~~SECRET~~

COMINCH P-0012

AMPHIBIOUS OPERATIONS

CAPTURE OF IWO JIMA

16 FEBRUARY TO 16 MARCH 1945

THIS PUBLICATION AND THE INFORMATION
CONTAINED HEREIN *MUST NOT*
FALL INTO THE HANDS OF THE ENEMY

UNITED STATES FLEET

Headquarters of the Commander in Chief

DD Form No. 211

SECRET

00310

ROUTING SLIP

10 Oct, 1945

From Commch Date 7-17-45

Subject Casualty Oper

Their File Ltr. of

OUR FILE

(d)	Commanding Officer	
(e)	Executive Officer	
	First Lieutenant	Self
	Navigator	
	Gunnery	
	Torpedo	
	Engineer	
	Stores	
	Commissary	
	Communication	
	Educational	
(b)	All Officers	
	Yeoman	

ACTION TAKEN (as indicated below) (initial)

FILE (initial)

I have retained correspondence ✓ (initial)

WRITE LETTER / ENDORSEMENT

To:

Via: 1.

2.

3.

FORWARDED
RETURNED
Recommending approval
Publish
Not approved
For guidance
For compliance
For necessary action
For comment
For information
For investigation
For report
Referred
Forwarded inviting attention to ..... endorsement
To be signed by .....
Make copies for .....
Make Tickler or Tracer .....
REMARKS: .....

"a" Action to be taken by.
"b" Information.
"c" Comment.
"d" Captain.
"e" See Executive Officer.
"f" Post.
"g" Publish at Quarters.
"h" Retain Copy
"i" See Remarks.

UNITED STATES FLEET
HEADQUARTERS OF THE COMMANDER IN CHIEF
NAVY DEPARTMENT
WASHINGTON 25, D. C.

17 JULY 1945.

This publication "Amphibious Operations—Capture of Iwo Jima—16 February to 16 March 1945" continues the series promulgating timely information drawn from action reports. It follows "Amphibious Operations—Invasion of the Philippines, CominCh P–008."

Material contained herein has not been subjected to exhaustive study and analysis, but is issued in this form to make comments, recommendations, and expressions of opinion concerning war experiences readily available to officers engaged or interested in amphibious operations. It should be widely circulated among commissioned personnel.

This publication is classified as secret, nonregistered. It shall be handled as prescribed by Article 76, U. S. Navy Regulations 1920. When no longer required it shall be destroyed by burning. No report of destruction need be submitted.

This publication is under the cognizance of, and is distributed by the Commander in Chief, United States Fleet.

Transmission by Registered Guard Mail or U. S. registered mail is authorized in accordance with Article 76 (15) (e) and (f), U. S. Navy Regulations.

B. H. BIERI,
Acting Chief of Staff.

DISTRIBUTION LIST FOR COMINCH P–0012

STANDARD NAVY DISTRIBUTION LIST NO. 29, 15 JUNE 1945

List 1 a (1) less Cominch; ComPac (5), ComThird (3), ComFifth (3); b (1); c (1); less ComFairShipLant, ComFairShipPac, ComGenAirFleetMarForce, DirAviation, MC; d (1); e (1); g-ComPhibPac (5), ComPhibPacAdmin (5), ComThirdPhib (3), ComFifthPhib (1), ComPhibGroups (2), ComLandCraftFlot (1), PhibTra7thPhib (2), 7thPhibAdmin (1), Com7thPhib (3), ComPhibTraPac (35); h (1) less ServLantSubCom; i (1) less ComSec #115, #117, ComNorthCalifSecWesSeaFron, ComNorWesSecWesSeaFron, ComSouthCalifSecWesSeaFron; j (1); k only to COTCLant (1), COTCPac (3), ComFltTraCom, 7thFlt (1), PreComTraCenCOTCPac (6), ComSanDiego, San Pedro Shakedown Group (1); l-only to Chief of Staff to Commander in Chief, Army & Navy (1).

List 2 a–3 (1); a–10 FairWings only (1); a–18 only to Fleet Aircraft Recog Unit (1); a–19 only to ComUtWingServ (1); f (1); g (1); n (1) less LCT Groups; o (1) MinRons only; v (1).

List 3 b (1); c (1); d (1); f (1); m (1); p (1); t (1); u (1); v (1); x (1); kk (1); oo (1); rr (1); vv (1); zz (1); www (1); ffff (1); gggg (1); jjjj (1).

List B–3 Construction Brigades and 36th Constr. Regiment only (1).

STANDARD NAVY DISTRIBUTION LIST NO. 32, 1 JUNE 1945

List 6 a (1) less SevRivNavCom, Comdt PotRivNavCom, SamDefGrp; b only to CNAOpTra Jacksonville, Fla. (25), CNATra Pensacola, Fla. (1).

List 7 a–1 (1) less NYdNavy #128; d–1 (1) only to NAB's 1st to 13th ND incl., and NavAirTrBases, Corpus Christi and Pensacola; e (1); f (5); g (30); h (5); i–3 (2) only to Newport, R. I.

List 11 SecNav (1); UnderSecNav (1); AsstSecNav (1); AsstSecNavAir (1); ChrmGenBd. (2); InspGen (1); BuAero (5); BuPers (10); CNO (1); BuOrd (5); BuShips (5); BuY&D (5); USMC (900); USCG (3).

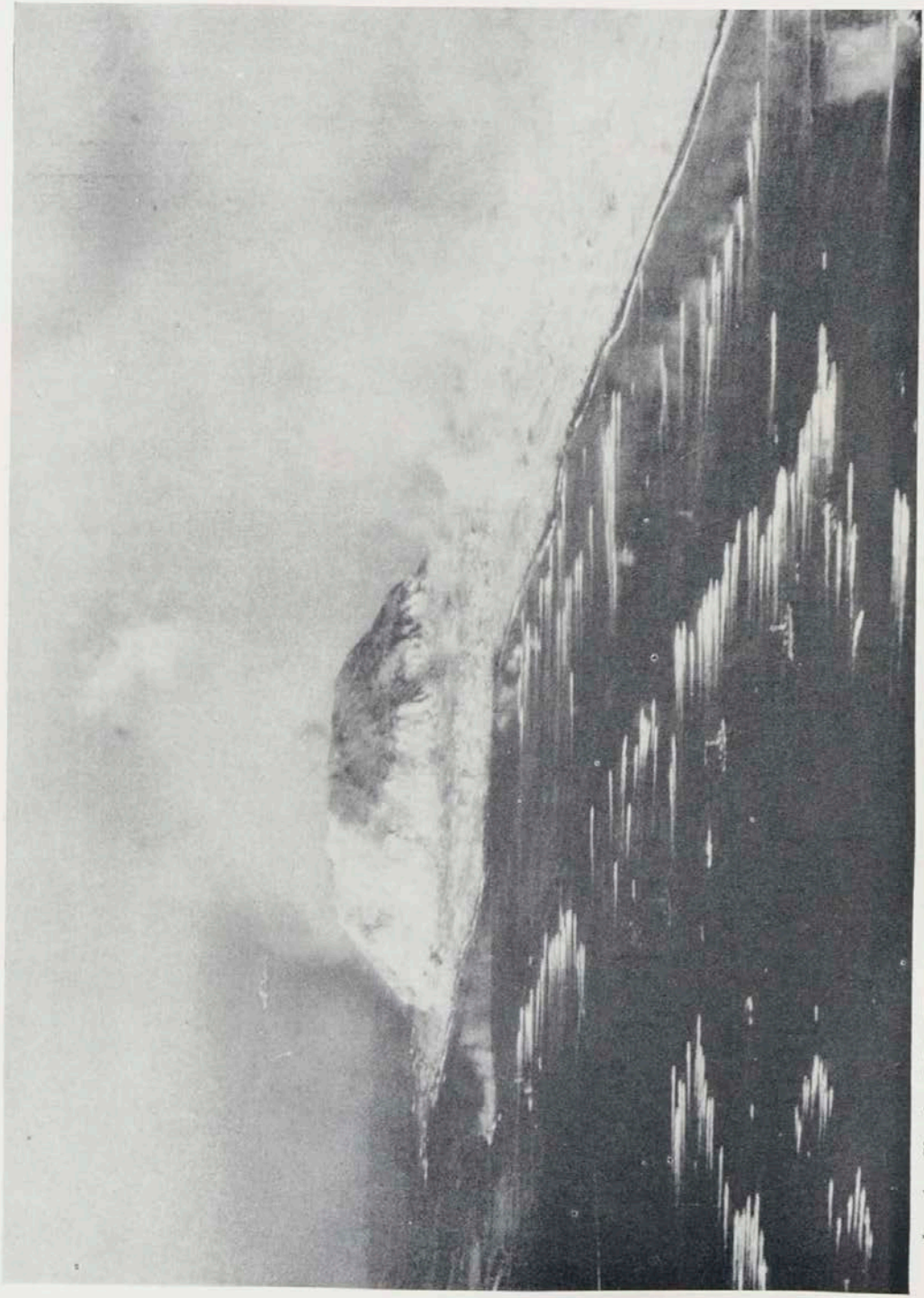
List 14 q (2).

Plus Special Distribution.

Numbers in parentheses indicate number of copies sent to each addressee.

CONTENTS

LIST OF EFFECTIVE PAGES



Invasion Showing Initial Waves Moving Into Southeastern Landing Beaches, First, Second, Third Waves, D-Day (H-Hour-Minus-1).

Chapter I. NARRATIVE

From: Commander Fifth Fleet

The capture and occupation of the Marianas Islands gave our forces bases from which targets in the Japanese Empire could be subjected to VIR air attacks. In order to operate with greatest effectiveness and with a minimum of attrition, fighter cover for the long range bombers was required at the earliest practicable time. Iwo Jima was admirably situated as a fighter base for supporting long-range bombers between the Marianas and the Empire and offered sites for three airfields. Accordingly the Commander in Chief, Pacific Ocean areas, issued his Operation Plan No. 11–44, directing the Commander Fifth Fleet, as Commander Central Pacific Task Forces, to capture, occupy, and defend Iwo Jima and develop air bases on that island, to reduce Japanese naval and air strength and production facilities in the Japanese homeland, and to protect air and sea communications along the Central Pacific axis.

The planning for and the actual execution of the Iwo Jima operation were affected to a considerable extent by the operations in the Philippines which immediately preceded it, and by the necessity of preparing for the Okinawa operation which was to follow it.

The Philippine operations necessitated last minute changes and reduced the total number of ships which had been previously allocated to the Iwo Jima operation. This applied primarily to battleships, cruisers, and destroyers for the Joint Expeditionary Force, although other forces were also affected to a lesser extent. The only source from which additional gunfire support ships could be obtained was from Task Force 58 (Fast Carrier Force). In order to provide the necessary additional battleships for gunfire support, the Commander in Chief, United States Pacific Fleet, authorized the use of the *North Carolina* and *Washington* for this purpose. These two ships were, accordingly, loaded principally with bombardment ammunition, their service allowance of armor piercing ammunition being correspondingly reduced. Certain cruisers of Task Force 58 were also loaded with some additional bombardment ammunition.

The Okinawa operation affected the Iwo Jima operation in two ways. First, it was felt that the threat of Japanese land based aircraft, while taking Okinawa, would be very great, both because of the great value of that island to us when we took it and because of its closeness to the Empire (325 miles). Therefore, anything which we could do during the Iwo Jima operation to reduce Japanese air strength, either in aircraft and, even more, in aircraft production facilities, would help the Okinawa operation as well as support the Iwo Jima operation. The second way in which the Okinawa operation and the Iwo Jima operation affected each other was in the close timing of the two operations. D-day for the Iwo Jima operation was 19 February. L-day for the Okinawa operation had been set as 1 April. If the fighting ashore on Iwo Jima were prolonged, it might be difficult to carry out the plans for the Okinawa operation which called for initial carrier operations to start off Kyushu on L-minus-14 (18 March) and off Okinawa on L-minus-9 (23 March).

Commander Fifth Fleet's Operation Plan No. 13–44 was issued on 31 December 1944. Principal commanders were assigned as follows:

Commander Joint Expeditionary Force (TF 51)—Vice Admiral R. K. Turner.
Commander Fast Carrier Force (TF 58)—Vice Admiral M. A. Mitscher.
Commander Expeditionary Troops (TF 56)—Lt. Gen. H. M. Smith, U. S. M. C.
Commander Amphibious Support Force (TF 52)—Rear Admiral W. H. P. Blandy.
Commander Attack Force (TF 53)—Rear Admiral H. W. Hill.
Commander Logistic Support Group (TG 50.8)—Rear Admiral D. B. Beary.
Commander Search and Reconnaissance Group (TG 50.5)—Commodore D. Ketcham.
Commander Service Squadron 10 (TG 50.9)—Commodore W. R. Carter.

The general plan of the operation was as follows:

Commence operation on D-minus-3-day (16 February), with a simultaneous fast carrier strike on the Tokyo area and bombardment of Iwo Jima by the Amphibious Support Force.

Fast carrier operations were planned to carry out a 2- to 3-day strike on the Tokyo area, the

third day being dependent upon the situation then existing, to give direct air support at Iwo Jima on D-day and D-plus-1-day, to strike the Kobe Nagoya area on D-plus-4 and D-plus-5 days and to make a photographic strike on Okinawa on D-plus-9-day.

Bombardment of Iwo Jima to be continuous from D-minus-3-day on, augmented on D-day and as required thereafter, by some ships of Task Force 58.

Air support at the objective to be by CVE's from D-minus-3-day on, augmented as necessary on and after D-day by Task Force 58.

Landing to be made on D-day, 19 February, with provision for postponement of D-day in the event of weather unfavorable for carrier strikes or for landings.

Support by fleet units to continue as long as required.

The following assistance was to be provided by other forces:

Fourteenth Air Force conduct searches from China bases.

Pacific Ocean areas and Southwest Pacific area air forces conduct long range reconnaissance over the Western Pacific.

Twentieth Air Force support by attacks on the Empire.

Strategic Air Forces, Pacific Ocean areas, attack Iwo Jima and Chichi Jima commencing D-minus-20.

Submarine Force, Pacific Fleet, conduct reconnaissance and provide lifeguards.

The operation was conducted as scheduled, with the exception that a second strike on the Tokyo area was carried out in place of the scheduled Kobe-Nagoya strike. The decision to do this was made after bad weather on the first strike had prevented destruction of aircraft manufacturing facilities in the Tokyo area on the scale desired. It was felt more desirable to complete this planned destruction than to initiate a strike in a different area. Although unfavorable weather attended the second strike also, considerable damage was done to aircraft manufacturing plants and to airfields and installations in the two strikes, and they accomplished their primary purpose of preventing serious air interference with the amphibious operation at Iwo Jima.

