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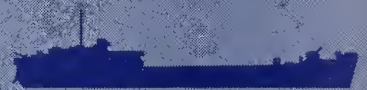


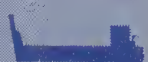
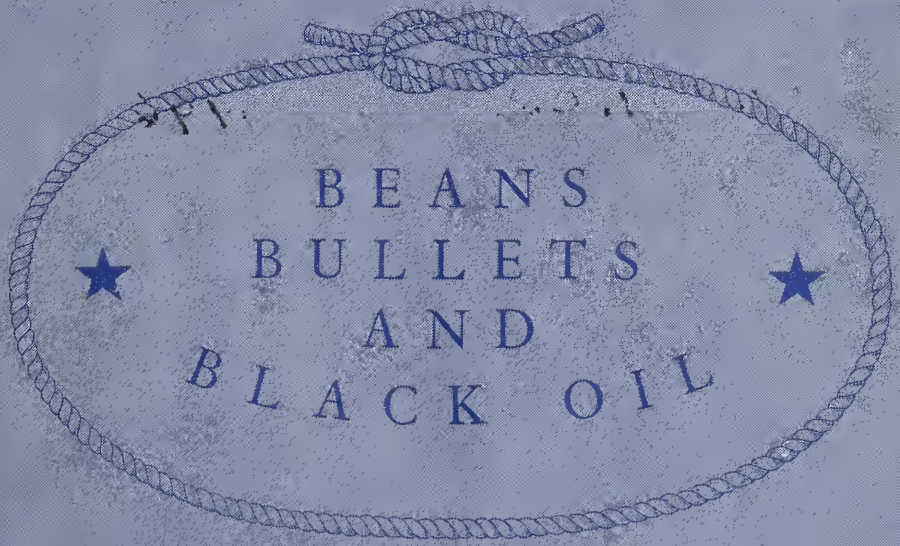
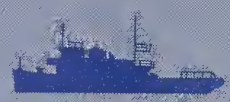
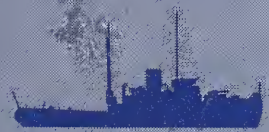
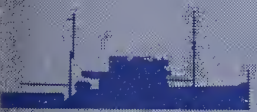
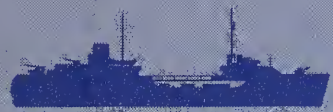
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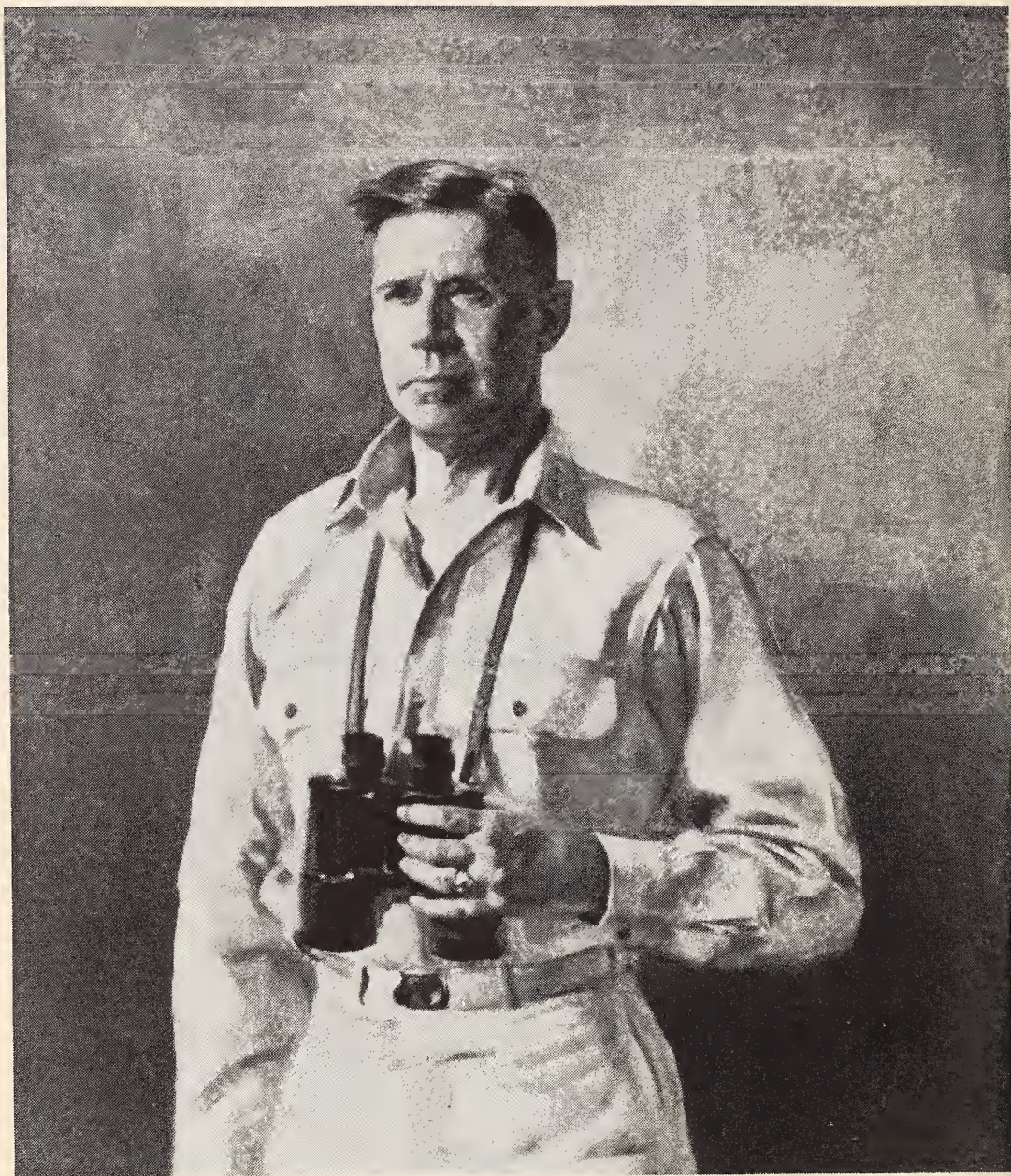




Beans, Bullets and Black Oil is a story about the logistic services supplied to U. S. naval forces, by means of floating facilities, in the operating areas in the Pacific, 1941-45. It is a well-written history of naval logistics afloat in the Pacific during World War II.



