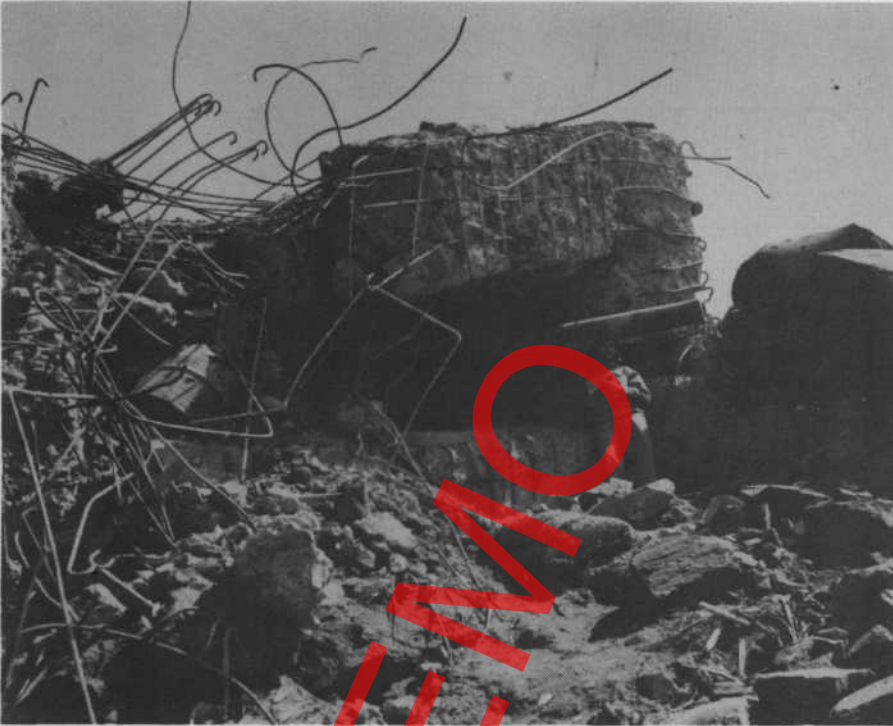
14 cm CD GUNS



Plan view of 140 mm (14 cm) CD gun with 30-foot fire port. This is one of the four emplacements found at the base of Mt. Suribachi. (TA-132 K)