The approach to Tokyo by Task Force 58 was made from Ulithi to the eastward of the Marianas and the Nanpo Shoto. Everything possible was done to guard against detection on the way in. This involved radio deception, and scouting of the waters off Japan through which the approach was planned, in order to avoid, if possible, enemy search planes and picket vessels. This scouting was done by submarines, by PB4Y's of Fleet Air Wing One, and by B-29's of the Twenty-first Bomber Command. As a result of these efforts, assisted by bad weather off Tokyo, there was no detection.

This first major carrier strike against the Empire, which took place exactly 1 year after the initial carrier strike on Truk, was both helped and hampered by the foul weather on those 2 days. It was helped in that the low ceiling and rain assisted in preventing any Japanese attacks on our force. It was hampered in that considerable portions of the Tokyo area were at times so weathered out as to prevent our attacks on them. Our efforts were, because of this situation, more successful against enemy aircraft and airfield installations than they were against aircraft manufacturing plants. In spite of the bad weather, the results of the strike were of considerable value, both as a cover for Iwo Jima and as a preparation for Okinawa.

After withdrawing from the Tokyo area to the westward of the Nanpo Shoto, Task Force 58 refueled to the westward of Iwo Jima, sending the *North Carolina*, *Washington*, *Birmingham*, and *Biloxi* to take part in the bombardment in support of the landings on 19 February (D-day), and furnishing air support.

Ships from Task Force 58 which participated in the bombardment of Iwo Jima rejoined on the morning of 23 February, preparatory to fueling and making the second strike on the Tokyo area. Task Group 58.5, the night carrier group, remained behind to furnish night fighter protection for Iwo Jima. The approach to Tokyo was again made from the southeastward, but this time it was detected by a picket vessel the night before. As a result of very foul and unpredictable weather, the strike lasted only 1 day—25 February, and on account of the closed-in conditions in the target area the results of the strike there were not as great as had been hoped for. Hoping to find more favorable weather in another vicinity, an attempt was made to attack the Nagoya area on 26 February, but this was prevented by increasingly bad weather.

By this time the decision had been reached that the situation at Iwo Jima was such that Task Force 58, less Task Group 58.5, could be released from its support of the Iwo Jima operation, in order to prepare for the Okinawa operation. One task group proceeded direct to Ulithi, while the remaining three, after refueling, made a strike on Okinawa on 1 March, the primary purpose of which was to obtain additional photographs required for the Okinawa operation. On conclusion of this successful 1-day strike, these three task groups proceeded to Ulithi, where preparations were made for the coming Okinawa operation.

The withdrawal of four of the five task groups of Task Force 58 left available for air support at Iwo Jima the CVE's of Task Group 52.2 and Task Group 58.5. These ships were also required for the Okinawa operation. The date of their release depended upon the activation of an airfield on Iwo Jima and the establishment on it of sufficient day and night fighters to protect the area from Japanese air attacks, to furnish the air support required by the troops who were still fighting on the island, and to keep out of use the enemy airfield on Chichi Jima. The progress of the fighting on Iwo Jima posed a similar problem as affecting the release of the ships of the Joint Expeditionary Force which were furnishing support for the troops ashore. Fortunately, all forces were released in time to make the necessary preparations required for the Okinawa operation, although in the case of Task Group 58.5 only 2 days at Ulithi were available, which permitted no time for upkeep.

In addition to the air support furnished by Task Force 58 and the CVE's of Task Group 52.2, the patrol planes of Fleet Air Wing One (TG 50.5) conducted searches by PB4Y's based on Tinian, to cover the areas between Iwo Jima and Japan. When the airfield on Iwo was ready, certain of these search sectors were extended by having the PB4Y's in those sectors stage through Iwo for additional gasoline on their return legs. Before this field was ready for use, patrol plane tenders anchored in the lee of Iwo Jima to service PBM's of Task Group 50.5 at such times as sea conditions would permit the operation of seaplanes. These PBM's were used for dumbo missions and for the extension of the more important search sectors toward Japan, commencing on 28 February. The tenders and PBM's were withdrawn when activation of the airfield ashore permitted their replacement by land planes and amphibians. The performance of the PBM's, with jet assisted take-off, in the bad sea conditions which normally existed around Iwo Jima, was a remarkable tribute to the ability of their pilots.

Enemy reaction to the Iwo Jima operation was very strong against the landings and the succeeding troop operations on shore. In spite of ample naval gunfire and air support, it was not until 16 March, after 26 days of hard fighting with heavy casualties, that all organized resistance ceased. The normal tactics evolved from previous Pacific operations were used and were proved to be sound against the strongest defense system the enemy was capable of erecting. It should be noted that these tactics were employed with skill and resolution by veteran troops. In view of the character of the defenses and the stubborn resistance encountered, it is fortunate that less seasoned or less resolute troops were not committed. The Fifth Amphibious Corps with its component Third, Fourth, and Fifth Marine Divisions added many new pages to the records of heroic achievements in battle of the officers and men of the United States Marine Corps.

The enemy's air reaction to the Iwo Jima operation was not strong. No damage was inflicted on Task Force 58 while it was making the two strikes on the Tokyo area and the photographic strike on Okinawa. In the vicinity of Iwo Jima, however, a Japanese air attack of an estimated 50 planes arrived about dusk on the evening of 21 February and inflicted considerable damage. The *Saratoga* was hit by 4 suicide planes, which caused fires and extensive damage but did not affect the mobility of the ship. She proceeded to Pearl Harbor via Eniwetok. The *Bismarck Sea* (CVE) was hit on the stern by a suicide plane. As a result of fires and explosions that followed, she capsized and sank with heavy casualties. The *Lunga Point* (CVE), *Keokuk*, and LST *477* also suffered minor damage in this attack.

Enemy surface force reaction to the operation was lacking.

The Logistic Support Force, organized under a flag officer with the *Detroit* as his flagship, was given a trial and work-out during the Iwo Jima operation. The function of this force was to per-

mit ships of the Fleet—particularly those of the carrier task forces—to remain at sea over long periods by supplying underway as many of their logistic needs as possible. The real need for this was to come during the Okinawa operation, when the distances from rear bases were greater, the distance from the objective to Japan was less, the operation was expected to last longer, and the carrier task force had to remain at sea in support over a much longer period. To the services rendered during earlier operations by the fleet oilers and the transport CVE's there was added ammunition replenishment by ammunition ships. In addition, provisions were given to smaller types, critical items of supplies were brought out, and mail service was improved.

From: Commander Task Force 58 (Commander First Carrier Task Force)

This action report is submitted in broad form to provide a framework into which the more detailed reports of the task group commanders, ships' commanding officers and air groups may be fitted. The task force organization included 11 CV's, 5 CVL's, 8 BB's, 1 CB, 5 CA's, 11 CL's, 81 DD's, and over 1,200 airplanes.

During the period from 16 February to 1 March inclusive, planes from Task Force 58 flew a total of 5,514 sorties over the target including 185 dawn, dusk and night combat air patrol and night VT observer sorties over Iwo Jima. In addition a very large number of day combat air patrol, antisnooper patrol, search and other miscellaneous sorties were flown. During these operations aircraft from the Task Force actually dropped or launched at their targets 1,118.65 tons of bombs, 218 napalm bombs, 12 torpedoes, and 9,896 rockets. In addition, during the Toyko strikes destroyers sank several enemy fishing and picket boats by gunfire. Cruisers and destroyers of the Force conducted a night bombardment of Okino Daito Island starting steady fires, and destroyers conducted a night bombardment of Parece Vela rocks with unobserved results. Battleships, cruisers, and destroyers on detached duty from the force engaged in fire support missions at Iwo Jima.

Aircraft losses in combat from 16 February to 1 March inclusive were 46 F6F, 1 F6F (N), 21 F4U, 1 F4U (P), 3 SB2C, 12 TBM, or a total of 84 aircraft of all types. Operational losses during the days of offensive air operations were 24 F6F, 7 F6F (N), 8 F4U, 4 SB2C, 13 TBM, 3 TBM (N) or a total of 59 aircraft of all types. Two of the VTN lost operationally were shot down by antiaircraft fire from friendly forces near Iwo Jima in bad weather during a daylight air raid alert.

During the same period, combat losses of flight personnel were 60 pilots and 21 aircrewmen. Operational losses were 8 pilots and 6 aircrewmen. In addition to rescuing personnel from the Force, destroyers assisted by planes rescued 8 survivors from a ditched B–29.

From: Commander Amphibious Forces, United States Pacific Fleet (Commander Joint Expeditionary Force)

The Joint Expeditionary Force (Task Force 51), a part of the Fifth Fleet, commenced active preparation for the operation in accordance with the provisions of CinCPOA Top Secret Dispatch, serial 092200 as of 9 October 1944, at which time certain units were made available to Commander Amphibious Forces, United States Pacific Fleet for planning and training.

The Joint Expeditionary Force, Task Force 51, as of target date, was composed of the following principal components:

(*a*) *Amphibious Support Force* (Task Force 52), Rear Admiral W. H. B. Blandy, U. S. N., commanding, comprising an air support control unit, support carrier group, mine group (Rear Admiral Sharp, U. S. N., commanding), underwater demolitions group, gunboat support group, mortar support group, and an RCM rocket support group, with the mission of pre-Dog-Day gunfire and air support, minesweeping, mooring buoy and net laying, beach reconnaissance and underwater demolitions.

(*b*) *Attack Force* (Task Force 53), Rear Admiral H. W. Hill, U. S. N., commanding and second in command of the Joint Expeditionary Force, comprising an air support control unit, two transport squadrons, tractor groups, LSM groups; control group, beach party group, and a pontoon barge, causeway and LCT group, with the mission of transporting and landing the expeditionary troops.

(*c*) *Gunfire and Covering Force* (Task Force 54), Rear Admiral B. J. Rodgers, U. S. N., commanding, comprising three battleship divisions, one cruiser division, three destroyer divisions, augmented on Dog-Day with two destroyer divisions

from Task Force 58, and on Dog-plus-One-Day by two cruiser divisions and two destroyer divisions from Task Force 58, with the mission of shore bombardment, and cover in the vicinity of the objective against enemy surface attack.

(*d*) *Expeditionary Troops* (Task Force 56), Lt. Gen. H. M. Smith, U. S. M. C., commanding, and consisting of all assault troops, plus certain assigned garrison troops, with the mission of executing the ground attack for the capture, occupation, and subsequent defense of the objective. Included was the *Landing Force* (Task Group 56.1), Maj. Gen. H. Schmidt, U. S. M. C., commanding, comprising the assault troops (Task Group 56.2), consisting of the V Amphibious Corps (4th MarDiv, Maj. Gen. C. B. Cates, U. S. M. C., commanding, and 5th MarDiv, Maj. Gen. K. E. Rockey, U. S. M. C., commanding), plus attached units; garrison force (Task Group 10.16), commanded by Maj. Gen. J. E. Chaney, A. U. S. comprising units of the Army Air Force, Antiaircraft Artillery, Coast Artillery, with service and other units assigned; expeditionary troops reserve (Task Group 56.3), Maj. Gen. G. B. Erskine, U. S. M. C., commanding, and comprising the Third Marine Division, plus attached units.

(*e*) *Air Support Control Unit* (Task Group 51.10), Capt. R. H. Whitehead, U. S. N., commanding, with the mission of support aircraft control, and air-sea rescue operations.

(*f*) *Joint expeditionary Force Reserve* (Task Group 51.1), Commodore D. W. Loomis, U. S. N., commanding, consisting of one transport squadron, with the mission of transporting and landing the Expeditionary Troops Reserve when required.

(*g*) *Transport Screen* (Task Group 51.2), Captain Moosbrugger, U. S. N., commanding, comprising two destroyer squadrons and all escort vessels available at the objective and not employed for fire support and escort duty.

(*h*) *Service and Salvage Group* (Task Group 51.3), Captain Curtiss, commanding.

(*i*) *Hydrographic Survey Group* (Task Group 51.4), Commander Sanders, commanding.

(*j*) *Defense and Garrison Groups* (Task Groups 51.5, 51.6, 51.7, 51.8, and 51.9), comprising the first echelons of the Garrison Forces for Iwo Jima. Succeeding Garrison echelons, embarked by authorities other than CTF 51, assembled at Eniwetok and proceeded to the objective as ordered. On arrival, these elements operated under the Senior Officer Present Afloat, but were not integral parts of Task Force 51.

Summary of ships employed.—A total of 495 ships classified as to type in the table below were attached to, and employed by Task Force 51 during this operation. The list includes assault shipping and that of the Zero and First Garrison Echelons but does not include ships from other forces which operated temporarily under the Senior Officers Present Afloat, Iwo Jima.

Summary of ships employed

Type	Number	Type	Number	Type	Number	Type	Number
AGC	4	ATF	2	DD	44	OBB	6
AK	2	ATR	2	DE	38	PC	7
AKA	16	AV	1	DM	8	PCE	1
AKN	2	AVD	2	DMS	6	PCE(R)	1
AM	16	AVP	1	LCI	58	PCS	10
AN	5	BB	2	LCS(L)	12	SC	12
AP	1	CA	9	LCS(L)3	6	YMS	13
APA	43	CB	1	XAP	3		
APD	6	XAK	7	LCT	12	Total ships	495
ARB	1	CL	9	LSD	3		
ARG	1	CM	1	LSM	31		
ARL	1	CV	1	LSV	1		
ARS	3	CVE	11	LST	63		

Summary of expeditionary troops engaged.—A statistical record of troops engaged in the operation appears in the table below. Navy personnel figures include only personnel assigned to duty ashore, including LCT and pontoon barge and causeway crews, boat pools, and Beach parties.

Summary of Expeditionary troops employed

	Assault troops		Garrison troops			Total
	Army	Marine	Army	Marine	Navy	
Landing force	570	70,647			3,927	75,144
Garrison force			23,830	492	11,842	36,164
Net total troops employed	570	70,647	23,830	492	15,769	111,308

In furtherance of the general objective of the United States Pacific Fleet in the Western Pacific, the Joint Expeditionary Force (Amphibious Forces, U. S. Pacific Fleet) was, as a part of the Fifth Fleet, assigned the mission for the capture, occupation and defense of Iwo Jima. The Fifth Fleet covered the amphibious part of

the operation by attacks on Japan and local cover, and directly supported it with aircraft and gunfire bombardment in support of troops, and by providing night fighter cover. The Fifth Fleet was assisted by other forces under the control of the Commander in Chief, Pacific Ocean area, the Commander Southwest Pacific area, and the Twentieth Bomber Command. The strategy employed in this operation included these salient points:

(*a*) Bases in the Hawaiian Islands and the Marianas served to lift and mount the Expeditionary Force.