LOGISTICS



Admiral Raymond Ames Spruance, USN

THE STORY OF FLEET LOGISTICS AFLOAT IN
THE PACIFIC DURING WORLD WAR II

Beans, Bullets, and Black Oil

by

REAR ADMIRAL WORRALL REED CARTER
USN (Retired)

with a Foreword by

THE HONORABLE DAN A. KIMBALL

The Secretary of the Navy

and an Introduction by

ADMIRAL RAYMOND A. SPRUANCE, USN (Retired)

*who helped turn back the Japanese at Midway and later took
from them the Gilberts, Marshalls, Marianas,
Iwo Jima, and Okinawa*

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Foreword

VICTORY IS WON or lost in battle, but all military history shows that adequate logistic support is essential to the winning of battles.

In World War II, logistic support of the fleet in the Pacific became a problem of such magnitude and diversity, as well as vital necessity, that all operations against Japan hinged upon it. The advance against the enemy moved our fleet progressively farther and farther away from the west coast of the United States, from Pearl Harbor, and from other sources of supply. To support our fleet we constructed temporary bases for various uses, and we formed floating mobile service squadrons and other logistic support groups. These floating organizations remained near the fighting fleet, supplying food, ammunition, and other necessities while rendering repair services close to the combat areas. This support enabled the fleet to keep unrelenting pressure upon the enemy by obviating the return of the fleet to home bases.

Because of the knowledge gained during his South Pacific service and particularly from his experience as Commander of Service Squadron Ten, the largest of the mobile squadrons, Rear Admiral W. R. Carter was chosen to write this history of logistics afloat in the Pacific. The opinions expressed and the conclusions reached are those of the author.



DAN A. KIMBALL

Secretary of the Navy

6 February 1952



Introduction

by Admiral Raymond A. Spruance, USN (Retired)

A SOUND LOGISTIC PLAN is the foundation upon which a war operation should be based. If the necessary minimum of logistic support cannot be given to the combatant forces involved, the operation may fail, or at best be only partially successful.

In a war, one operation normally follows another in a theater and each one is dependent upon what has preceded it and what is anticipated. The logistic planning has to fit into and accompany the operational planning. The two must be closely coordinated, and the planners for each must look as far into the future as they can in order to anticipate and prepare for what lies ahead. ☆

A history of the sum total of American logistics during World War II would be forced to cover a tremendous field. The present volume deals only with naval logistics in the Pacific. As such, its scope is limited to a not-too-great portion of our entire national logistic effort. However, the area involved—the Pacific Ocean—is the one where our maximum naval effort was expended. Distances in that ocean were very great, and the resources available to us from friendly countries in the Western Pacific were comparatively minor, in both variety and quantity. Nearly everything our forces required had to come from or through the United States, with the exception of the large amounts of petroleum products originating in the Caribbean area and moving west through the Panama Canal.

The study of our naval logistic effort in the Pacific, as outlined in the present volume, brings out our dependence on both shore bases and mobile floating bases such as are exemplified by Service Squadron Ten. Each had its advantages, and neither alone could have done the job.

In the early days of the war, when the fighting was principally in the South and Southwest Pacific, we had around our bases good-sized land masses, which permitted the construction of shore facilities. Shipping then was scarce and at a premium, and large numbers of ships could not be spared for conversion to the special purposes of a mobile floating base. Furthermore, our advance against the enemy then was not so rapid

in its movement as it became later. Shore bases continued to be close enough to the fighting front to retain practically their full usefulness.

When we started planning in the summer of 1943 for operations in the Central Pacific, it was obvious that the geography of the area which we hoped to capture had characteristics very different from those of the South Pacific. We did not know how fast we would be able to move ahead, but we did know that in the Gilberts, Marshalls, and Carolines, many of the islands had splendid protected anchorages in their lagoons. However, the land areas surrounding the lagoons were very small. These islands were only large enough, as a rule, to enable us to construct the always necessary air strips and to take care of the requirements of the atoll garrison forces. Truk, which we bypassed, in the Carolines, was an exception geologically in that there were some fairly large but rugged islands in the middle of its magnificent lagoon. Exceptions also were Kusaie and Ponape, which were large rugged islands without any protected anchorages big enough to be of interest to us. The Marianas we knew had some good-sized islands in the group, but we also knew that not one of them had a protected anchorage large enough for fleet use.

This geography meant that the logistic support for our fleet during operations in the Central Pacific would have to be primarily afloat, in what developed into the mobile service squadron—first Service Squadron Four at Funafuti in the Ellice Islands and then Service Squadron Ten at Majuro in the Marshalls. The small beginnings of the idea in Service Squadron Four were absorbed into Service Squadron Ten soon after the latter came into being in February 1944 at Majuro.

The growth of Service Squadron Ten, its movement across the Pacific to successive bases at Eniwetok, then Ulithi and then Leyte, and its continuous and most efficient service to the fleet at these and numerous other bases where it stationed ships and representatives as our operations demanded, are achievements of which all Americans can be justly proud, but about which most of them have little or no knowledge.

The actual furnishing of logistic support to ships at sea is an essential part of this picture. At first it was confined to fuel, but as we pushed westward toward Japan and as the tempo of our operations increased, our fleet had to remain for longer and longer periods at sea. This reached its peak in the Okinawa operation, which lasted for over 3 months and during all of which it was necessary to keep strong fleet forces from the fast carrier force in a covering position. The fine work of Service Squadron Six under Rear Admiral D. B. Beary, USN, enabled this to be done.

The author of this book, Rear Admiral W. R. Carter, USN (Ret.), is well qualified by experience to write about naval logistics in the Pacific during World War II. At the outbreak of war and during its early months he was Chief of Staff to Commander Battleships Pacific Fleet, Rear Admiral Walter S. Anderson, USN. When that command changed, Captain Carter (as he was then) was most insistent that he remain at sea in the Pacific, and if possible that he be sent wherever there was fighting. His demands resulted in his being sent to the South Pacific in the fall of 1942, where he became Commander Naval Bases. Here he helped to build up the shore bases which supported our early operations in the Solomons. Later, after a South Pacific organizational change which originated in the Navy Department, he returned to Pearl Harbor and was then sent to the Aleutians. After returning to Pearl Harbor, he worked up on paper the organization of Service Squadron Ten.

At the time of the Marshalls operation Captain Carter secured a billet as a convoy commodore, which was consistent with his idea of getting closer to where the fighting was going on. When I found him in this capacity at Majuro shortly after we had taken Kwajalein, I told him to find a relief for his convoy billet and to start building up Service Squadron Ten at Majuro, which he did.

From February 1944 until July 1945, "Nick" Carter continued to run Service Squadron Ten and did a magnificent job, often under great difficulties. Just before the end of the war, Carter was ordered to Washington for a medical survey over the vehement protests of Admiral Nimitz and others in the Pacific. After being found physically fit he asked for reassignment to the Pacific, but the war ended before action could be taken on his request.