dimensione ridotta

12 cm CD GUNS

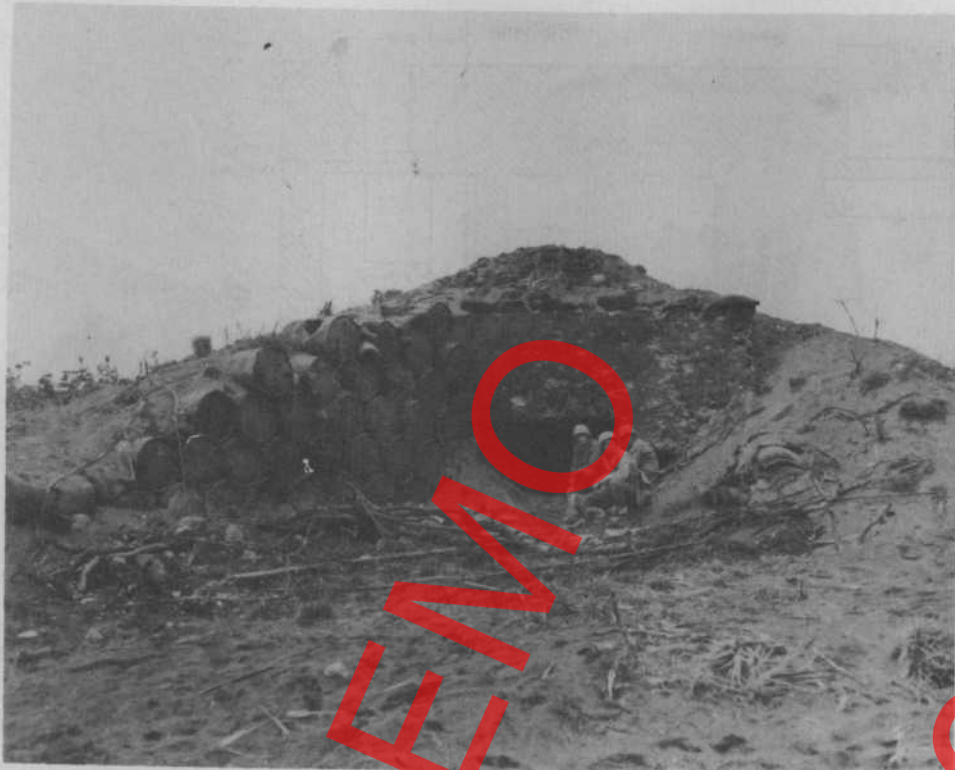


Close-up of 120 mm (12 cm) CD gun showing destruction of installation by naval gun fire and construction of casemate. (TA-183W)

120 mm (12 cm) CD gun casemated in 4 ft. reinforced concrete. All four guns in this battery were destroyed by naval gun fire. (TA-183W)