(*b*) Bases in the Marshalls and Marianas functioned as regulating stations, provided the protection for sea and air lines of communication, and facilities for staging.

(*c*) Bases in the Marianas enabled the assembly of the combined Task Force prior to its final movement to the objective.

(*d*) The Amphibious Support Force and Gunfire and Covering Force struck Iwo Jima for 3 days prior to Dog-Day with naval gunfire and air bombardment in order to soften up the enemy defenses, destroy his fortifications, destroy his aircraft, and to neutralize his airfields.

(*e*) The Fast Carrier Force struck the Tokyo area and the Nagoya-Kobe area simultaneously with the pre-Dog Day bombardment of Iwo Jima by our surface vessels for the purpose of destroying enemy aircraft and air facilities which might interfere with the Iwo Jima operation. Later this force furnished air cover and direct support at Iwo Jima.

(*f*) Shore-based aircraft operating in the Central Pacific, Southwest Pacific, and from bases in China and India, supported the operation through air reconnaissance, antisubmarine searches, offensive screens, air-sea rescue missions, and photo reconnaissance.

(*g*) The Strategic Air Force, Pacific Ocean areas, operating land aircraft from bases in the Marianas, struck military installations in the Nanpo-Shoto for a period of several months prior to Dog-Day with heavy concentrations on Iwo Jima and Chichi Jima for the purpose of softening up enemy defenses, destroying his aircraft and shipping, and neutralizing his airfields. It further furnished photo reconnaissance of the Nanpo-Shoto and engaged in air and sea rescue.

(*h*) The Twentieth Air Force employed the Twentieth Bomber Command by strikes on Kyushu both preliminary to and simultaneously with the carrier strikes on the Tokyo area. The Twenty-first Bomber Command increased its bombing tempo in the Tokyo area prior to the carrier strikes, coordinated its strikes with those of the carrier groups and covered the carrier retirement by strikes in the Tokyo area.

(*i*) The Amphibious Support Force and Gunfire and Covering Force supported the Landing Force with reinforcing fires and air bombardment on the beaches, and with deep supporting fires inland during the assault and occupation phase of the Operation.

(*j*) The Submarine Force, Pacific Fleet, provided intelligence relative to movements of enemy Naval Units, through reconnaissance off enemy bases and routes of approach, and attacks on enemy shipping. It also engaged in lifeguard service, accomplished photo missions, and furnished weather reports.

(*k*) The Marianas and Hawaiian bases provided a means for the rehabilitation of the assault troops following their evacuation from the objective.

The Amphibious Support Force (TF 52) and the Gunfire and Covering Force (TF 54) arrived at the objective at Dog-minus-Three-Day. From this time until Dog-Day minesweeping of all mineable waters was completed; and a reconnaissance of both the preferred and alternate landing beaches was conducted by the underwater demolition teams. TF 54 delivered destructive fires against selected enemy positions, engaged in counterbattery fire, and covered the minesweeping and UDT operations.

The Attack Force (TF 53) arrived in the transport areas off the eastern beaches prior to daylight on Dog-Day 19 February and took position for debarking the Landing Force (TG 56.1). At 0600 (K) Dog-Day; the Amphibious Support Force (TF 52) passed to direct command of CTF 51, who then also assumed the title of CTF 52. Following intensive air and naval bombardments, the Fourth and Fifth Marine divisions landed on Iwo Jima at How-Hour, 0900 (K), as scheduled. The initial boat waves met only slight opposition. Later in the day, however, the beach areas were subjected to heavy enemy artillery and mortar fire. Some fire was directed into the beach approaches and the LST Areas, registering a few hits. The natural features of

terrain plus an exploitation of camouflage rendered almost perfect concealment to enemy gun emplacements. Many could not be located, and our troops and boats had to "stand and take it."

On Dog-Day air strength was concentrated for the Pre-How-Hour and How-Hour strikes. Aircraft were supplied by the CVE's of Task Group 52.2 augmented by planes from Fast Carrier Task Groups 58.2, 58.3, and 58.5. A small force of Army B24's was scheduled to assist but arrived late and could be used only in part. The large number of carrier planes was organized to create the maximum destructive effect with bombardment at How-minus-50-minutes. They then harassed and neutralized exposed enemy gunners at How-Hour in order to protect the final movement of the assault waves to the beach.

The adverse beach conditions soon became apparent. With a steep gradient such as this, the surf breaks directly upon the beach. It was impossible with the heavy swells to prevent the landing craft from broaching. With each wave, boats were picked up bodily and thrown broadside to the beach where succeeding waves swamped and wrecked them. Losses had to be accepted until the beachhead was secured, and until LST's, LSM's and LCT's could be employed. The resultant accumulation of wreckage piled progressively higher, and extended seaward into the beach approaches to form underwater obstacles which damaged propellers and even gutted a few of the landing ships.

Although from seaward the beach appeared hard-packed, it was soon discovered that volcanic ash has no cohesive consistency. Wheeled vehicles bogged to their frames. A few tanks bogged in the surf and were swamped. Even tracked vehicles moved with difficulty. The first terrace has a 40 percent grade which proved insurmountable for some amphibious tractors. This was the problem that faced the boat crews and troops, and despite it the attack moved forward. A trail of wreckage marked the way.

LST's and LSM's were sent to the beaches as soon as the beachhead was secured. These, too, had difficulty to keep from broaching. Several failed when anchors did not hold. Tugs were in constant attendance to tow them clear. Unloading continued day and night with the beach parties working "around the clock." Ships of the Gunfire and Covering Force delivered call fire missions during the day and starshell illumination and harassing fires throughout the night. As ammunition ran low in the destroyers of TF 54, rotation was made with destroyers of the screen. The Gunboat Support Groups were stationed close to shore in sectors around the northern end of the island and delivered night harassing and destructive fires (including mortars and rockets) against enemy positions. Their presence also deterred the enemy from shore to shore overwater movements. The gunboats were regularly taken under fire by enemy guns. None was hit, and destroyers which supported them were enabled to silence some of the enemy batteries.

Difficulties of unloading and replenishment persisted—not only on the beaches but also in the transports. The weather closed down at 1500 (K), Dog-plus-One-Day, with strong winds and heavy swells curtailing air operations. Throughout this period unloading and replenishment had to be carried out underway. This was difficult for unloading since the distance to the beach and the urgent need for speed had constantly to be borne in mind. Restricted movement resulted in many operational casualties to the ships—which of necessity had to be accepted.

To alleviate the surf problem on the beaches, and to permit continued employment of boats, it was decided to launch the pontoon causeways as soon as practicable. However, they could not be employed successfully. All attempts to anchor the seaward ends of the barges were unsuccessful. Like the boats, they also broached, were damaged and sank, or ran adrift; and in every status became a menace to navigation. Decision was then made to launch the LCT's; to employ these craft plus LSM's and LST's only for unloading; and to close the beaches to craft smaller than LST's. The only exception was the employment of amphibious vehicles, which worked very successfully, for the evacuation of casualties.

Vessels not engaged in unloading retired each night and returned to the transport area after daylight. Task groups not scheduled to unload remained in operating areas, usually to the southeast, until ordered forward. The limited size of the objective area and the large number of ships involved required careful scheduling of times of arrival, and demanded arrival after, rather than at, daybreak.

The necessary dense concentration of the assault shipping in the comparatively narrow area off the assault beaches is probably partially responsible for the large number of collisions which occurred in this operation. The beaches were narrow by reason of the physical characteristics of the island. The number of troops carried involved a large amount of shipping. Sea conditions made boating difficult, and it was imperative that the distance to the beaches be kept at a minimum. In addition the gunnery problem demanded that certain fire support ships position themselves along the edges of the transport area in order to properly deliver the fire required. This added to the congestion. Other causes of collisions were inexperienced personnel and unfavorable weather.

Collisions occurred between landing craft and landing ships, between landing ships and gunboats, between fire support ships and transports, and between ships of the same types. These are explained in detail in another section of this report.

The UDT's and beach parties cleared the beaches of accumulated wreckage. The Service and Salvage Group cleared the beach approaches, salvaged boats and pontoons, and effected emergency repairs to damaged ships. These were herculean tasks and proceeded apace with the unloading, the replenishment, the evacuation of casualties, and the rendering of supporting fires so that the assault might continue.

Throughout the operation aircraft were maintained on station for direct support missions on targets requested by the troops or as indicated desirable by air observation or photographic intelligence. Air Spot for naval gunfire was provided by cruiser and battleship seaplanes and by fighters from a special spotting squadron based in Wake Island. Tactical observers were maintained in the air continuously, aerial photographers were flown and propaganda leaflets were dropped. Combat air patrol was maintained over Iwo on a 24-hour-a-day basis with special emphasis on the dawn and dusk periods. Continuous day and night air antisubmarine protection was given to the objective by carrier TBM planes.

The largest and most destructive enemy air attack was made by an estimated 50 Betty's and Zeke's, which attacked carriers and amphibious ships at Iwo from 1640 to 2000 on Dog-plus-Two (21 February). Enemy planes were divided into small groups for their attacks. *Saratoga, Bismarck Sea, Lunga Point, Keokuk,* and LST *477* were hit by suiciders. *Saratoga* suffered three hits by suicide planes on the intial attack and one hit on attacks slightly later. She was badly damaged and forced to return for navy yard repairs. Her losses were 25 dead, 57 wounded. *Bismarck Sea* was struck by a suicide plane aft. The intial explosion was followed by fire and later by explosions of her torpedoes which caused her to sink, 100 officers and 513 men surviving the sinking out of a total complement of 124 officers and 836 men. One enemy plane was shot down by *Saratoga* fighter and 15 by antiaircraft fire from ships. Of the 15 *Saratoga* planes which were airborne when she was hit, 5 landed safely on her, 4 landed on CVE's, 4 landed in the water but pilots were rescued, and only 2 are missing. All *Bismarck Sea* planes were on board at the time of sinking and were lost.

The fast carriers less *Enterprise* departed on Dog-plus-three for their second strike on Tokyo. Thereafter all air activities were furnished by the CVE's plus *Enterprise,* with two minor exceptions: On 25 and 27 February nine Army B24's made a bombing attack on Northern Iwo. *Enterprise* furnished dusk and night fighters, neutralized Chichi and Haha Jima with dawn and dusk sweeps and made searches. The CVE's provided all direct support for the troops, the day CAP, day and night ASP, plus special flights.

To augment the Fourth and Fifth Marine Divisions, two RCT's of the Third Marine Division (RCT 21 and 9) were landed on Dog-plus-Two and-Five respectively. The commanding general, Third Marine Division was assigned a zone of action in the center of the line between the Fourth and Fifth Marine Divisions.

During this period Dog-plus-One to Dog-plus-Five an unprecedented number of call fire missions were delivered. This was due to the restrictive effect of the weather upon air support, and to the enemy's strong resistance. Replenishment and unloading were slow. Whereas the slowdown in unloading permitted the beach parties to improve beach conditions, the ammunition situation both afloat and ashore became critical. On Dog-plus-Four it was difficult to find ships with sufficient ammunition to deliver the call fires

requested. Fortunately on the night of Dog-plus-Four the weather cleared, and Dog-plus-Five found wind and sea greatly moderated with visibility and ceiling unlimited. Marked progress in the beach clearance program was now evident, and unloading and ammunition replenishment were accelerated.

Special seaplane service for the purpose of carrying urgent news matter to CinCPac Guam commenced Dog-Day, and, except when prevented by bad weather, was continued throughout the operation until the captured airfield on Iwo was made serviceable. Although seaplane tenders arrived on Dog-plus-One-Day enemy activity in the vicinity of Mount Suribachi prevented the establishment of the seaplane base off the southeastern shore until Dog-plus-Five-Day. Seaplane mooring buoys were laid and the tenders moved to inshore anchorages. The first search seaplanes were delayed in arriving from Saipan until Dog-plus-Eight due to bad weather. Searches were commenced the following day. A total of 15 search PBM's and 3 dumbo PB2Y Seacats were operated from the seaplane base. All were equipped with jet-assisted take-off devices to enable them to get off rough water more rapidly and with a greater load. On Dog-plus-Fifteen (6 March) PB4Y search planes commenced employing the airfield on Iwo as a staging base to increase their radius from Tinian to 1,200 miles. At this time seaplane activities were curtailed and the search seaplanes returned to Saipan. On 8 March 3 PBY5A Landcats arrived at Iwo and took over dumbo operations. The dumbo seaplanes then returned to Saipan as did the tenders. The seaplane base was decommissioned on 8 March.

On Dog-plus-Five (24 February) the Hydrographic Survey Group (TG 51.4) completed a survey for locating mooring buoys and nets. Since Dog-Day it had been noted that, regardless of weather, so long as easterly winds prevailed the resultant swell continued to make conditions difficult on the eastern beaches. The front lines had advanced sufficiently to indicate the feasibility of a shift to the western beaches. Consequently, on Dog-plus-Six, a survey of Purple and Brown beaches was commenced. It was found that these beaches would be excellent for boats, but that the water was too shallow for craft larger than an LSM. The situation indicated that these beaches could best be used initially for unloading ammunition; and plans for creating exits ashore from these beaches proceeded accordingly. On Dog-plus-Ten (1 March) *Columbia Victory* proceeded to take station for unloading off the western beaches. No sooner did she approach this area than she was taken under fire by enemy coast defense guns in the northwestern end of the island. After having been straddled several times, and having received superficial damage with one man wounded from flying fragments, she withdrew. Unloading to the western beaches was therefore postponed one day until the enemy guns could be silenced. Off the northern end of the island *Terry* and *Colhoun* were hit by enemy coast defense guns on 1 March. These guns also were silenced.

The first United States aircraft to commence operations from Iwo were OY–1 artillery spotting planes on 27 February. Twenty OY aircraft were brought to Iwo, 2 each in 7 CVE's and 6 in LST *776* which is equipped with the Brodie device. Two were lost in the sinking of *Bismarck Sea* and 1 was lost in launching from the Brodie LST. The remaining 17 were in operation from Iwo by 1 March, and flew both day and night missions spotting for artillery.

Air delivery of supplies by parachute was made from three Saipan-based R5C's on 28 February. The next day mail for the troops on shore was dropped by parachute from an R5C airplane. Parachute delivery continued until transport planes commenced operations at the field on 2 March. Air supply and air evacuation were conducted on a large scale from then on.