Commodore Carter was fortunate, as were all the rest of us, in having at all times the intelligent, generous, and wholehearted support of Vice Admiral W. L. Calhoun, USN, who as Commander Service Force in Pearl Harbor was Carter's immediate superior. Bill Calhoun's loyalty up to his boss, Admiral Nimitz, "down" to all his own command in the Service Force, and "sideways" to all the rest of us who needed his help and support, was something that could always be depended upon. Under the leadership of Admiral Nimitz, we had a combination that could—and did—go anywhere in the Pacific.

A handwritten signature in black ink, reading "R. A. Sparance". The signature is written in a cursive, flowing style with a large, sweeping flourish at the end.



Preface

THIS IS NOT A STUDY in logistics. It is more a *story of logistics*. It is a story about the logistic services supplied to U. S. naval forces in the operating areas in the Pacific, 1941-45. It is largely an account of services rendered by means of floating facilities. It does not go into the magnificent production and supply by the industrial plants, shipyards, and naval bases of continental United States and Hawaii which made possible the floating bases of distribution and maintenance. This is a story of the support of the fleet into the far reaches of the Pacific in its campaign against the Japanese. It is the story of the distribution to the fleet of the sinews of war, at times, at places, and in quantities unsuspected by the enemy until it was too late for him to do much to oppose it. This book has little or nothing to say about the building, equipping, and fitting out of new vessels, or the manufacture and shipping of the thousands of tons of thousands of different items by continental sources, without which colossal accomplishment there could have been no drive across the Pacific. This account does not attempt to furnish complete statistical figures; such statistics are matters for the technical bureaus of the Navy. This is, rather, an attempt to spin a yarn of the logistics afloat in the Pacific Fleet, in order that those interested in naval history may realize that naval warfare is not all blazing combat.

I have been helped by several people, but most of all by Rear Admiral E. E. Duvall, USN (Ret.), my former Chief Staff Officer in Service Squadron Ten. Mere acknowledgment of the work he has done would be an injustice. He is practically the co-author and has furnished me with many useful suggestions. Just as he was ever ready to tackle patiently any assignments during the war, so has he worked with me on this book. Duvall designed and made preliminary sketches for the sea-horse emblem, the spine, charts, and end-papers of the book.

My thanks go to Miss Loretta I. MacCrimble, Head of the World War II Classified Records Branch, Division of Naval Records and History, and her assistant, Miss Barbara A. Gilmore, for their help in digging up material from the acres of filing cabinets and for their tolerance of my disorderly use of it.

I am indebted to Miss Mary Baer, the Film Librarian at the Navy

Photographic Center, for helping me with the illustrations.

The student cartographers under the direction of Mr. Leo M. Samuels and Mr. Fulton G. Perkins of the Hydrographic Office helped me with the charts.

The early typing was done by Miss Shirley Zimmerman, who proved herself almost a cryptanalyst in reading my writing. Norman L. Clark and Maurice O'Connor helped. The rewrite typing was done by YN3 Johnnie J. Freeman. I thank them all.

Rear Admiral John B. Heffernan, USN (Ret.), the Director of Naval Records and History, who got me into this history writing but who is not to be held responsible for anything found amiss herein, has been my boss and my backer. Without the facilities and encouragement which he has furnished me this neophytic effort would have failed.

This work originated in a request from the President of the Naval War College, Newport, R. I., and the project was approved by the Chief of Naval Operations on the recommendation of Vice Admiral R. B. Carney, then Deputy Chief of Naval Operations for Logistics. The project has continued to receive the support and encouragement of Vice Admiral F. S. Low, now Deputy Chief of Naval Operations for Logistics.

The original manuscript on file with the Division of Naval Records and History which is much larger, goes into greater detail, and has a larger appendix section, is retained for official use. Commander A. S. Riggs, USNR, read the manuscript and did much of the work of cutting down to a more popular version and size. For his work I am very thankful and appreciative. It was not easy. For the final editing I am much indebted to Mr. L. R. Potter.

The sources of this book are official naval records, such as war diaries, logs, operation plans, and action reports, and therefore it is thought unnecessary to give individual case authentications to which very few readers ever refer and which make for a great deal more printing and crowding of pages. A glossary has been included to acquaint the reader with the meaning of certain abbreviations and terms.



W. R. CARTER
Rear Admiral, USN (Ret.)

WASHINGTON, D. C.

8 October 1951

Contents

	<i>Page</i>
I Pre-World War II	1
II The Service Force	7
Laboring Giant of the Pacific Fleet	7
III Early Activities	11
Asiatic Fleet in Dutch East Indies	12
Logistics of Raiding Forces	17
Coral Sea	21
Midway	21.
IV In the South Pacific	23
Taking the Offensive	23
Guadalcanal	28
Logistic Outlook	30
V Logistic Organization and Sources, South Pacific	35
Damages and Repairs	35
VI Building Up in the South Pacific	49
VII The Southwest Pacific Command	63
Early Logistics	63
VIII In the Aleutians	69
IX "Operation Galvanic" (the Gilbert Islands)	87
Mobile Service Squadrons Begin Growing	90
Service Squadron Four at Funafuti	91

	<i>Page</i>
X Service Squadron Ten Organizing at Pearl	95
Relationship of the Service Administrative Squadron Eight	96
XI Early Composition and Organization of Service Squadron Ten	105
Ordnance Logistics	107
Administration of Ordnance Spare Parts and Fleet Ammunition	108
XII The Marshall Islands Campaign	115
The Truk Strike	121
XIII Multiple Missions	129
The Palau and Hollandia Strikes	129
Marcus and Wake Raids	132
Submarines Base at Majuro	133
Growth of Service Squadron Ten at Majuro	134
XIV "Operation Forager," the Marianas Campaign	137
Floating Logistic Facilities	138
Servicing the Staging Amphibious Forces	140
Replenishment of Fast Carriers	143
XV "Forager" Logistics in General and Ammunition in Particular	149
Service Squadron Ten at Eniwetok	163
XVI "Stalemate II": The Western Carolines Operation	171
Preparations at Seadler Harbor and Eniwetok	173
XVII Logistic Support at Seadler and at Sea	185
Service Unit at Seadler	185
Oilers With the Fast Carrier Group	190
Ammunition, Smoke, Water, Provisions, Salvage	197