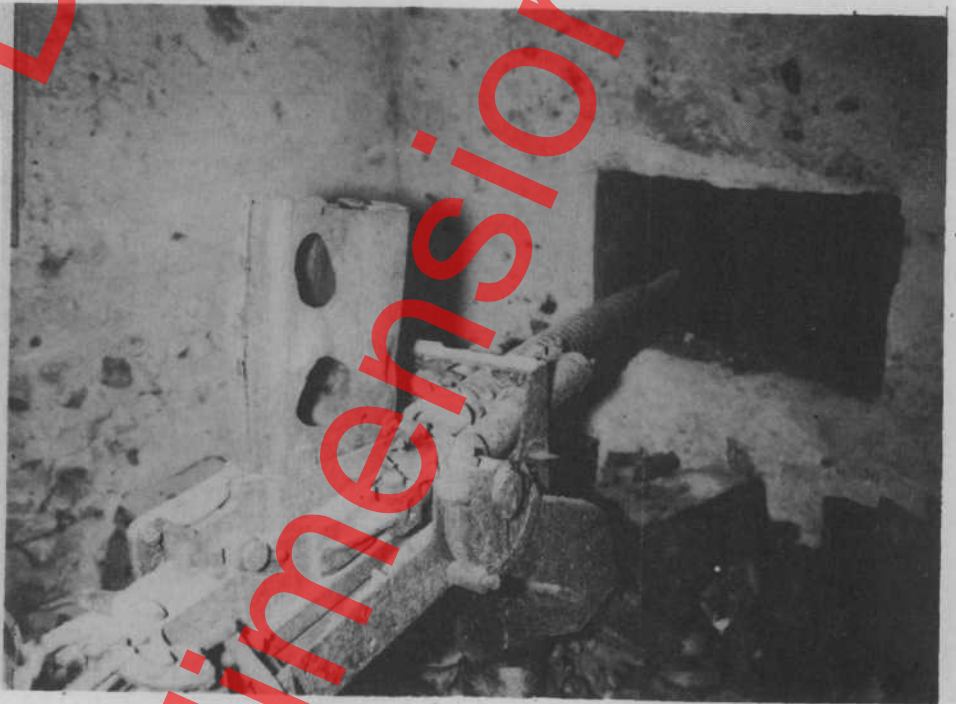


Blockhouses

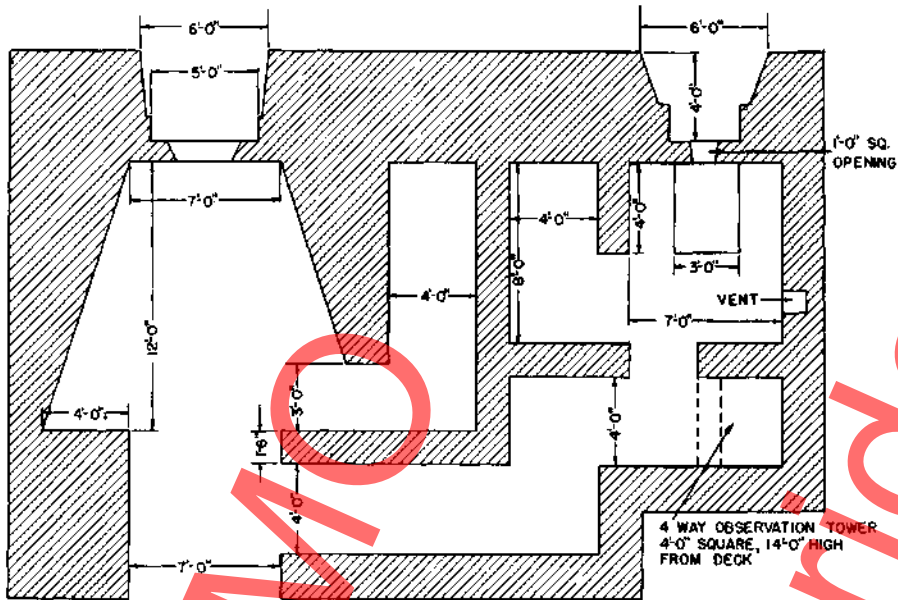


Front view of blockhouse housing a 120 mm (12 cm) short naval gun firing north along the beach. It is constructed of heavily reinforced concrete with the fire port being protected by revetments faced with sand-filled oil drums.

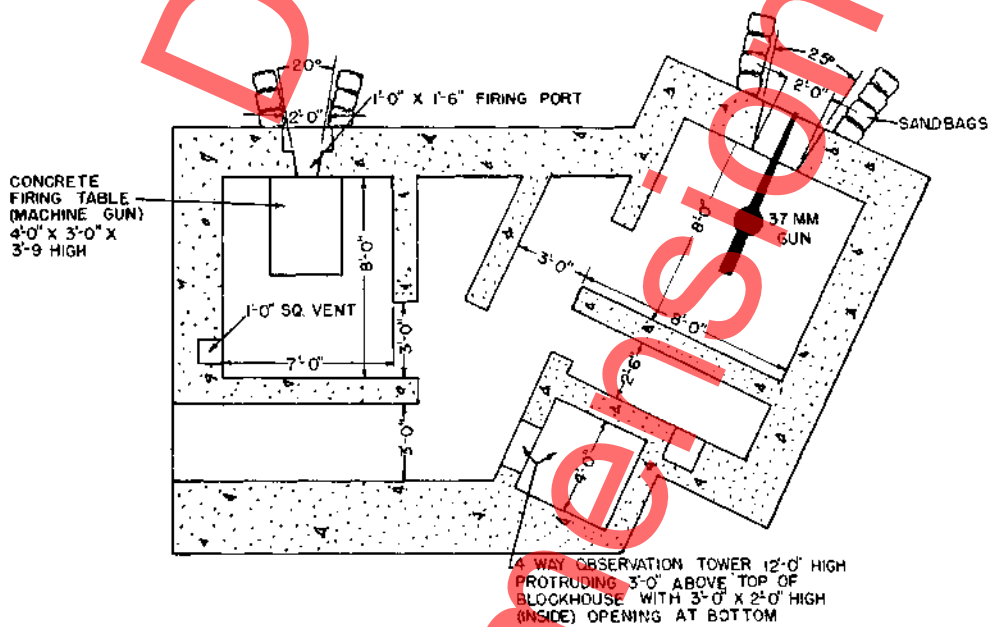
Interior view of blockhouse housing a 25 mm machine cannon.
(TA-147C)



Blockhouses



Plan of blockhouse for 47 mm AT position at TA-181B. This position has an adjoining room for a HMG, also space for ammunition storage, food storage and living quarters.



Plan of blockhouse for 37 mm AT position at TA-215Y.

Miscellaneous



General view of earth-covered stone and concrete housing for public address system at airfield No. 1. (TA-164J)

Interior of communications room in earth-covered concrete structure at airfield No. 1. This position was knocked out by flamethrowers. (TA-164J)