On 3 March the situation from a naval standpoint became relatively quiet, and continued so throughout the remainder of the operation. Good weather had remained at the objective since 24 February. The enemy had been forced into the narrow northern sectors of the island. Although enemy artillery, mortar and some rocket fire continued to land in the beach areas, this fire was sporadic and registered few hits. Unloading and evacuation progressed favorably over both eastern and western beaches and by 3 March all the assault shipping including the Defense Group (TG 51.5) and the Joint Expeditionary Force Reserve (TG 51.1) had been unloaded and retired to rear areas. Garrison Group Zero (TG 51.6) arrived in the transport areas on 2 March and

commenced unloading. Garrison Group One (TG 51.7) was en route.

On 4 March *Sumner* (AGS 5) and YP 42 arrived to commence a general hydrographic survey of Iwo Jima. Meanwhile the operation for laying the antisubmarine nets was suspended. Volcanic ash apparently covers the ocean's bottom throughout this area, forming such poor holding ground as to create doubt that the net buoy anchors would hold. A further survey was indicated, and the net officer of CTF 94 was called forward for consultation. As a result of further survey, it was determined that the net-laying plan was feasible; and the operation was commenced on 11 March.

As soon as garrison aircraft could be accommodated at south field Iwo they flew in from Saipan. The first were Army P51 day fighters and P61 night fighters which arrived on 6 March, and took over local day and night CAP. Two days later more P51's and a squadron of VMTB arrived. The VMTB commenced flying day and night ASP on 10 March. By 11 March all air activity at Iwo was provided by shore-based aircraft operating from the captured field.

By 7 March enemy-occupied territory had become so restricted that naval gunfire support could be provided only to a very limited extent. Therefore the major portion of TF 54 was ordered to Ulithi for upkeep. ComCruDiv 5 in *Salt Lake City* with *Tuscaloosa* and destroyers present remained as Gunfire and Covering Force until 12 March when they also retired to Ulithi. Carriers departed from Iwo for Ulithi in three groups. On 8 March *Makin Island*, *Lunga Point*, *Rudyerd Bay*, *Natoma Bay*, and *Petrof Bay* departed. On 9 March *Enterprise* departed. On 11 March the remaining CVE's departed from Iwo Jima and all carrier support was withdrawn.

On 9 March Commander Joint Expeditionary Force (CTF 51) ordered TF 51 dissolved, and turned over command of the operation to CTF 53 who thereafter assumed title CTG 51.21 as Sopa Iwo Jima. The Commander Landing Force (CTG 56.1) thereafter assumed title CTG 51.27, while the island commander retained his designation CTG 10.16.

Throughout the operation, commencing Dog-plus-One (20 February) hospital ships *Samaritan* and *Solace* made shuttle trips between Iwo Jima and Saipan or Guam for the evacuation of serious personnel casualties. These trips were augmented by employment of *Pinckney* (APH 2) and *Bountiful*, with one round trip each. In addition four hospital LST's (LST(H) 929, 930, 931, 1033) were in position off the assault beaches for the immediate reception of casualties from Dog-Day through Dog-plus-Nine-Day (28 February). These LST(H)'s acted as "Field Hospitals", and after necessary surgery and treatment, casualties were transferred to retiring transports. The more serious cases were transferred to the hospital ships for further treatment. Air evacuation was inaugurated after 2 March when the airfield was opened to transport planes.

Numerous submarine contacts with several sightings were made during this operation. In every case hunter-killer groups were ordered to the point of contact and persistent search maintained, until positive evaluation could be made. Evidence indicates that several "kills" were obtained.

On 8 March the wind shifted into the northwest and caused heavy swells on the western beaches. Unloading in this area was interrupted, and ships moved to the eastern side of the island. Garrison Group One arrived and commenced unloading. The next day Garrison Group Zero completed unloading and retired to rear areas. By 14 March Garrison Group One had completed unloading, and Garrison Group Two had arrived to commence unloading. Meanwhile the net laying operation, which was initiated on 11 March, proceeded favorably and on 19 March 4,000 feet of net had been installed. Unloading over both eastern and western beaches continued intermittently, dependent upon the weather and surf conditions, throughout the remainder of the operation.

The assault continued favorably, registering only small daily gains, as the enemy became more and more compressed into the northern portion of the island. Naval gunfire support was limited to destroyer call fires and night harassing assignments. By 13 March enemy artillery and mortar fire had ceased, and resistance resolved into small arms and hand-to-hand fighting.

The airfields on Iwo Jima commenced "paying dividends" soon after being placed in operation. In addition to providing safe landings for many carrier planes in difficulty, the South field proved a haven to many B-29's. On 17 March 16 B-29's

returning from a strike against the Empire utilized Iwo for emergency landings. Two days later six of this type aircraft landed for refueling or repairs. Central airfield was placed in operation on 16 March.

It has been noted that enemy picket boats stationed in the approach areas to the Empire were providing advance warning of impending strikes against Japan. TF 58, in its strikes against Tokyo during this operation, had destroyed several of these picket boats. B-29's reported sighting several on patrol north of Chichi Jima. Sopa Iwo Jima (CTG 51.21) therefore, on 13 March, formed TU 51.24.1 composed of *Dortch* and *Cotten*, and ordered a surface sweep of the area between latitude 30–00 N. and 31–00 N. and longitude 144–00 E. and 145–00 E. to be made during 14 and 15 March. One enemy vessel, identified as *Yatsue O Maru* or *Fiji Maru* was contacted during this search and destroyed.

The National Ensign was raised officially on Iwo Jima at 0930 (K) 14 March 1945. All organized resistance was declared as having ceased at 1800 (K) 16 March. The Fourth Marine Division commenced reembarkation the following day, with the Fifth Division the day after. Division headquarters were closed on Iwo Jima on 19 March and 20 March respectively, and on 20 March the Fourth Marine Division departed for Maui for rehabilitation. On 20 March the Garrison Force (147th Inf. Div.) arrived at Iwo Jima. Meanwhile combat requirements in the "mopping up" operation delayed reembarkation of the Fifth MarDiv until 25 March by which time all enemy pockets of resistance were eliminated. The Third MarDiv also continued "mopping up" operations. On 26 March Iwo Jima was turned over to the Island Commander and the Commander Forward Area. The Fifth MarDiv and Corps Troops completed reembarkation on 28 March and departed for rehabilitation in the Hawaiian area. The following day the Third MarDiv departed for rehabilitation at Guam.

FROM D-MINUS-3 (16 FEBRUARY) TO D-DAY (19 FEBRUARY)

From: Commander Amphibious Group ONE, Commander Amphibious Support Force

The function of this command during subject period was to exercise general supervision over, and coordinate, all activities at the objective prior to the arrival of the landing and assault elements of the Joint Expeditionary Force on Dog-Day (19 February). The forces participating in these prelanding activities of Task Force 52 were:

(*a*) The Gunfire and Covering Force, Task Force 54, under command of Rear Admiral B. J. Rodgers, U. S. N. (Commander Amphibious Group Eleven), consisting of 6 OBB's, 4 CA's, 1 CL, 15 DD's, 1 DM, and 1 AVD.

(*b*) The Support Carrier Group, Task Group 52.2, under command of Rear Admiral C. T. Durgin, U. S. N. (Commander Escort Carriers, U. S. Pacific Fleet), consisting of 8 CVE's, 5 DD's, and 9 DE's.

(*c*) The Mine Group, Task Group 52.3, under command of Rear Admiral A. Sharp, U. S. N. (Commander Minecraft, U. S. Pacific Fleet), consisting of 7 Sweep Units comprising 43 minecraft plus 8 LCP(R)'s rigged for shallow water minesweeping.

(*d*) The Underwater Demolition Group, Task Group 52.4, under command of Capt. B. H Hanlon, U. S. N. (Commander Underwater Demolition Teams, U. S. Pacific Fleet), consisting of 6 APD's carrying UDT's Nos. 12, 13, 14, 15.

(*e*) Gunboat Support Units One and Two, Task Units 52.5.1 and 52.5.2, under command of Commander M. J. Malanaphy, U. S. N. (Commander LCI Flotilla Three), consisting of 1 LCI(L) and 12 LCI(G)'s.

(*f*) Land-based heavy bombers of the Strategic Air Force, Pacific Ocean Areas, Task Force 93, delivered air strikes under the control of Commander Air Support Control Unit, Task Group 52.10, Capt. E. C. Parker, U. S. N., embarked in the flagship of Commander Task Force 52, when weather permitted.

The mission of forces under this command was to effect the maximum possible destruction of enemy forces and defenses of Iwo Jima by aircraft and surface ship bombardment, minesweeping, and underwater demolition, during the period D-minus-3 to D-minus-1, inclusive, in order to facilitate its capture.

The general plan of operations at Iwo Jima for 16 February consisted, briefly, of sweeping adjacent waters to within approximately 6,000 yards of the shore, gunfire at long (above 12,000 yards) and medium (from 6,000 to 12,000 yards) ranges

with air spot for destruction of defenses and silencing of enemy batteries, air strikes by support carrier aircraft and land-based heavy bombers of TF93, examination of beaches from the air by special hydrographic observers, aircraft photo missions in late morning and afternoon, installation of a navigational light on Higashi Iwa, a small rocky islet about 3,000 yards to the eastward of Iwo Jima, and early morning and late afternoon fighter sweeps against Chichi Jima to destroy planes and ships or boats which might interfere with the operation. Fire support ships were to follow minesweeping units in toward the island and then work in their assigned sectors inside a screen of destroyers and APD's which enclosed the island area. APD's were to conduct visual reconnaissance of beaches, but not to approach closer than 3,000 yards. This plan was followed, except that low ceiling and intermittent showers prevented the photo mission, the morning strike against Chichi Jima, the strike of land-based bombers, and severely handicapped the spotting planes. CTF 52, in order to prevent waste of ammunition, directed ships to fire only when efficient air spot was available. It was not possible to follow the planned firing schedules, and instead each ship fired in its assigned area of responsibility whenever weather permitted. Two enemy luggers were discovered early in the morning by support aircraft about 30 miles west of Suribachi Mountain. They were attacked and left burning and in a sinking condition, with crews abandoning ship. In the early afternoon a *Pensacola* spotting plane reported shooting down a Zeke which had apparently taken off from Iwo Jima. Three Betty's were strafed and probably destroyed on the ground. A battery which opened fire on minesweepers from northern flank of eastern beach was quickly silenced by fire support ships. None of our ships was hit. One fighter plane and pilot became lost in thick weather and did not return. One plane was an operational loss. One fighter plane was shot down by enemy AA but the pilot was recovered uninjured. One *New York* spotting plane was damaged on catapulting, and sank after personnel were removed. Results of minesweeping were negative, but one old mine adrift was sighted and sunk. Excellent reports were received from the air hydrographic observer indicating that beaches and surf conditions would permit landings by any type of landing craft. He could see no evidence of underwater defenses. Lack of photographs and the paucity of observed results by ships and aircraft prevented accurate assessment of damage to enemy installations. It was estimated, however, that the comparatively small amount of firing permitted by the intermittent thick weather had inflicted little damage on major defenses. Pilots reported enemy heavy AA gunfire not particularly intense or effective, and fire of Automatic AA intense but generally inaccurate.

At sunset all ships commenced night deployment away from the island, except for four destroyers which were designated to remain and provide harassing fire and illumination, interdict the use and repair of airfields, and prevent escape or reinforcement of the garrison. CTF 52 in *Estes*, screened by 4 AM's, after following the fire support units away from the island during dusk, returned to the vicinity of the island to supervise night operations.

Operations planned for 17 February consisted in general of morning and evening fighter sweeps against Chichi Jima; close range destructive fire against eastern beach defenses during which minesweeping up to about 150 yards from the eastern shore would be covered by the heavy ships; UDT reconnaissance of eastern beaches in the late morning closely supported by heavy ships, 7 destroyers and 7 LCI(G)'s; strikes by land-based bombers at 1330; close range destructive fire on western beaches; minesweeping off western beaches and UDT reconnaissance of these beaches supported as in the morning; minesweeping to within about 2,000 yards of the northern and northeastern shore; hydrographic observation of beach conditions from the air, photo missions, and night operations at the objective as on 16 February. At 0124 (K) ComDesDiv 111 in *Newcomb*, with *Halligan*, was directed to proceed to point (Lat. 26° 00′ N, Long. 141° 50′ E.) and to act as radar pickets and provide life guard services for air strikes against Chichi Jima. At 0641 (K) *Halligan* was attacked by three Betty's when 24 miles, bearing 355°, from Suribachi Mountain. She drove off the attackers, shooting down one Betty. Fire support ships arrived on station and commenced the scheduled bombardment promptly at 0700 (K). Mine Unit Two, in company with Gunboat Support Units One and Two, arrived at 0700 (K). Gunboat support units reported to

CTG 52.4 and Sweep Units 5 and 6 to CTG 52.3. A special air strike group of 12 VF's departed for Chichi Jima at 0735 (K). The first support air strike group reported on station at 0715 (K). During the day many air strikes were launched against the objective through meager to intense heavy and light antiaircraft fire. Photographic missions were completed, but the morning verticals were poor, preventing accurate damage assessment. The fire support ships were ordered to close the eastern beaches at 0803 (K) for close destructive bombardment. Under cover of this fire, and supported by two destroyers, Sweep Units 5 and 6 proceeded with operations along the eastern shore. APD's with UDT's embarked, destroyers and LCI(G)'s began assembling off the eastern beaches about 0930 for execution of the UDT reconnaissance. At 0938 the *Pensacola*, off the northeastern shore, was observed to be under fire by apparently quite heavy caliber guns as some splashes appeared to be almost as high as her foremast. She sustained extensive damage and many casualties. A plane was set on fire. The ship continued to fire as she withdrew to extinguish the fires and repair damage. She continued to carry out her mission, ceasing fire from time to time while casualties were being operated on and given blood transfusions. CTG 52.3 requested additional support for Sweep Unit 4 working off the northeastern shore, and *Vicksburg* was ordered to provide it. By 1048 (K) all units were in position to commence the UDT reconnaissance set for 1100 (K). The last of the minesweepers was completing the sweep off the eastern beaches, these small ships having gallantly passed close along the eastern shore in precise formation, firing as they went, without deviation from their prescribed tracks although under occasional enemy fire. The UDT reconnaissance commenced exactly on schedule. As the LCI(G)'s moved in toward the beach, enemy fire began to concentrate on them. By 1105 (K), when they reached a point 1,000 yards off shore, enemy fire was intense from both medium and minor caliber weapons on the flanks and minor caliber along the beaches. The personnel of these little gunboats displayed magnificent courage as they returned fire with everything they had and refused to move out until they were forced to do so by matériel and personnel casualties. Even then, after undergoing terrific punishment, some returned to their stations amid a hail of fire, until again heavily hit. Relief LCI(G)'s replaced damaged ships without hesitation. Between 1100 (K) and 1145 (K) all 12 of the LCI(G)'s were hit. LCI *474* ultimately capsized after the crew had been removed, and was ordered sunk. Intensive fire from destroyers and fire support ships, and a smoke screen laid by white phosphorous projectiles, were used to cover this operation. Fire support ships took on board casualties from the LCI(G)'s as they withdrew, and CTG 52.3 in *Terror* most promptly and efficiently intiated emergency repairs for serious hull damage, as well as assisting in care of the wounded. At 1121 (K) *Leutze* was hit, the commanding officer receiving serious injuries, requiring his later transfer to *Estes*, but no extensive damage was sustained by the ship. By 1220 (K) all swimmers of the UDT's but one had been recovered, and the APD's and supporting destroyers moved out of the area. The reconnaissance had been accomplished. It disclosed no underwater or beach obstructions and no mine fields, though one J13 "reef mine" was reported in 8 feet of water off the north flank of Red 2 Beach. Beach and surf conditions were found to be good for landing.