	<i>Page</i>
XVIII Further "Stalemate" Support	207
Medical Plans and Facilities	207
Mail	210
Service Unit at Seadler	210
With the Fast Carriers	212
Squadron Ten Prepares to Move	213
XIX Service Squadron Ten Main Body Moves to Ulithi	217
Reduction to Minimum at Eniwetok	220
Improvement in Salvaging	225
XX The Philippines Campaign	233
Forces and Vessels	233
Logistic Support of the Seventh Fleet	237
Battle of Leyte Gulf	243
XXI Logistic Support of the Third Fleet	249
Submarine Attacks at Ulithi	259
XXII Leyte Aftermath	267
Ormac Bay and Mindoro Landings	267
Admiral Halsey on the Rampage	271
"Bull in the China Sea"	272
Some Dull Routine at Ulithi	276
Another Midget Attack—Ammunition Ship <i>Mazama</i> Hit	278
XXIII Iwo Campaign	281
Fifth Fleet Relieves Third	281
Forces and Vessels	281
Logistics Prescribed	282
Logistics Support Group—Service Squadron Six	283
Service Squadron Ten Still Busy	291
XXIV Service Squadron Ten Grows up	293
The Guam Base	303
Seventh Fleet Logistic Vessels and Bases	306

	<i>Page</i>
XXV "Operation Iceberg": The Okinawa Campaign	311
The Forces Involved	312
Staging Logistics	317
XXVI Activities at Saipan and Ulithi	323
XXVII Logistics at Kerama Retto for the Okinawa Operation	331
Suicide Plane Attacks	335
XXVIII Expansion of "At-Sea" Support by Service Squadron Six	355
XXIX Support Activities at Leyte-Samar	369
Service Squadron Ten Main Body Moves to San Pedro Bay	370
Naval Bases on Leyte-Samar	373
Reorganization of Service Squadron Ten	379
Dysentery in Fleet Anchorage	382
Service Force Pacific Absorbs Service Force Seventh Fleet	383
XXX Okinawa After 1 July 1945	385
Operations Under Service Squadron Twelve	388
The Move to Buckner Bay and Service Activities There the Remaining Days of the War	392
XXXI The Giant Takes Off His Armor	399
Surrender	399
Changes in Logistic Services	399
Getting Back Toward Peace Routine	400
Pipe Down	403
Appendix	405
<p>The appendix contains a list of commanding officers of service vessels under Commander Service Force Pacific, photographs of vessels and small craft representative of the principal types engaged in logistic support activities under Commander Service Force Pacific, and a glossary of abbreviations.</p>	

List of Photographs

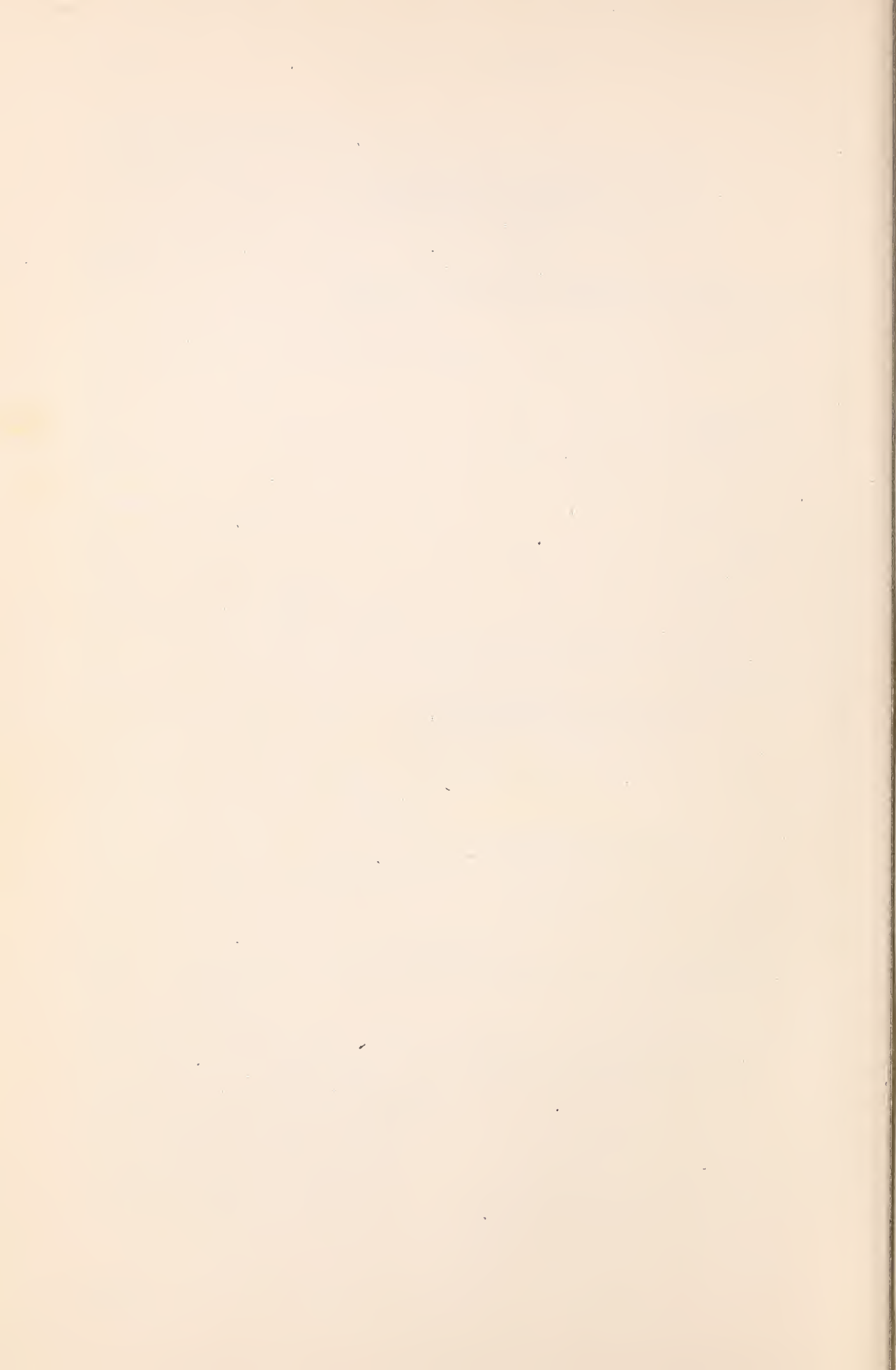
	<i>Page</i>
<i>Neosho</i> fuels <i>Yorktown</i> in heavy sea	19
<i>Kitty Hawk</i> supplying planes to the <i>Long Island</i>	29
U. S. S. <i>Kitty Hawk</i> at Pallikulo Bay, New Hebrides, unloading torpedo plane to self-propelled 50-ton barge ¹	31
<i>Minneapolis</i> , bow blown off	44
<i>Minneapolis</i> , bow repaired with coconut-palm tree trunks	45
<i>Honolulu</i> at Tulagi with bow damaged by "dud" torpedo	56
<i>Ortolan</i> raises two-man submarine	59
PT boat fueling depot Base No. 8, Morobe, New Guinea	65
Submarine undocking from <i>ARD-6</i> , Dutch Harbor	70
Sweepers Cove, Adak, Aleutian Islands	71
Finger Bay, Adak Island	72
Torpedoes being hoisted aboard <i>Lexington</i>	113
Small floating drydock	124
The concrete stores barge <i>Quartz</i> , one of the many of this type construction	127
Ammunition ship <i>Shasta</i> loading 14-inch powder and shells onto the <i>New Mexico</i>	155
<i>New Mexico</i> sending 14-inch H. C. shells to the magazines	156
Ships in Eniwetok, Marshall Islands	164
An LCT alongside the <i>Yorktown</i>	166
Ships in Seadler Harbor, Manus Island, in the Admiralty Islands	186
<i>Argonne</i> damaged by the blowing up of the <i>Mount Hood</i>	187
The <i>Boston</i> fueling a destroyer	192