Early in the afternoon heavy fire support ships were ordered to close the western beaches and commence destructive short-range fire. At 1354 (K) three squadrons of land-based bombers of Task Force 93 commenced bombing runs on the objective. The first squadron encountered little large caliber AA fire, but this fire increased in intensity and accuracy as the second and third squadrons commenced their runs. It was learned later that one plane received major damage, and a few others minor damage, but that all were able to return to base. The bombing was conducted from about 5,000 feet altitude, and appeared to be most precise. Under cover of close-in fire support ships with two destroyers in direct support, Sweep Units 5 and 6 swept the area close to the western beaches, without drawing more than sporadic fire from the island. UDT reconnaissance of the western beaches was commenced at 1615 (K). The support was modified in that no LCI(G)'s were used and the destroyers were ordered to close from 3,000 yards to 2,000 yards. A smoke screen by aircraft was ordered but the smoke planes had difficulty in complying,

as the screen was not laid until 20 minutes after the order, and was not placed where ordered. The operation was partially screened by white phosphorus projectiles laid on the northern and southern flanks, and behind the beaches. The UDT's accomplished the reconnaissance successfully. One mine was found and a delay charge placed to destroy it. Minefields or underwater obstacles were determined to be nonexistent, and beaches and surf conditions were found to be suitable for landing.

At 1734 (K), *Howard* reported rescuing three men from a crashed TBF. Night deployment commenced about 1830 (K). *Edwards*, *Twiggs*, and *Stembel* were designated to remain at the objective to execute night harassing fire, interdiction of airfields, prevent escape or reinforcement of the garrison, and to maintain careful surveillance of the beaches to ensure that the enemy did no work on them. *Mullany*, APD's of TG 52.4 and Sweep Unit 4 remained with *Estes* in the vicinity of the objective, as did the Gunboat Support Units 1 and 2. Shortly after dark *Twiggs* shot down one enemy plane near the island. At 2321 (K) *Waters* and *Bull* were despatched with beach charts and personnel from the UDT's for distribution and dissemination of information on the beach reconnaissances to CTF 51, CTF 53, and designated elements of the Attack Force. Strikes on Chichi Jima resulted in damage to about 18 small craft and an ammunition barge blown up. At Haha Jima about 15 small and 1 medium-sized craft were damaged. It was estimated, and examination of the afternoon photographs confirmed, that the greater part of major known defensive installations still remained undamaged. However, heavily casemated batteries at the northern base of Suribachi (already on map) and on the right flank of the eastern beaches (3 of the 4 guns not on map) had been definitely located. Orders were issued changing schedules of fire for 18 February to provide for heavy concentration of destructive fire from short range on the blockhouses, pillboxes, etc., of the eastern beach area, and defenses behind it and on each flank. For knocking out the heavy flanking batteries a cross fire by *Idaho* and *Tennessee* was directed. It was felt that unless this was done, the success of the landing itself would be seriously jeopardized, even though it was realized that guns and mortars in other areas would probably give trouble after the landing. Fire support ships were advised of the entire situation, and directed to make every effort to obtain the greatest possible effect from each remaining round of ammunition and minute of time.

At 0308 (K) on 18 February *Mullany* was sent to rendezvous with *Lunga Point* with photographs for delivery by plane that morning to CTF 51 and various elements of the Attack Force. Minesweeping commenced on schedule. Fire support ships were on station at 0700 (K) and off the eastern beaches delivered almost continuous fire from 0700 (K) to 1830 (K) at ranges of from 1,800 to 3,000 yards from the shore. Other ships fired at targets in other areas throughout the same period. *Texas*, assisted by two destroyers, also covered uncompleted minesweeping operations off the northern shore. During the afternoon a *Texas* spotting plane recovered a downed pilot, uninjured, from 135 miles at sea. He had been sighted by a B29 of the Twenty-first Bomber Command.

Night deployments were commenced at sunset, except that 5 destroyers were assigned to usual night operations at the objective, with special instructions to ensure that no work by the enemy was accomplished on the beaches. By late afternoon all minesweeping necessary to permit a successful landing, and its support and the ensuing unloading, had been accomplished. No mines were found. Reports from firing ships and examination of photographs showed that the principal defensive installations on and behind the eastern beaches, and on their flanks, had been either destroyed or heavily damaged. Among these were included the casemated batteries on the northern and southern flanks of the beaches, which were estimated to have fired on the LCI(G)'s with such telling effect on 17 February. Fragments recovered from LCI(G)'s indicated that the heaviest of these guns were about 150 mm. in caliber. During the evening CTF 52 informed CTF 51 that although weather had prevented expending the full ammunition allowance, and that more installations could be found and destroyed with an additional day of bombardment, he believed a successful landing could be made on 19 February if necessary.

The large staff of an amphibious group commander was needed to achieve coordination of

the many and mutually conflicting activities at the objective during the prelanding period. The trained teams which are accustomed to working as a well-knit unit in controlling naval gunfire and support aircraft so that each of these weapons will effectively supplement the other are considered to be a necessity, as are the ample communications, photographic, photo interpretation, map reproduction and housing facilities, and working spaces of an AGC. For this operation the staff was augmented by four assistants in the gunnery section, and one assistant and two photo interpreters in the intelligence section. The services of these additional officers were fully employed and a similar arrangement is strongly recommended for future operations of this type. Familiarity with the problems confronting the Amphibious Force, and the presence of the naval gunfire officer of the staff of the Fifth Amphibious Corps, were of material assistance in modifying plans and methods of attacking defensive installations to suit new developments of the situation as they arose. It is believed that factors discussed above will assume added importance in future prelanding operations of larger scope and greater complexity.

From: Commanding General, Expeditionary Troops (Task Force 56)

Enemy Defensive Tactics

The enemy conducted a position defense which was effective, intense, and notable for its economy of forces. No employment of mobile reserves was encountered. There was no withdrawal through a series of defensive lines; there was, in fact, no significant exposure of enemy troops to our supporting arms. The defense depended on the employment of the maximum number of weapons of all calibers fired continuously from well concealed and protected positions until they were destroyed, reduced, or captured. In the initial stages during the hours of darkness the enemy probed our lines in considerable strength employing smoke to cover his concentrations. This activity declined to limited infiltration attempts as our attack progressed. The decentralized sector defense was complete rather than flexible. However, in spite of the high toll it exacted, the defense failed to realize the full value of its weapons. The enemy's decentralized employment of artillery again demonstrated a failure to coordinate or mass the fires of his many weapons or to transfer fires from registered targets to the many targets of opportunity with accuracy or dispatch. It is worthy of note that the majority of casualties in our assault elements, once the beachhead was established, were caused by the intense and accurate small arms fire—to include knee mortars and grenades.

Limitations of Associated and Supporting Arms

The capture of Iwo Jima would have been impossible without the preparatory bombardment and continued support of fire support vessels, carrier and land-based aircraft supplementing the artillery, rockets, tanks, and organic infantry weapons of the landing force. The record tonnage delivered during the assault was effectively directed in close support, and in coordination with the attack of the infantry.

However, our supporting arms were handicapped in their effectiveness by the geographical limitations of the island, the character of the terrain, and the strength of the enemy defenses. The enemy's heavier installations were frequently impervious to field artillery of light and medium calibers and required the destructive power of high velocity main battery naval gunfire. Artillery was employed both for its destructive effect and to uncover and reveal the location of the many well camouflaged and reinforced caves, bunkers, blockhouses, and pillboxes. The broken configuration of the ground served to mask terrestrial observation, and the natural concealment of enemy positions made air spotting missions difficult. The proximity of our troops to enemy positions, demanded by the exigencies of operations and the necessity to exploit all support, frequently denied us the benefit of adequate heavy fires or bombardment. The coarse volcanic sand in the landing beach areas combined with the nearly impassable topography of Motoyama to impede the movement of tanks, and armored bulldozers had to be used to clear approaches. These tanks, armed with 75-mm. guns and flame throwers, together with self-propelled 75-mm. antitank guns and other antitank weapons, were fired at point-blank ranges.

The result of these limitations was that the burden of reducing many fortifications fell to infantry armed with organic weapons, flame throwers, and demolitions.


BC
KANGOKU ROCK
MOTOYAMA
BOAT YARD AND LAUNCH
IWO JIMA
EAST BOAT BASIN
FUTATSU ROCK
HOT ROCKS
74
75
76
77
78
79
80
81

Chapter II. NAVAL GUNFIRE

From: Commander Amphibious Group One (Commander Amphibious Support Force)

This operation clearly demonstrated that previous high altitude bombings and long range bombardment of Iwo Jima directed only into "target areas" achieved negligible damage to the very numerous defenses of the island, which were stout, comparatively small, and well dispersed. Photographic interpretation shows, on the contrary, that the defenses were substantially increased in number during December, January, and early February. The bombardment by this force on 16 and 17 February also had less than the desired effect, due to interference by weather, to the need for giving way to minesweeping and UDT operations, and by lack of thorough familiarity with the actual important targets, as distinguished from a mark on a map, or a photograph. It was not until after fire support ships their spotting planes, and the support aircraft had worked at the objective for 2 days, had become familiar with the location and appearance of the defenses, and had accurately attacked them with close range gunfire and low altitude air strikes, that substantial results were achieved. This experience emphasizes once again the need for ample time as well as ample ships, aircraft, and ammunition, for preliminary reduction of defenses of a strongly defended position. At the same time it is realized that certain defenses will never be destroyed or even discovered until after the troops land.

From: Commanding General, Expeditionary Troops (Commander Task Force 56)

On 8 November, after a more careful study of the target area had been made, V Amphibious Corps submitted a recommendation for a total of 9 days of preliminary bombardment. On 26 November, the Commander, Amphibious Forces, United States Pacific Fleet, replied to this recommendation with a study indicating the necessity of slightly more than 3 days of bombardment, and a statement that the troops would be provided with the best possible preliminary bombardment consistent with limitations of ammunition supply and time, and the subsequent troop requirements.

On 24 November, V Amphibious Corps requested that 1 additional day of preliminary bombardments be provided. This letter was forwarded with favorable endorsement by the Commanding General, Expeditionary Troops, Fifth Fleet. The Commander, Amphibious Forces, United States Pacific Fleet, forwarded this request, requesting approval provided that there was no objection on the part of the Commander, Fifth Fleet, based on the general strategical situation.

From: Commanding General, Fourth Marine Division, Fleet Marine Force

The Division's concept of NGF requirements for the Iwo Jima operation, which was submitted to VAC LANFOR early in the planning phase, emphasized the necessity for adequate preliminary bombardment of the objective and requested that a minimum of 10 days destructive fire be conducted prior to the landing. It was apparent that in order to insure success of the landing, weapon emplacements, pillboxes, and blockhouses, particularly those located on the right flank of the Division zone of action would have to be reduced prior to D-Day by slow, deliberate, destructive fire from ships firing at close ranges. It is considered that the 3 days allowed for the preliminary bombardment was insufficient.

From: Commander Amphibious Group One (Commander Amphibious Support Force)

Each heavy ship was assigned an area of responsibility, all of which taken together, covered the entire island. Bombardment by destroyers for purposes of destruction was not planned, nor was secondary battery fire from heavy ships contemplated except for counterbattery and UDT cover. The plan provided on D-minus-3 for bombardment at long and medium ranges, not less than 6,000 yards offshore. For this day firing periods were arranged with the view toward having the minimum number of ships firing at one

time and with the intent of having each ship fire for about 6 hours. For D-minus-2 the plan provided for heavy, close range destructive bombardment of the defenses from Suribachi to Higashi from the eastward until about 1030. During this period ships assigned to the western areas were to conduct bombardment from longer ranges necessitated by safety requirements during the close bombardment from the east. At about 1030 major caliber fire from the ships working from Suribachi to the East Boat Basin was to stop as the ships withdrew sufficiently to permit ships engaging in support of the UDT's reconnaissance to take station. From this time until about 1230 the heavy ships on the east, as well as the close supporting destroyers, were to be primarily concerned with the support of UDT's. Upon completion of the UDT operation in the eastern beaches the ships assigned to the western areas from Suribachi to Hiraiwa Bay were to close and commence heavy short-range bombardment while the ships assigned to the eastern beaches were to withdraw to positions clear of this fire and continue their own bombardment at longer ranges. The heavy bombardment from the west was to continue until 1430, at which time the heavy ships were to have withdrawn, permitting vessels engaged in the western UDT reconnaisance to take their stations. From about this time until the completion of the UDT operation the western bombardment was to be largely limited to 5-inch fire in support of these operations. Fires in the sectors to the northward were scheduled to allow each ship therein about 6 hours firing time. Safety considerations, both with regard to minesweeping and ricochets did not permit scheduling these vessels to approach very close to their targets. The schedule for D-minus-1 day contemplated a repetition of the D-minus-2 schedule if further UDT operations (demolitions) were to take place and an extension of the close range firing periods if such operations were not to be carried out.

The plan required deliberate destructive fire at specific individual targets, and the assigned target priorities emphasized fire on defenses and installations which could most severely threaten our ships, our aircraft, and ship-to-shore movement, the landing, and operations immediately following the landing. The total number of defense installations was too great to attempt more than this in view of the limited time and ammunition available before D-day. Great emphasis on the priority principles was made not only in the plan but during the briefing, with the design of concentrating destructive fire on pillboxes, blockhouses, covered gun emplacements, etc., in the landing areas and around Suribachi and on the high ground immediately to the northward of the landing areas. Ships were specifically directed not to expend their efforts on destruction of installations in the northern parts of the island which would not threaten ships or aircraft, the landing or the early stages of subsequent operations: For example, pillboxes on the northern slopes. The fire of the ships having areas from No. 2 airfield and to the northward was directed largely at coastal defense and antiaircraft guns. Continually, in briefing and during the operation, stress was laid on the importance of closing to short ranges to obtain maximum observation and destruction of pin-point targets which presented the probability of being hit with a flat trajectory. As an aid in recognition of targets and familiarization with the areas, ships assigned to the beach areas were provided with large low oblique photographs covering their particular areas.

From: Commander Amphibious Forces, United States Pacific Fleet (Commander Joint Expeditionary Force)

The following new or special features were incorporated in basic plans.

AMPHIBIOUS SUPPORT FORCE

For the first time, at Iwo Jima, all pre-D-day operations were coordinated by an Amphibious Group Commander embarked in an AGC. Thus provided with an adequate staff and all required facilities, Commander Support Force was able to make the preliminary bombardment as efficient as possible. A most important function in this respect is that of continuing target intelligence based on target destruction and new targets discovered. This in turn depends upon continuous evaluation of visual reports and photo interpretation, facilities for which were not available prior to D-day in previous assaults. On D-minus-3 and D-minus-2, destruction of Iwo defenses was disappointing due to the long range incident to waiting for minesweeping. But on D-minus-1 excellent results were obtained. Prob-

ably a majority of the heavy installations commanding the landing beaches were put out of action prior to H-hour, and little gunfire from fixed guns was experienced.

Three days were allotted to pre-Dog-Day bombardment in order to ensure the destruction of the maximum number of installations and coverage of known positions on the whole island. Sufficient flexibility was allowed in the schedules of fires on these days so that positions stripped of camouflage by heavy caliber fire and discovered by air spot or photographic intelligence could be destroyed, or at least neutralized.

During the pre-Dog-Day bombardment, the intelligence officer of the Amphibious Support Force coordinated all target information. A card was prepared in the following form.

Targets were given a numberical listing (in addition to the location on the air and gunnery target map) and a complete initial list of targets was supplied to each ship in advance of the operation. Additions, deletions and reports were then made by reference to the basic list with a consequent economy of radio transmissions. Targets were assigned to air or naval gunfire as appropriate, and notations and evaluations were based on the report of the ship, plane, air observer or from photo intelligence. On the morning of D-day, the completed target records were delivered to Commander Expeditionary Force, and a transcript to ComLanFor, thereby providing each of them with an up-to-date collection of target information on which to base subsequent deep supporting fires.

ROLLING BARRAGE

Scheduled fires after H-hour were planned to continue for 4 hours and to advance just ahead of the expected line of troop progress. In general, this plan was successful but the troops did not advance as rapidly as the barrage schedule. This required continuous modification of the schedule resulting in repeating fires in certain blocks and delaying the lifting of fires from others.

Shore fire control communications were arranged generally on the same basis as that which worked so successfully in past operations.

As in the past, one frequency was designated "Naval Gunfire Control Net" and used for all gunfire support requests and administrative traffic relative to naval gunfire, except as noted below.

An innovation was the designation of a frequency as the "Naval Gunfire Overload Circuit." This frequency was guarded by the OTC continually so that any ship or shore party concerned with naval gunfire could clear traffic to the OTC when the Gunfire Control Net was crowded. Routine matters such as ammunition reports and reports of firing by ships were handled on the Overload, and this left the main Control Net clear for more important matters.

Another innovation was the "Gunboat Control Net," a separate frequency to handle assignments, reports, and administrative traffic relative to LCI gunboat types, through their task group and unit commanders.

Control of VOF flights was maintained by the Air Spot Control Net (VHF) which was used to handle all administrative matters between the spotting planes and the Naval Gunfire Control Officer. Spotting was done on the regular frequencies and is discussed in greater detail below.

Initial call fire assignments and frequencies were assigned in the Schedule of Fires and were to become effective immediately upon the landing of the Shore Fire Control Parties.

In order to facilitate radio transmissions and prevent error in ammunition reports, a special list of code names was used for all types of ship ammunition including rockets and mortars.

For the close support of the landing, Fire Support Ships were assigned positions between and on the flanks of the landing waves and fire was scheduled as mentioned above. All ships were to maintain at least steerageway except those in the boat lanes while boats were passing. The latter were instructed to clear the boat lanes as soon after How-Hour as it was safe to do so. This fire was to be supplemented by 9 LCI(L)(3)(R)-(RCM)'s, and 18 LCI(M)'s from designated positions, and 12 LCI(G)'s and 12 LCS(L)'s which were to precede the leading wave. Twelve LCI(M)'s were available on call in reserve if needed.

LCI(M) MORTAR PLAN

The rapid rate of fire, high trajectory and long range of the 4"2 chemical mortar were considered to have considerable value for beach preparation fire and for deep support subsequent to How-Hour. Consequently, as recommended following the Marianas operation, an effort was made to

develop a craft mounting this weapon and capable of proceeding to the objective under its own power.

Three 4"2 chemical mortars were mounted on an LCI and experiments successfully covered all phases of loading and firing. Additional conversions were made, further tests conducted and standard plans drawn up for delivery of mortar fire.

The schedule of fires for close support prior to How-Hour on Dog-Day provided for mortar fire from designated positions on the flanks of the beaches and after How-Hour deep support, behind the beaches.

AIR SPOT PLAN

VOF planes of VOC–1, a specially trained observation squadron flying CVE-based fighter planes, were available for spotting purposes. These were to be used primarily with destroyers but were available to spot for larger ships if weather prevented use of float planes or if VO of VCS planes were not available.

Because of the high speed at which VOF aircraft travel, it was necessary for the spotter to control the time of firing so that he would be in a position to observe the fall of shot. This did not prove to be a serious handicap and there was no evidence that effectiveness or volume of fire suffered.

VOF planes had a primary and secondary spotting frequency upon which they could transmit and were unable to shift to any HF frequencies other that those two while airborne. A split phone watch was maintained so that a VHF frequency could be guarded simultaneously (Air Spot Control, SAD, FD, etc.).

CALL FIRES

Call fire assignments and communications in general functioned excellently though a bit more complicated than in the past by the addition of VOF spotting planes. The Shore Fire Control Party and air spot supplemented each other on the spotting frequency to achieve better results with the firing ship. In most instances where the plane's transmitter was off frequency, the Shore Fire Control Party and Fire Support Ship tuned their receivers as necessary to receive good signals. In a few cases, ships came up on VHF Air Spot Control Net to facilitate establishing communications on the spotting frequency.

For the first few days, regiments submitted requests for fire support directly to CTF 52 with resultant confusion and failure to utilize ships to the best advantage. Later it was possible to set up a system whereby divisions submitted requests to the Naval Gunfire Officer attached to Headquarters Landing Force afloat (and later ashore). Based on information previously given him concerning the number and type of ships available, one consolidated request was then submitted to CTF 52. Requests for day assignments were usually submitted prior to 1500 and for night assignments prior to 0400 in order to allow sufficient time to effect any changes or reliefs necessary.

Assignments were addressed by CTF 52 to the ship involved, Landing Force Naval Gunfire Officer, Division Liaison Officer and Regimental Liaison Officer who notified the Battalion Liaison Officer and shore fire control spotter. Frequency to be used, VOF call (if any) and sector from which fire was to be delivered were also designated in the assignment. CTF's 52 and 53 periodically checked the spotting frequencies to see that conditions were satisfactory and, if necessary, assisted in establishing communications.

ILLUMINATION

A large resupply of star shells was provided at the objective since it was anticipated that the demand would be great because of the many caves and irregular terrain which offered excellent opportunities for infiltration during the night. Expectations were fulfilled, for during the period Dog-plus-One through Dog-plus-Eight an average of over 1,000 star shells per night was used.

It is felt that much illumination is still being delivered unnecessarily because of lack of coordination between adjoining battalions in the call for star shells and the desire to maintain constant illumination throughout the night. The best judges of this, however, are division of higher commands ashore.

Notable by its absence was the complaint that empty star shell cases were falling within our own lines. This can be attributed directly to more careful control of line of fire due to greater familiarity on the part of the spotters with star shells and their characteristics.

The LCS(L)(3)'s and LCI(M)'s supported the landing by fire on the beach, behind the beach and on the flanks before and after H-hour. Some were under control of Shore Fire Control Parties

after H-hour. The greater part of enemy fire came from the flanks. The 40-mm. fire of the LCI's at caves and cliff areas on the flanks was effective in reducing enemy machine gun fire on the beaches, while rockets and mortar shells helped to keep down short range enemy mortar fire.

LCI(M)'s were very useful for delivering all-night harassing fire. Initially, three divisions were used nightly, gradually tapering off to one or part of one division. These LCI(M)'s usually came under fire from enemy coast guns and intermediate automatic weapon fire intermittently during the night, and it was necessary to detail a cruiser or destroyer to cover each division. None was hit but there were many near misses.

The LCI(L)(3)(R)(RCM)'s were used for harassing and interdiction fires but their rockets were soon exhausted. As there were no replacements available, the LCI(R)'s were used thereafter for RCM and anti-small-craft patrol duties and smoke craft. The rockets have the advantage of long range (4,000–5,250 yards maximum) but their uncertain flight makes the troops unwilling to have them fired over men or boats or very close to front lines.

LCS's were much used to shoot into the ravines which ran down to the coast. This was done at short range and under control of a Shore Fire Control Party or embarked troop officer. Experience shows, however, that the LCS can distinguish the position of our troops and the general situation ashore near the coast better than anyone ashore not in the front lines. Gradually the troops allowed them more and more initiative as their value became apparent. They should, however, always be under control of a Shore Fire Control Party for safety.

From: Commander Amphibious Group Two (CTF 53 and CTG 51.21)

4.5 rocket fire for beach preparation and close support of the landing was scheduled for delivery by the Gunboat Support Group consisting of two six-ship LCI(G) units and two six-ship LCS(L) units. The plan provided for initial rocket salvos to be delivered by these ships during the period How-minus-Ninety to How-minus-Forty-five for the purpose of detonating possible beach inflammables well in advance of the time troops would land. The plan also provided for two full rocket salvos to be delivered in close support of the leading wave. The first of these was to be delivered on the beach at How-minus-Ten-minutes after which launchers were to be reloaded and the second salvo fired 300 to 500 yards inland from the beach. Strafing by aircraft, scheduled to commence at How-minus-five-minutes, required the second 4.5 rocket salvo to be fired prior to this time.

To prevent early blanketing of supporting fire of two destroyers and a battleship stationed in the boat lanes, the plan prescribed that the four six-ship gunboat units proceed toward shore in unit columns ahead of the leading LVT assault wave. After passing the battleship-destroyer line, the gunboat units were to deploy into line for firing rockets.

Of the original 12 LCI(G)'s of Gunboat Support Units No. 1 and No. 2, only 3 were in condition to deliver the scheduled support on Dog-Day, the others having been lost or damaged by enemy fire on previous days. Units No. 3 and No. 4 consisting of 6 LCS(L)'s each were directed to increase their spacing on final deployment in order to cover the portions of the beach assigned by plan to the absent LCI(G)'s.

On completion of their rocket salvos at How-minus-Five-minutes, four LCS(L)'s of each of the two gunboat support units took position according to plan, opposite the flanks of the landing area and supported, with 40-mm. fire, battalions to which initially assigned. This fire was directed on the slopes of Suribachi Yama and the high flanking ground on the right of the beach. Until communications were established with assigned spotters ashore, fire was directed by replacement spotters previously embarked in one LCS(L) of each unit for this purpose.

Mortar Support Units No. 1, No. 2, and No. 5, consisting of six mortar LCI's, were assigned to provide scheduled flanking and deep supporting mortar fire as follows: Units No. 2 and No. 5, using plan "A," fired from How-minus-Thirty-five to How-minus-Seven-minutes on the eastern slopes and approaches to Suribachi Yama while Unit No. 1, using the same fire delivery plan, delivered fire on the eastern flank high ground during the same period. At How-Hour Units No. 2 and No. 5 in column, entered and crossed the boat lanes from the west, turned shoreward into line and followed the Sixth assault wave toward shore.

At about How-plus-Twenty-minutes, when 2,000 yards from shore all ships of these two units opened fire using plan B with mortar range set for 3,200 yards and swept a rectangular area 2,200 yards long by 1,000 yards deep as they moved in. Stopping and lying to 1,000 yards from shore, fire was then maintained 1,800 yards inland and parallel to the beach until How-plus-Sixty-minutes. At How-minus-Seven, Mortar Support Unit No. 1 shifted its line of fire farther to the east for safety to troops and resumed fire at How-plus-Ten-minutes firing at a reduced rate for neutralization until 1,300; 17,400 rounds of 4.2 mortar were scheduled for delivery in support of the landing by these three units.

RCM and Rocket Support Unit No. 1 consisting of nine 5.0 SSR Rocket LCI's, delivered scheduled neutralization fire on the Motoyama area from 0645 to 1300. All rockets on board these ships (a total of approximately 9,500) were delivered during this period, using standard plan RA from a reference point to northeast of the island. On completion of this fire, all fire support duties of this unit terminated for the remainder of the operation.

The eight LCS(L)'s assigned to flank battalions continued their close fire support missions throughout the day, replacement 40-mm. ammunition being obtained for them from heavy cruisers. For night support, four LCS(L)'s of Unit No. 3 were assigned to support battalions designated by Division Headquarters.

On completion of their scheduled fire, Mortar Support Units No. 1, No. 2, and No. 5 replenished mortar ammunition and joined Units No. 3 and No. 4 in area Roger awaiting assignment. Night harassing mortar fire requests from Headquarters Landing Force were fulfilled by assignment of Units No. 2 and No. 5 to cover prescribed areas throughout the night using standard plan A and varying the line of fire between specified limits. A total of 24,000 rounds of which 20 percent was WP, were delivered by these two units from reference points 1,000 yards off the northwest and southeast coasts of the island. Large caliber enemy counter fire was received by the northern unit, but was not intense or accurate enough to require the withdrawal of this unit.

LCS(L)'s of Unit No. 4 and LCI(G)'s available from RCM Unit No. 2 were assigned daily to support battalions designated by Headquarters Landing Force. Division intelligence officers, specially trained observers, and naval gunfire liaison officers were frequently embarked in ships for reconnaissance and specific fire missions along the shore lines in advance of troop movement. On March 8 all LCS(L)'s departed the area. On March 12, in anticipation of possible attempt by the enemy to effect evacuation of high ranking Japanese by submarine, an LCI(G) was ordered to patrol the coast line beyond our lines to observe for and prevent any such attempt. This patrol was continued nightly thereafter until the island was secure.