¹This barge, one of the war-famous type, was made by assembling 21 steel pontoon sections locked together with fittings known as "jewelry." Certain assemblies were used as small docks, and non-self-propelled barges.

	<i>Page</i>
Fueling from both sides	195
Gasoline lighter and an LCT alongside the carrier <i>Intrepid</i>	198
Transferring bombs from LST to the carrier <i>Hancock</i> at sea	199
Taking sugar on the carrier <i>Lexington</i> at night	202
The <i>Houston</i> —what holds her up?	227
The <i>Reno</i> hard hit and barely afloat	229
The <i>Mississinewa</i> torpedoed by a midget	260
One of the midgets	262
Load of powder midway between the <i>Sbasta</i> and the cruiser <i>Vicksburg</i> at sea	285
<i>Randolph</i> damaged by suicide plane	297
<i>Franklin</i> hard hit	298
Closeup of the <i>Franklin</i>	299
<i>Pittsburgh</i> in a drydock, Guam	304
Bow of <i>Pittsburgh</i> , towed in, cut up, and restored to the ship	305
Destroyer <i>Newcomb</i> damaged by suicide attacks	334
Damage to the flight deck of <i>Sangamon</i>	336
Damage to Kiland's flagship, <i>Mount McKinley</i>	338
Damage to the destroyer <i>Hazelwood</i>	341
<i>Pennsylvania</i> low in water after being torpedoed by plane	342
<i>Maryland</i> taking turret-gun powder	344
YMS-92, stern blown off	352
The oiler <i>Cababa</i> fueling the battleship <i>Iowa</i> and the carrier <i>Shangri-La</i> on a smooth day	360
The <i>Ocelot</i> —"Spotted Cat"—Carter's flagship	372
The <i>Ponaganset</i> loading fresh water at Balusoa Water Point, Samar	377
Raising a Jap midget by net layers	391
News of the surrender of Japan	395
Celebrating the good news	396

List of Charts

	<i>Page</i>
Southwest Pacific, Australia, New Guinea, Borneo	14
New Hebrides	27
Australia	62
Aleutian Islands	74
Gilbert Islands	88
Marshall Islands.	116
Majuro Atoll	119
Marianas Islands.	150
Eniwetok Atoll	153
Caroline Islands	172
New Guinea (and small part of Australia)	181
Ulithi Atoll.	223
Philippines	235
Leyte Gulf—Surigao Strait—Samar—Leyte	252
China, Japan, and the Philippines	273
Kerama Retto	332
Okinawa Shima	386
The Pacific Ocean (fold-in)	Facing page 404



CHAPTER I

Pre-World War II

FROM 7 DECEMBER 1941, when the Japanese attacked Pearl Harbor, until they admitted defeat in August 1945, our fleet continuously grew. During those stirring and difficult times, the accounts of ship actions, air strikes, and amphibious operations make up the thrilling combat history of the Pacific theater. Linked inseparably with combat is naval logistic support, the support which makes available to the fleet such essentials as ammunition, fuel, food, repair services—in short, all the necessities, at the proper time and place and in adequate amounts. This support, from advanced bases and from floating mobile service squadrons and groups, maintained the fleet and enabled it to take offensive action farther from home supply points than was ever before thought possible, and this is the story which will be told here. But before telling this story, let us examine some of the ideas and accomplishments of fleet logistics in the years before World War II.

The advantages of logistics afloat and near the fleet operating area had long been recognized by many naval commanders, and no doubt by others who gave the matter analytical thought. There was some selfish opposition to its development by local politicians, merchants, and shipyards because of the wish to keep the activities where the disbursements would benefit the local shore communities directly. Also, there was some opposition in naval bureaus, and there was some skepticism on the part of some officers within the naval service as to the feasibility of accomplishing many of these services afloat. For example, it took a long time to satisfy everyone of the practicality of fueling under way at sea. Also, there were those who were skeptical of the capabilities of tenders and repair ships. Such vessels were looked upon as able to accomplish a certain degree of minor repair and upkeep, but for support of any consequence a navy yard or shipyard was for years thought necessary.

During World War I, the astonishing repairs accomplished by our two destroyer tenders at Queenstown turned many doubters into enthusiasts. In fact, the whole afloat work of servicing the destroyers at

Queenstown, a place with a very small naval shore establishment, was a praiseworthy accomplishment along lines of progress which furnished new concepts for naval consideration.

So, with the retrenchment and curtailment of naval appropriations and the transfer of the principal part of the U. S. Fleet to the west coast after World War I, the Base Force was formed as part of the fleet. This was, in fact, the beginning of the Service Force and its duty was service to the fleet, although it continued to be called the Base Force until the United States entered World War II. In concept and principle it was sound, and its organization for the work then deemed practical was good. As a result, valuable and efficient services were rendered to the fleet, and some ideas of greater future accomplishments took root. The fuel-oil tankers, fresh and frozen-food ships, repair ships, fleet tugs, and target repair ships were administered and operated by the Commander Base Force. Ammunition ships were administered and usually operated by Naval Operations (OpNav). The navy-yard schedule for overhaul was arranged but the allotment of funds for the work was controlled by the type commanders.

The destroyer tenders and submarine tenders were not administered or operated by the Base Force, and only occasional servicing jobs, either of emergency nature or beyond the capacity of the tenders, were performed directly on destroyers and submarines by the Base Force ships. The term "directly" is used because the Base Force often supplied the tenders with fuel, food, and ammunition, with which they in turn serviced the destroyers and submarines.