One Mortar Unit continued to be assigned each night to deliver harassing fire. Enemy counter fire continued to require the assignment of a destroyer or cruiser to provide support for the harassing unit. On departure of Units No. 1, No. 2, and No. 5 from the area on February 26, Units No. 3 and No. 4 were reorganized into five-ship divisions. Due to the reduced size of the remaining units and their inexperience in plan A fire delivery, night harassing fires were hereafter delivered using plan C. On 28 February, two more mortar LCI's departed the area, leaving two four-ship units available for mortar fire. On 27 February and for several days thereafter individual mortar LCI's were assigned during daylight to provide direct support to battalions designated by Headquarters Landing Force.

The remaining area into which night harassing fire could safely be delivered, required the employment of only one mortar LCI on the night of 1 March. Thereafter harassing fires at night by these ships was discontinued. On 3 March all remaining mortar LCI's departed the area.

Ammunition expenditures by LCI types exclusive of pre-Dog-Day expenditures, were as follows:

4.2 mortar	60,000
4.5 BR rockets	8,000
40-mm	116,000
5.0 SSR rockets	9,500

GUNBOATS (LCI(G)'s AND LCS(L)(3)'s)

Heretofore in Central Pacific operations the ship-to-shore movement support by LCI gunboats has consisted of one full rocket salvo delivered on the beach at about How-minus-Ten minutes. At Iwo Jima the gunboat group made an early run toward shore between How-minus-Ninety and

How-minus-Forty-five and delivered initial rocket salvos in an attempt to detonate possible inflammables on the beach well in advance of the time of landing. Another innovation at Iwo Jima was the loading and firing of a second rocket salvo during the ship-to-shore movement of the leading wave. The gunboats fired their first salvo at How-minus-Ten minutes as in past operations, then reloaded rocket racks as they moved in to a range of 600–700 yards from the beach and fired a second salvo at How-minus-Five minutes placing this salvo 300 to 500 yards inland. Since 4.5 rocket fire is more neutralizing than destructive and since its short range prevents its use for neutralization of inland areas, its use has rarely been requested after a landing. The best employment of 4.5 rockets therefore is beach neutralization just prior to the landing and their employment for initial and additional salvos at Iwo Jima is recommended for future landing support.

Prearranged fire schedules provided for the initial assignment of one gunboat unit to support each of the two flank battalions on the beach. Replacement naval gunfire liaison officers and spotters were embarked in the gunboat unit flagship to direct the fire until communications were established with the spotter ashore. This plan provided an excellent neutralizing fire on the flanks of the landing beach and was found to be so effective that the Landing Force requested continuous assignment of one or more gunboats to the battalion on the flanks of the front line for the remainder of the operation.

MORTAR LCI's

This was the first operaton in which LCI's mounting mortars have been employed by the Fifth Amphibious Force. Their primary mission, as conceived in the initial planning, was the delivery of heavy harassing fire at night to prevent the initiation of organized counterattacks. Their support with this fire was most gratifying and materially reduced the demands for harassing fire by destroyers and cruisers.

Two methods of delivering harassing mortar fire at night were employed at Iwo Jima: (1) Plan A of the standard mortar fire plans, in which five LCI's steam on an eliptical track around an LCI acting as reference ship. Ships fire singly in succession during the two minutes' run on the leg on which they are pointed toward the target area. (2) Plan C in which the six LCI's of a division lie to on a line, 200 yards between ships, and fire when the ship's head is between prescribed limiting lines of fire. Both plans have many advantages and disadvantages. Since it is next to impossible to hold an LCI on an accurate heading for a long period when dead in the water, plan C is unsuitable for interdiction fire where continuous and fairly accurate fire along a definite line is required. Harassing fire, which requires irregular volume and rate of fire with an unsystematic pattern and coverage of the area harassed, is especially typical of the fire to be expected of six LCI's dead in the water all on different headings between prescribed limits. (Plan A, on the other hand, has all the fire delivery characteristics most suited for interdiction fire and least suited for harassing fire.

The 3,200-yard range limit of LCI mortar fire requires these ships to approach as close to shore as safe navigation permits in order to place their fire as far inland as possible. On a well defended island such as Iwo Jima, this close approach to shore drew considerable enemy fire even at night. LCI mortar ships found good use for their bow 40-mm. in delivery of counterbattery fire in self-protection, but this was found insufficient and it became necessary to assign one of the general support destroyers or cruisers to cover the nightly harassing mortar LCI unit. In making plans for delivery of night (or day) harassing fire by mortar LCI's, the plans should incorporate the employment of a destroyer, for counter-battery protection of the harassing unit. This ship should work with the Mortar Unit Commander on a common frequency.

On request, individual mortar LCI's were assigned to battalions for direct support, generally to those battalions whose flanks were along the shoreline as in the case of gunboat support. Preliminary reports indicate that this support was more in the form of harassing or neutralization fire for the battalion supported. In rough water, the accuracy of LCI mortar fire in deflection is greatly decreased by rolling and cannot be safely called for in areas close to own troops. LCI mortar fire for direct support should therefore only be expected to accomplish harassing or preparation neutralizing fire for an advance into areas within range of the LCI mounted mortar.

While the accuracy in deflection of mortar fire from LCI's is greatly affected by rolling and variations in ship head, its accuracy in range is quite dependable and relatively unaffected by motion of the ship. It is therefore very suitable for neutralizing fire over the heads of troops when the line of fire is perpendicular to the line of troops. Its high trajectory makes it ideal for use when ships and troops located between the target and firing ships preclude the use of high velocity flat trajectory fire. At Iwo Jima, the neutralization of large areas inland from the beaches was effectively delivered by mortar fire from LCI's on a line parallel to and 1,000 yards from shore. This fire was not provided however, until How-plus-Twenty minutes. Using Plan B with desired modifications, mortar LCI's should be employed in the boat lanes to provide beach neutralization just prior to the time the first wave leaves the line of departure and during its run to the beach. They should precede the first wave by any desired distance, stop and lie to not less than 600 yards (minimum firing range) from shore, and continue mortar fire on the beach until the first wave is about 200 yards from shore. At this time the fire should be lifted about 200 to 500 yards inland and lifted in predetermined steps thereafter according to a prearranged time schedule based on anticipated troop advance. This type of moving close support was provided at Iwo Jima using 5″/38 AA Common fire with 1,200-foot second charges.

From: Commander Cruiser Division Thirteen

The enemy knew from the terrain that the landings would have to come on the southeastern or southwestern beaches. He planned his defenses to resist to the utmost the advance up the long axis of the island.

(*a*) He built defenses with an eye to naval gunfire, particularly to close fire. The terrain lent itself admirably. Few positions were built which could be reached by close-in fire because the trajectories were too flat at short ranges.

(*b*) He also built against bombing by constructing a surprising number of small strongpoints, interconnecting but individual, so that bomb damage would be confined to a small area. That is, he dispersed but multiplied defense positions.

(*c*) He played a very intelligent game in the use of weapons prior to and after the landing. He made all his guns count, seldom fired unless he had a good target; kept his flak positions concealed. He hid his mortars, antitank and inactive guns, until they could be used to advantage.

(*d*) Thus he concealed his strength so that on D-day the United States High Command was in a good deal of doubt as to what the opposition would be despite the long period of softening up and the vast amount of effort expended in advance.

From: Commander Task Force Fifty-four—Commander Amphibious Group Eleven

It was obvious from the outset that the enemy defensive situation was one of the strongest yet encountered in this theater; that blockhouses, pillboxes, and caves were constructed and situated not only to meet a land attack but to withstand heavy naval gunfire. Moreover, the enemy must be credited with unusual and painstaking concealment of vital defenses and gun positions. Our intelligence photos were good but they could not be expected to show what neither the eye nor the camera lens could see.

Against such defenses, long or medium-range gunfire simply is not effective, and a tremendous amount of valuable ammunition can be wasted in general area fire. The reasons are twofold: First, the above mentioned concealment and camouflage make the location of targets possible only at very close range; above-target plane observation is not very effective for this purpose. Secondly, even when discovered, targets are so reinforced by a mass of earthworks that extremely heavy close range fire is required to uncover them before the essential job of destruction is begun; area fire seems to have had a very limited effect in this regard. Though a certain amount of general area fire is necessary initially to shake up the enemy and permit approach to closer ranges, doctrinal trust in neutralization fire may have to be revised.

The hard unpleasant fact must be acknowledged that direct hits must be scored repeatedly. This necessitates close point-blank ranges and acute observation. Naturally, this involves the threat of coast defense guns, but the risk of enemy hits may have to be accepted to do the job. At Iwo Jima enemy fire on our heavy ships was unexpectedly light even though firing positions less than 2,000 yards off shore were frequent after Dog-minus-3-Day. Observation of the medium

range bombardment executed on Dog-minus-3 showed little apparent damage.

From: Commanding Officer U. S. S. "Tuscaloosa" (CA)

It is believed that more attention and time should be devoted to *training* gun pointers and trainers in elementary pointer fire. Pointer fire appeared to be far below the peacetime standard of the old short range battle practices. The present emphasis in training is almost entirely on the various methods of director control which, of course, are the primary methods of shooting. However, well-pointed local control fire can be effective at close ranges, and occasion will arise when director control is not available.

From: Commanding Officer U. S. S. "New York" (BB 34)

The construction and positioning of defensive installations such as pill boxes, blockhouses, coastal batteries, and antiaircraft installations necessitated in every case a direct hit or many near hits to complete their destruction. Spotting on the 16th and 17th was by ship's planes and on the 18th range was closed to 1,750 yards, and spotting was by both plane and ship. The last day of bombardment was most effective because of the great facility with which targets could be identified and salvos could be spotted, and also because of the large quantity of ammunition expended on targets by the 14"/45 caliber and 5"/51 caliber batteries.

From: Commanding Officer U. S. S. "Nevada" (BB)

The enemy installations on Iwo Jima were very well camouflaged and of very heavy construction. The larger ones could be destroyed or severely damaged only by repeated hits with the main battery. At ranges from 1,500 to 2,500 yards these targets could be distinguished by ship's spotters and gun pointers and trainers. Pointer fire was most effective as the fall of shot and results could be clearly seen. Most of the damage done to enemy installations by *Nevada*'s gun fire was accomplished at short ranges with pointer fire.

The 40-mm. battery was used against a variety of targets including caves, suspected machine gun emplacements, light artillery emplacements and on one occasion against a small number of enemy personnel. The 40-mm. fire was believed to be effective only as a harassing agent. On the one occasion against enemy personnel, about six men were observed abandoning a damaged block house and were strafed with 40-mm. fire.

From: Commanding Officer U. S. S. "Pringle" (DD 477)

Fire support area was overcrowded and in the later phases wedged tight inshore between the transports. With a cross wind and current the problem of holding the proper heading was very difficult. The firing bearings at low elevations for the DD445 class are quite limited. To avoid having to swing ship with a loaded gun, it is necessary to consult some elaborate firing cam data before giving the order to load. No answer can be given to the problem, but to have the figures on hand, watch how the ship is swinging and load accordingly. The decrease in the rate of fire is unavoidable.

From: Commanding Officer U. S. S. "Van Valkenburgh" (DD 656)

During the bombardment, this vessel closed within 600 yards of the beach in order to pick up targets visually, but with little or no success. Targets were evidently well obscured and observation by the shore fire control party was very difficult, most of the time impossible. White phosphorus was used almost continuously, while it lasted, to aid the spotters. This vessel received no fire from shore installations, but observed some mortar and machinegun fire from the beach in other fire support sectors.

From: Commanding Officer U. S. S. "Bennett" (DD 473)

The commanding officer was distressed by the failure of certain "Oboes" and "Charlies" to realize the critical ammunition situation. On 22 February, between 0835 and 0910, this vessel, in accordance with instructions of the "Oboe", fired rapid four-gun salvos for preparation fire. The fire was unobserved. Three times the "Oboe" was informed of the continuing fire, and three times orders were received to keep it up. When fire was checked at 0910, a total of 587 rounds of AA common had been expended. It is realized

that a high rate of fire is necessary in preparation fire, but it is believed this expenditure was excessive for an unobserved area of doubtful targets.

On 27 February an "Oboe" ordered this vessel to fire one two-gun salvo per minute (harassing fire) until further notice and then checked out of the net. He was off the net from 1235 to 1356. The commanding officer questions the wisdom of such a practice, not only because of excessive expenditure of ammunition, but also because of the danger of unobserved, uncontrolled fire near our own lines.

From: Commander Mortar Support Group 52.6 (Commander LCI Flotilla Twenty-one)

Plan ABLE consists of sustained fire covering a comparatively narrow target area and capable of extension in range. This plan is best adapted for close supporting fire (flank protection), harassing and interdiction fire. This plan of fire is delivered from a predetermined reference point around which the ships circle, delivering fire when the firing ship is headed toward the target area. The ships circle in both clockwise and counterclockwise movements, depending on the tactical situation.

Plan BAKER consists of a barrage fire covering a wide target area and capable of progressive movement in range. It is best adapted for neutralization fire and close support fire over and beyond our own troops. This plan of fire is delivered from a predetermined point with the ships that are firing disposed on a line of bearing parallel to the desired range median of the barrage or in line abreast formation.

Plan CHARLIE consists of independent or minor concentration fire covering point targets or targets of opportunity. It is best adapted for harassing fire, counter-battery fire, interdiction fire, and incidental destruction fire, particularly that requiring high trajectory. It is conducted by single or several ships whose fire may or may not be coordinated depending on assignment and is delivered from a reference point and bearing from the designated target area.

All target areas and fire plans in connection with the mission were contained in the Operations Plan, up to and including H-hour-plus-60. Subsequently, target fire and smoke missions were assigned.

At the outset of the mission it was assumed that preliminary naval and air bombardment had effectively silenced coastal defense and shore batteries that could possibly interfere with the carrying out of this group's mission. This assumption was subsequently found to be true. Sporadic mortar and machine gun fire was encountered however, which interfered with our operations on several occasions.

From: Commander Amphibious Forces, United States Pacific Fleet (Commander Joint Expeditionary Force)

GENERAL EFFECT OF NAVAL GUNFIRE BOMBARDMENT

Practically all enemy fixed installations capable of firing upon the landing beaches or transport areas and boat lanes were well covered and either destroyed or neutralized prior to How-Hour as evidenced by lack of opposition to the landing of first waves on all but Red Beaches. Many of the installations in caves or strongly reinforced positions were destroyed regardless of ammunition expenditure. A few fixed installations were later put back into commission and caused trouble for short periods.