The Base Force also made arrangements for water and for garbage disposal, and usually ran the shore patrol. The distribution of the enlisted personnel was, in varying degrees (depending upon the ideas of the Commander in Chief), handled by the Base Force.

The flagship of the Commander Base Force (Rear Admiral J. V. Chase¹) was a temporary one, the old fleet flagship *Connecticut*. She was soon scrapped. A Hog Island cargo vessel, the *Procyon*, which for a short time after World War I had been used as a target repair ship, was assigned and designs for her alteration to meet the administrative-staff requirements were tentatively drawn and sent with the ship from Norfolk to Mare Island Navy Yard, where the work was to be done. There was little or no knowledge or experience to draw upon for these require-

¹ Admiral J. V. Chase had as his Chief of Staff, Captain W. T. Cluverius, who several years later became Commander of the Base Force. Admiral Chase was later the Commander in Chief of the U. S. Fleet.

ments. Theory did not suffice, and practically new designs had to be drawn up with the assistance of Chase's staff after the arrival of the *Procyon* at Mare Island. When the work was well under way, the Board of Inspection and Survey chose that time to make its inspection of the ship, and considerable difficulty was encountered in convincing the Board that these alterations were necessary and should be completed. This further illustrates how little this logistic business of the Navy was understood. ☆

The fleet air arm was a separate organization, with its own tenders and furnishing its own services, although while assigned for photographic, target, and some observation work the planes received temporary servicing from the Base Force. The aircraft tenders, like those of the destroyers and submarines, received some services from the Base Force which in turn were passed on to the planes. When the *Langley*, *Lexington*, and *Saratoga* joined the fleet, the Base Force took on the principal part of the responsibility for their fuel, food, and gun ammunition and made arrangements for regularly scheduled overhauls. All special equipment and planes, and many alterations due to experimental changes and improvements, were handled direct through the bureaus without reference to the Base Force. ☆

Fueling under way at sea was instituted as part of the annual exercises, and fuel connections were designed and installed and "at sea" rigs were supplied in order to carry out this part of the schedule. Fueling under way at sea was then looked upon somewhat as an emergency stunt which might have to be resorted to in wartime, and therefore probably required occasional practice. Few ever thought it would become so routine a matter that it would be accomplished with ease in all kinds of weather except gales. ☆

The era was one of rapid change and progress. In 1925 the operating force of the Navy consisted of 234 vessels, including 17 battleships, 15 cruisers of different types, a second-line carrier and 2 second-line mine layers, 6 destroyer-mine layers, 103 destroyers, 80 submarines, 1 fleet submarine in an experimental stage of development, and 9 patrol gunboats. To service these units afloat we had 75 other craft: Oilers, colliers, tenders, repair ships, store ships, 1 ammunition ship and 1 hospital ship, 25 mine sweepers, 2 transports, 8 fleet tugs, and miscellaneous small craft, a total of promising size. A good start had been made, the principal objections to formation of this element of the Navy had been overcome, and the Base Force had been established as a definite part of the United States forces afloat. ☆ ☆

Unfortunately, just as we were ready to move to further accomplishment the depression years arrived, funds were severely restricted, and the Base Force came to a slowdown without opportunity for improvement and advancement in operating technique. This period was immediately followed by the Roosevelt years of emergency. The sudden expansion of all categories of naval personnel left little opportunity for anything but the fundamentals. In consequence, no great advance in Base Force technique or organizational coordination of fleet logistics was made until the war was in its second year.

The Navy Department knew that expansion of the fleet called for a proper balance in its auxiliaries; but, because of the lack of detailed knowledge, there was no sound formula for finding that balance. So it was estimate and guess, with the authorizations always a little on the light side because of the need for combat units whose construction alone would tax the capacity of the building plants. As a result, in 1940 the operating force consisted of 344 fighting ships, and to service them afloat 120 auxiliaries of various types. While in the 15 years from 1925 to 1940, destroyers, cruisers, and carriers had more than doubled in numbers, the auxiliaries had not. The most notable increase had been in sea-plane tenders and oilers, but there were too few of the latter to permit their being kept with the operating units long enough to improve their at-sea oiling technique. Instead, they had to be kept busy ferrying oil.

During the first year of President Roosevelt's declared limited national emergency—1940—there were authorized 10 battleships, 2 carriers, 8 light cruisers, 41 destroyers, 28 submarines, a mine layer, 3 subchasers, and 32 motor torpedo boats—a total of 125 combat fleet units. Because of the lack of logistic knowledge and foresight, the auxiliaries ordered to service this formidable new fleet numbered only 12: 1 destroyer tender, 1 repair ship, 2 submarine tenders, and 2 large and 6 small sea-plane tenders. The war plans, it is true, included the procurement and conversion of merchant ships for auxiliary and patrol purposes, but nothing came of this provision. Because of the shortage of merchant shipping, little could be done without causing injury elsewhere.

That same year—1940—the Oakland, Calif., Supply Depot was acquired, and the existing port storage depots at several points, notably San Diego, Calif., Bayonne, N. J., and Pearl Harbor, T. H., were expanded. Still no one seemed to give much consideration to the delivery and distribution of supplies to ships not at those bases to receive them. The Base Force war plans for an overseas movement visualized two somewhat vague schemes. One was that the fleet would fight at

once upon arrival in distant or advanced waters and gain a quick victory (or be completely defeated), and the base would be hardly more than a fueling rendezvous before the battle. Afterward (if victorious), with the enemy defeated there would be plenty of time to provide everything. The other idea was that the advanced location would be seized, the few available repair and supply vessels would be based there, and the remaining necessary facilities would be constructed ashore. The trouble with this thinking lay in the fact that if the enemy refused early action there was no assurance that the base could be held with the fleet not present. On the other hand, the fleet if present could not be serviced without adequate floating facilities while necessary construction was being accomplished ashore. So the idea of fleet logistics afloat was becoming more and more firmly rooted; only time was needed to make it practical, as our knowledge and experience were still so meager that we had little detailed conception of our logistic needs. Even when someone with a vivid imagination hatched an idea, he frequently was unable to substantiate it to the planning experts and it was likely to be set down as wild exaggeration. How little we really knew in 1940 as compared with 1945 shows in a comparison of the service forces active at both times.

In 1940 the Base Force Train included a total of 51 craft of all types, among them 1 floating drydock of destroyer capacity. By 1945 the total was 315 vessels, every one of them needed. The 14 oilers which were all the Navy owned in 1940 had leaped to 62, in addition to merchant tankers which brought huge cargoes of oil, aviation gasoline, and Diesel fuel to bases where the Navy tankers took them on board for distribution to the fleet. No less than 21 repair ships of various sizes had supplanted the 2 the Navy had 5 years before. The battleships had 3 floating drydocks, the cruisers 2, and the destroyers 9, while small craft had 16. Hospital ships had risen from 1 to 6, and in addition there were 3 transport evacuation vessels, while the ammunition ships numbered 14, plus 28 cargo carriers and 8 LST's (Landing Ship, Tanks). The number of combatant ships had increased materially, and it is natural to ask if the auxiliaries should not have increased comparably. The answer is, of course, yes. But the increase of combatant ships had been visualized, and the building programs were undertaken before the war began. It flourished with increased momentum during the early part of the war, long before the minimum auxiliary requirements could be correctly estimated and the rush of procurement started. The original planners had done their best, but it was not until the urgency for auxiliaries developed as a vital

element of the war that we fully realized what was needed, and met the demand. Merchant ships were converted whenever possible, and this, with concentrated efforts to provide drydocks and other special construction, produced every required type in numbers that would have been considered preposterous only a short time before.

CHAPTER II

The Service Force:

Laboring Giant of the Pacific Fleet

AT THE TIME of the Japanese Attack on Pearl Harbor, Rear Admiral W. L. Calhoun commanded the Base Force there and had his flag in the U. S. S. *Argonne*. Overnight his duties increased enormously. Thousands of survivors of the attack had nothing but the clothes they wore, which in many cases consisted of underwear only. These naval personnel had to be clothed, fed, quartered, re-recorded, and put on new payrolls with the utmost expedition in order to make them available for assignment anywhere. There were hundreds of requests for repairs, ammunition, and supplies of all kinds.

Calhoun expanded his staff to three times its original size, and despite the excitement, confusion, diversity of opinion, uncertainty, and shortages of everything, he brilliantly mustered order from what could easily have been chaos. Calhoun, soon promoted to vice admiral, continued as Commander of the Service Force until 1945, and the remarkable cooperation, hustle, and assistance rendered by his command are unforgettable. This was especially true in the advanced areas. Any duty to which the term "service" could be applied was instantly undertaken on demand; this contributed enormously to the fleet efficiency, and, in consequence, to the progress of the campaign. No single command contributed so much in winning the war with Japan as did the Service Force of the Pacific Fleet. It served all commands, none of which could have survived alone. Neither could all of them combined have won without the help of the Service Force. It is deserving of much higher public praise than it ever received, and, most of all, its activities should be a matter of deepest concern and study by all who aspire to high fleet commands. ✪

At the time of the Pearl Harbor attack the Base Force had a few more vessels than in 1940, but otherwise was substantially unchanged. Besides ✪

the added vessels, it had a utility wing composed of three flight squadrons. In San Francisco it was represented by the Base Force Subordinate Command (Rear Admiral C. W. Crosse), which had been established in June of 1941 to give quicker and more direct service on the west coast and to aid in more efficient procurement and shipment for the mid-Pacific.

☆ The early Service Force was organized around four squadrons: Two, Four, Six, and Eight. Squadron Two included hospital ships, fleet motion-picture exchange, repair ships, salvage ships, and tugs. Squadron Four had the transports and the responsibility for training. This was the tiny nucleus of what eventually became the great Amphibious Force, or Forces. Squadron Six took care of all target-practice firing and of the towing of targets, both surface and aerial. Six also controlled the Fleet Camera Party, Target Repair Base, Anti-Aircraft School, Fleet Machine Gun School, and Small Craft Disbursing. Squadron Eight had the responsibility for the supply and distribution to the fleet of all its fuels, food, and ammunition.

☆ Growth and changes came. In March of 1942 the name was changed to Service Force Pacific Fleet. Headquarters had already moved ashore from the U. S. S. *Argonne* to the Pearl Harbor Navy Yard, and later moved again to the new administration building of the Commander in Chief Pacific, in the Makalapa area outside the navy yard. Two years later, in July of 1944, the Service Force moved into its own building, a huge three-story, 600-foot structure adjacent to the CinCPac headquarters. The organizational and administrative changes were dictated by the increasing requirements of the war. Squadron Four was decommissioned and its transports given to the Amphibious Force, as already noted. By the summer of 1942 the rapidly changing conditions of the war caused a further reorganization, and Service Force was realigned into four major divisions: Service Squadrons Two, Six, and Eight, and Fleet Maintenance Office. Except for some additional duties, the functions of the three numbered squadrons remained unchanged. The Fleet Maintenance Office took over all hull, machinery, alteration, and improvement problems involving battleships, carriers, cruisers, and Service Force vessels, while the Service Force Pacific Subordinate Command at San Francisco continued its original functions and expanded as the tempo of the war mounted. It became the logistic agency for supplying all South Pacific bases. By August of 1942, operations there were of such critical nature, with the campaign against the enemy in the Solomons and Guadalcanal about to begin, that the Service Squadron South Pacific Force was authorized to deal direct with Commander in Chief, Commander Service Force Pacific,

or Commander Service Force Subordinate Command at San Francisco.

As the war went on, the number of vessels assigned to the Service Force went steadily upward. With each new campaign our needs increased, and so did the number of ships. By September of 1943 the Service Force had 324 vessels listed, with 136 of them still to report. January of 1944 saw 510 ships listed, and in March no less than 990 vessels had been assigned, 290 of them still under construction or undergoing organization and training. Much of this increase was in patrol craft for Squadron Two and barges for Squadron Eight.

Barges and lighters of all types were being completed rapidly, but moving them from the United States to the areas of use was a problem. Having no means of propulsion, they had to be towed out to Pearl Harbor, and thence still farther westward, in the slowest of convoys. The departure of merchant ships and tugs hauling ungainly looking lighters and barges was not so inspiring a sight as that of a sleek man-of-war gliding swiftly under the Golden Gate Bridge and standing out to sea. Yet these barges, ugly as they were, proved invaluable in support of operations at advanced anchorages.

A new Squadron Four, entirely different from its predecessor, was commissioned in October 1943 and sent to Funafuti in the Ellice Islands to furnish logistic support to the fleet. In February of 1944, Squadron Ten of a similar nature went to Majuro in the Marshalls, soon absorbed Four, and remained the mobile logistics forward area representative of the Service Force until the end of the war. Just a year later—February 1945—Service Force had been assigned 1,432 vessels of all types, with 404 of them still to report; and by the end of July 1945, a few weeks before hostilities ended, it had no less than 2,930 ships, including those of Service Force Seventh Fleet, over which administrative control had been established in June.