The following lessons are either new or received additional emphasis at Iwo:

(*a*) Enemy mortars are very difficult to locate and destroy.

(*b*) Indirect naval gunfire is inaccurate when firing to hit on hill tops with indirect fire. This is because of long range and unknown inequalities of terrain.

(*c*) Guns emplaced in caves are difficult to destroy even when location is known.

(*d*) Observation of SFCP's is inaccurate in rolling and irregular terrain, and when greatly displaced laterally from the gun-target line. The SFCP's should therefore be located on the highest points, and as close as possible with respect to the gun-target line.

(*e*) Enemy powder produces little or no smoke and flame. SFCP's planes and ships therefore have difficulty in locating enemy guns. On the other hand, our powder causes much smoke and flame, both afloat and ashore.

(*f*) For destroying heavy emplacements and other vertical targets, very short range deliberate fire is required. This does not mean that long

range plunging fire is not advantageous under certain other condition.

Ammunition Resupply and Expenditure Data

The following table gives the amounts of ammunition replaced and expended at Iwo Jima:

Resupply	16" HC	14" HC	12" HC	8" HC	6" HC	5" AAC	5" Star	5" Rkt	4.5 BR	4.2 Mor
From assault ships	.....	.....	.....	5,400	.....	27,500	1,500	.....	.....	32,000
From AE's and AKE's	.....	400	.....	1,300	2,750	46,000	4,800	.....	.....	.....
Total resupply	.....	400	.....	6,700	2,750	73,500	6,300	.....	.....	32,000

Expended	16" HC	14" HC	12" HC	8" HC	6" HC	5" AAC	5" Star	5" Rkt	4.5 BR	4.2 Mor
D-minus-3 to D-day	.....	3,300	1,000	3,500	1,900	14,000	200	.....	.....	.....
D-day	1,950	1,500	400	1,700	2,000	31,000	1,500	12,000	8,000	20,000
D-plus-1 through D-plus-17*	450	900	.....	6,200	4,500	102,000	13,000	.....	2,000	50,000
D-plus-18 to D-plus-35	.....	.....	.....	300	.....	5,000	3,000	.....	.....	.....
Total expended	2,400	5,700	1,400	11,700	8,400	152,000	17,700	12,000	10,000	70,000
Tons	2,280	3,640	520	2,020	440	4,160	.....	270	145	875
Total tons 14,250.										
Statistics										
Average daily rounds of call and harassing fires D-plus-1 through D-plus-17	26	53	0	341	265	6,000	765	0	118	4,550

*LCI(M)'s departed D-plus-12.

It is interesting to note that a total of 14,250 tons were fired at Iwo Jima as compared with 10,965 tons at Saipan.

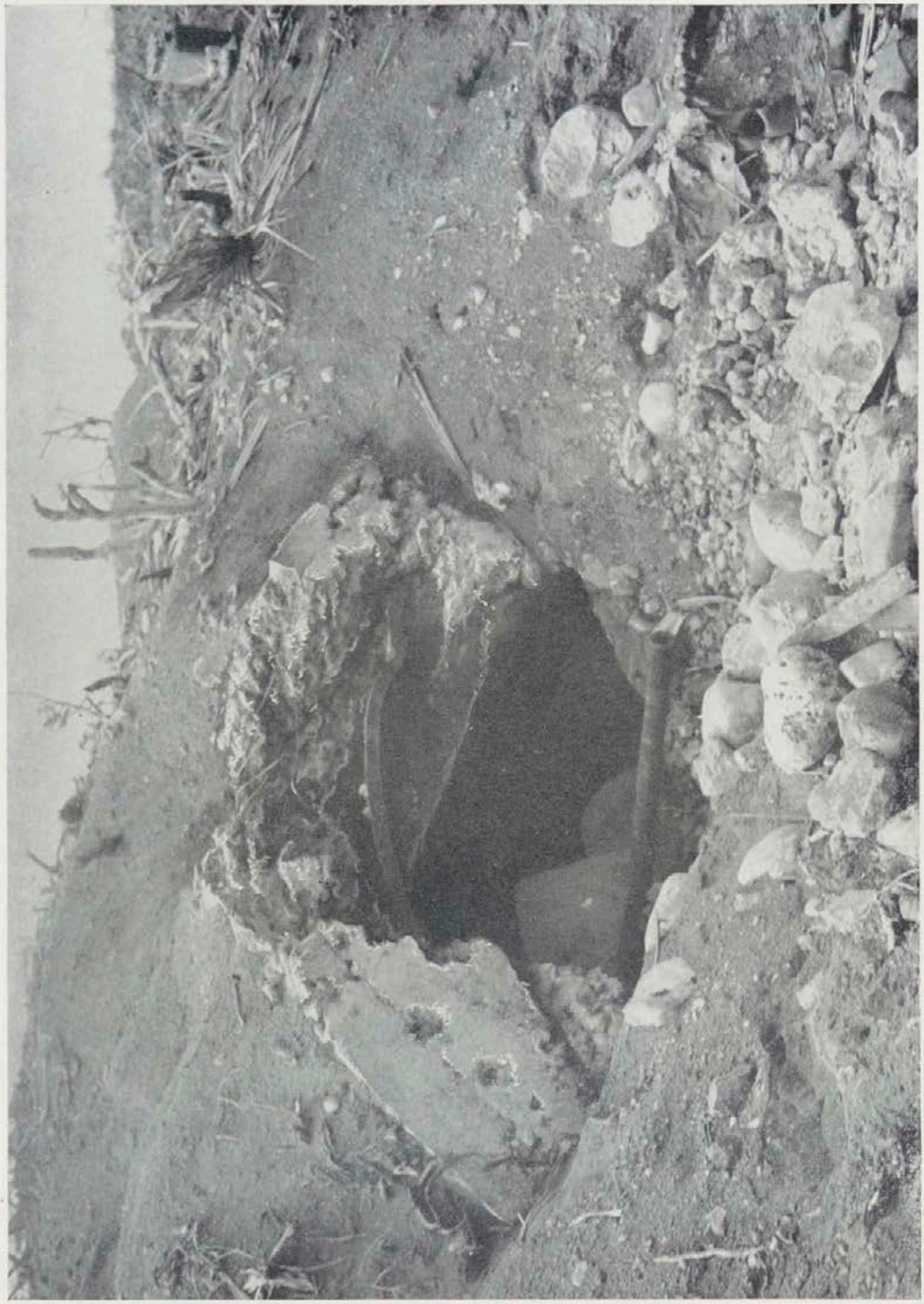
659889—45——5

HEAVILY PROTECTED DEFENSES DESTROYED BY DELIBERATE CLOSE RANGE NAVAL GUNFIRE

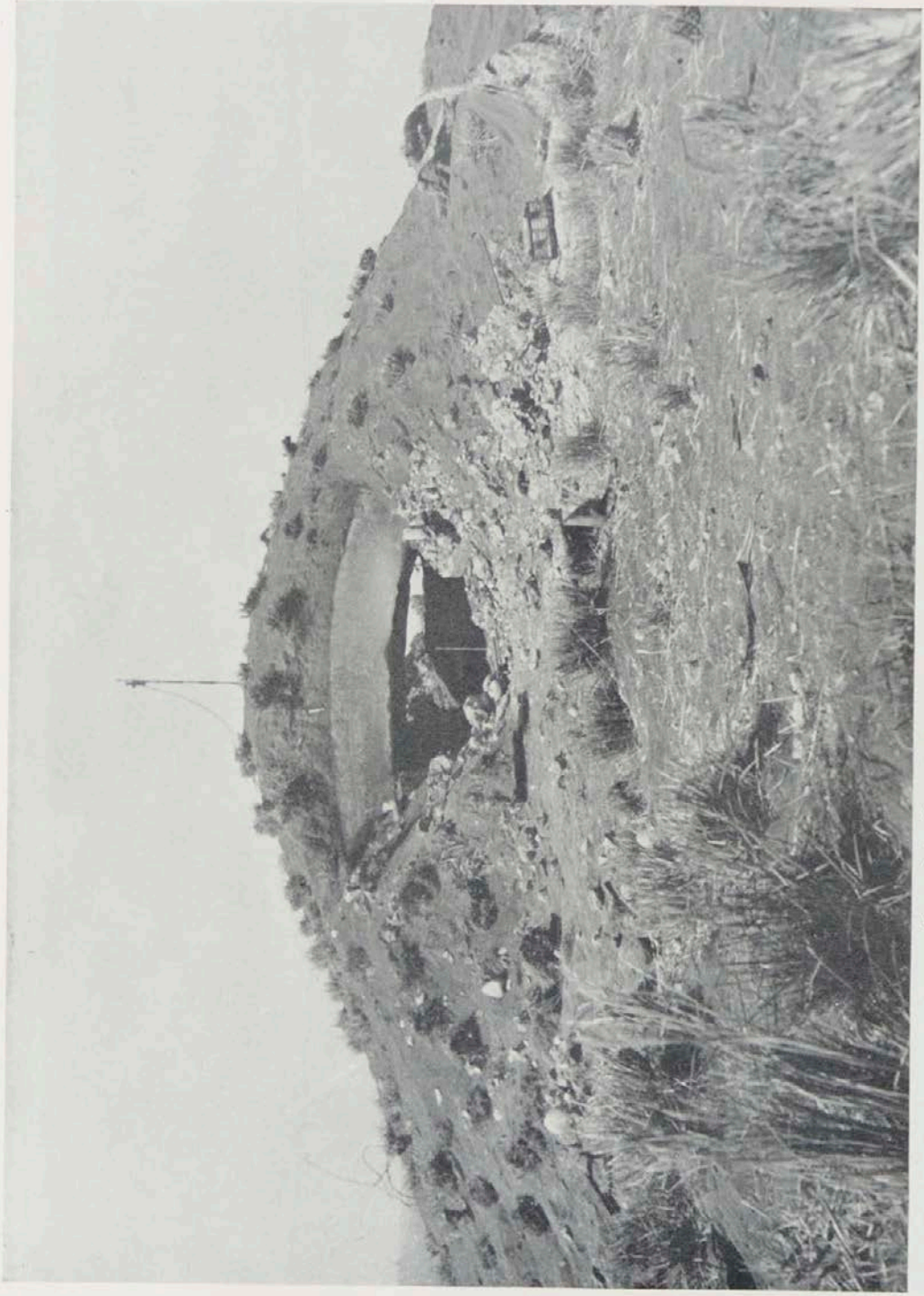
Reinforced Concrete Pill Box

Pillbox With Machine Gun.

Covered Artillery Position.



Reinforced Concrete Gun Position.

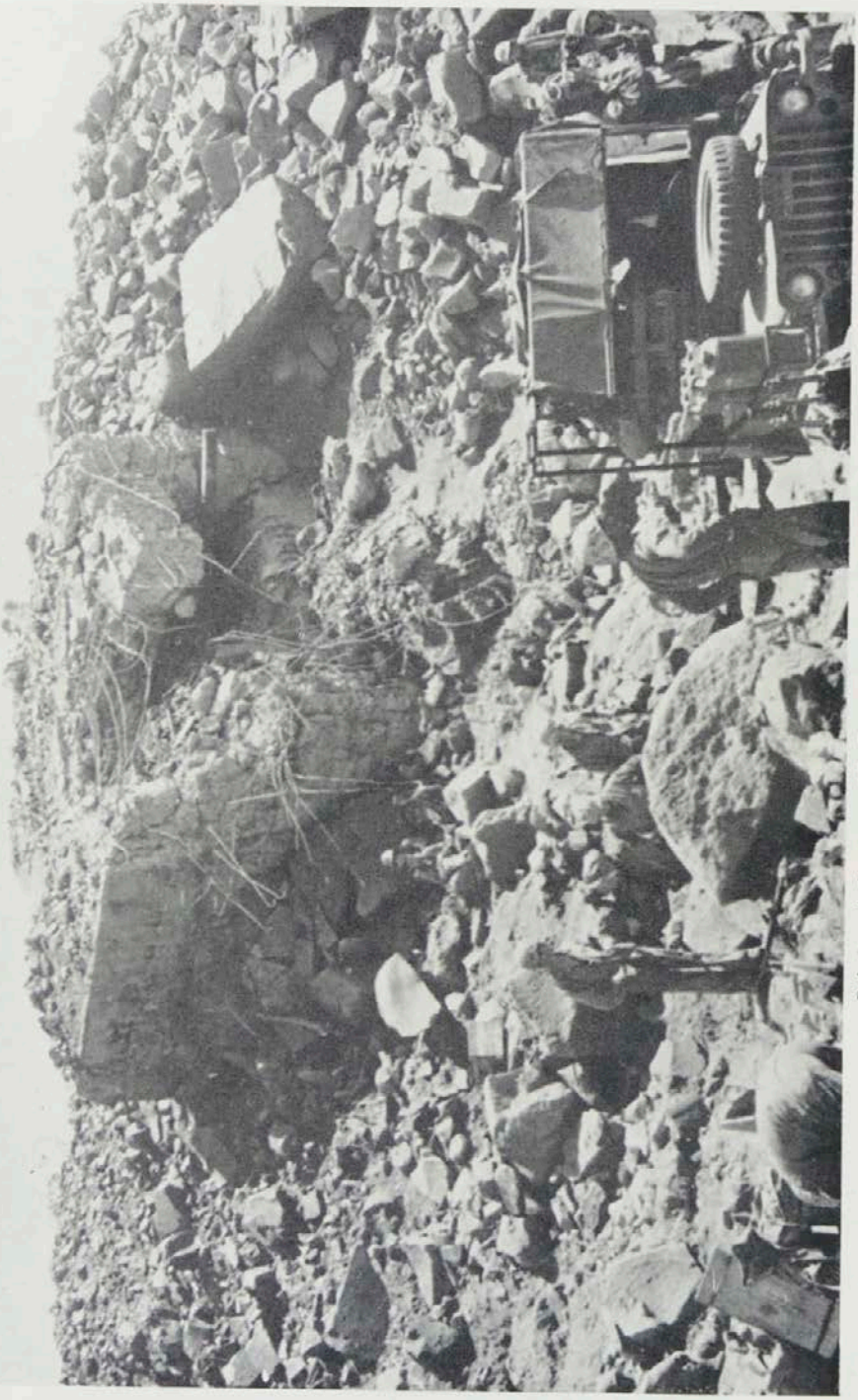


Covered Artillery Position. Note Concrete and Planted Grass.

Battery at Base of Suribachi.

Battery at Base of Suribachi.

Coastal Defense Gun.



Reinforced Concrete CD Emplacement, TA 183X D-Plus-14.