By squadrons this astonishing total of ships was as follows: Squadron Two, 1,081 ships; Six (new), 107; Eight, 727; Ten, 609; Twelve, 39; Service Force Seventh Fleet, 367. There were 305 planes in the Utility Wing. The total of personnel was 30,369 officers and 425,945 enlisted men, or approximately one-sixth of the entire naval service at the peak of the war. Squadron Twelve, nicknamed "harbor stretcher," had been commissioned in March 1944 for the primary purpose of increasing depths in channels and harbors where major fleet units would anchor, or where coral reefs and shallow water created serious navigational hazards. By far the largest operation Twelve undertook was at Guam.

Squadron Six, newly commissioned in January of 1945, bore no

relationship to the former Mine Squadron of the same numerical designation. Six was the third link in a chain of service squadrons with the duty of remaining constantly near the striking forces or close behind them as they moved nearer Japan. Eight hauled the supplies from the west coast and the Caribbean areas to bases, anchorages, and lagoons in the forward area. Ten then took hold, but even its fine services were not as close as desired to task forces and major combat units when they wished to remain at sea for indefinite periods, and take no time between strikes to return to newly established anchorages in what had been enemy territory a short time before. So Squadron Ten in such cases passed on its supply ships to Six as ammunition, fuel, and provisions were needed, and the transfers were all made at sea. After discharging into the combat groups, the empty supply ships were passed back by Six to Ten to be refilled, or still farther back to Eight, which resupplied them from the west coast, Hawaiian, or other areas.

By spring of 1945 the organization of Service Force consisted of 12 principal sections, with the officers in charge of Force Supply, Fleet Maintenance, Over-All Pacific Naval Personnel, and Area Petroleum having additional duty of a similar nature on the staff of CinCPac also. There was a fleet chaplain who had a similar two-hat set-up.

The operating squadrons, coordinated with each other and organized as self-sufficient commands for internal regulations, were separate from these sections. Each one had its own commander, chief of staff, and appropriate administrative, communications, operations, supply, and maintenance sections. Directly under the Commander Service Force came the Deputy Commander Service Force Pacific and Chief of Staff. He in turn was supported by an Assistant Chief, two Special Assistants, and an Administrative Assistant. This latter officer controlled the usual staff functions and several special ones: Postal Officer, Legal Officer, Public Relations (later Public Information), and so on.

This rearrangement into two types of organization within the Service Force had a sound reason behind it. The earlier squadron scheme tended to narrow the use of the vessels assigned to activities of that squadron only. With the section scheme, in which vessels were all under control of the operations office, the broadest possible use of the vessels to meet special problems of any section could be more readily made. At any rate, the section scheme was gaining favor over the squadron when hostilities ended, and the functions of the various squadrons were being absorbed by the sections. The actual change-over to the final section organization was not, however, made complete until the fighting was over.

CHAPTER III

Early Activities

Asiatic Fleet in Dutch East Indies—Logistics of Raiding Forces—Coral Sea—Midway

AFTER THE JAPANESE bombing of the fleet at Pearl Harbor on 7 December 1941, the three battleships capable of steaming were ordered to the United States for repairs: The *Maryland* and *Tennessee* to Bremerton, the *Pennsylvania* to Hunters Point, San Francisco. The *Colorado* was already undergoing overhaul at Bremerton. When the work was finished, this group assembled on 31 March 1942 at San Francisco. There they were joined by the *New Mexico*, *Mississippi*, and *Idaho*, which had been rushed from the Atlantic. Together with a squadron of destroyers which had no tender, this seven-ship force based on San Francisco until late in May. The ships were serviced almost entirely from shore facilities. With the exception of targets, target-towing vessels, and planes they were given very little floating service.

On 14 April the force left port with the possibility of being used to assist in stopping the Japanese in their South Pacific drive toward Australia. No train (group of supply vessels) was available, so the ships were crammed with all the fuel, food, and ammunition they could hold. So heavily overloaded were they at the start that they were three to four feet deeper in the water than they were ever meant to be. The third or armored decks were all below the water line; none of the ships could have withstood much damage either above or below water. The Coral Sea action was fought before they could take part in it, the enemy backed off, and the force was not called upon. After staying at sea until their fuel was nearly gone and the fresh provisions exhausted, the ships returned to California at San Pedro.

No one concerned with it will ever forget the servicing of this force there. The San Pedro base had not been used by the fleet for 2 years, and

was practically without floating equipment. Upon notification of the prospective arrival, and the stores and fuel required, the base authorities called upon the citizens and local firms for action. The response was a magnificent demonstration of patriotic support by the entire community. Rich and poor, celebrities and unknowns, worked side by side on docks and vessels of all sorts, including yachts, operated in many instances by their owners. The job was completed in good time.

Of course, there was no problem of resupply of ammunition because the force had not been in action. If there had been, no doubt it could have been solved by the "incredible Yankee resourcefulness" of the Californians. However, the point to be observed in this maneuver is that the Navy was unprepared at this fleet base to do an efficient job of logistics for a small force of its ships, mainly because of its lack of floating equipment. In fact, the Navy was unprepared to do the job at all without the wholehearted community assistance. This battleship force continued to base on San Francisco until midsummer of 1942, when it moved to Pearl Harbor.

Asiatic Fleet in the Dutch East Indies

Our Asiatic Fleet had meanwhile moved south from the Philippines and into the Java area, joining with the British cruisers *Exeter*, *Hobart*, *Perth*, and *Electra*, which were accompanied by several destroyers, and the Dutch cruisers of the East Indies Force, *De Ruyter*, *Java*, and *Tromp*, also with a few destroyers. Many of these British and Dutch vessels were in use for convoying to and from Singapore, and real concentration in full strength was not attained until near the end. What joint action occurred was poorly coordinated, not only in tactics but in basing and servicing. The basing of our ships until 3 February on Dutch East Indies ports, particularly Soerabaja, was not too bad except that there was a shortage of ammunition and torpedoes, and special equipment and spare parts for all types. Our submarines, however, based first at Darwin, later at Fremantle, West Australia.

The first part of our Asiatic Fleet, made up of the seaplane tender *Langley*, the oilers *Pecos* (Commander E. P. Abernethy) and *Trinity* (Commander William Hibbs), with the destroyers *John D. Ford* and *Pope*, left Manila 8 December and next day joined Admiral Glassford, whose flag was in the heavy cruiser *Houston*. With him were the light cruiser *Boise* and the destroyers *Barker*, *Paul Jones*, *Parrott*, and *Stewart*. The two forces

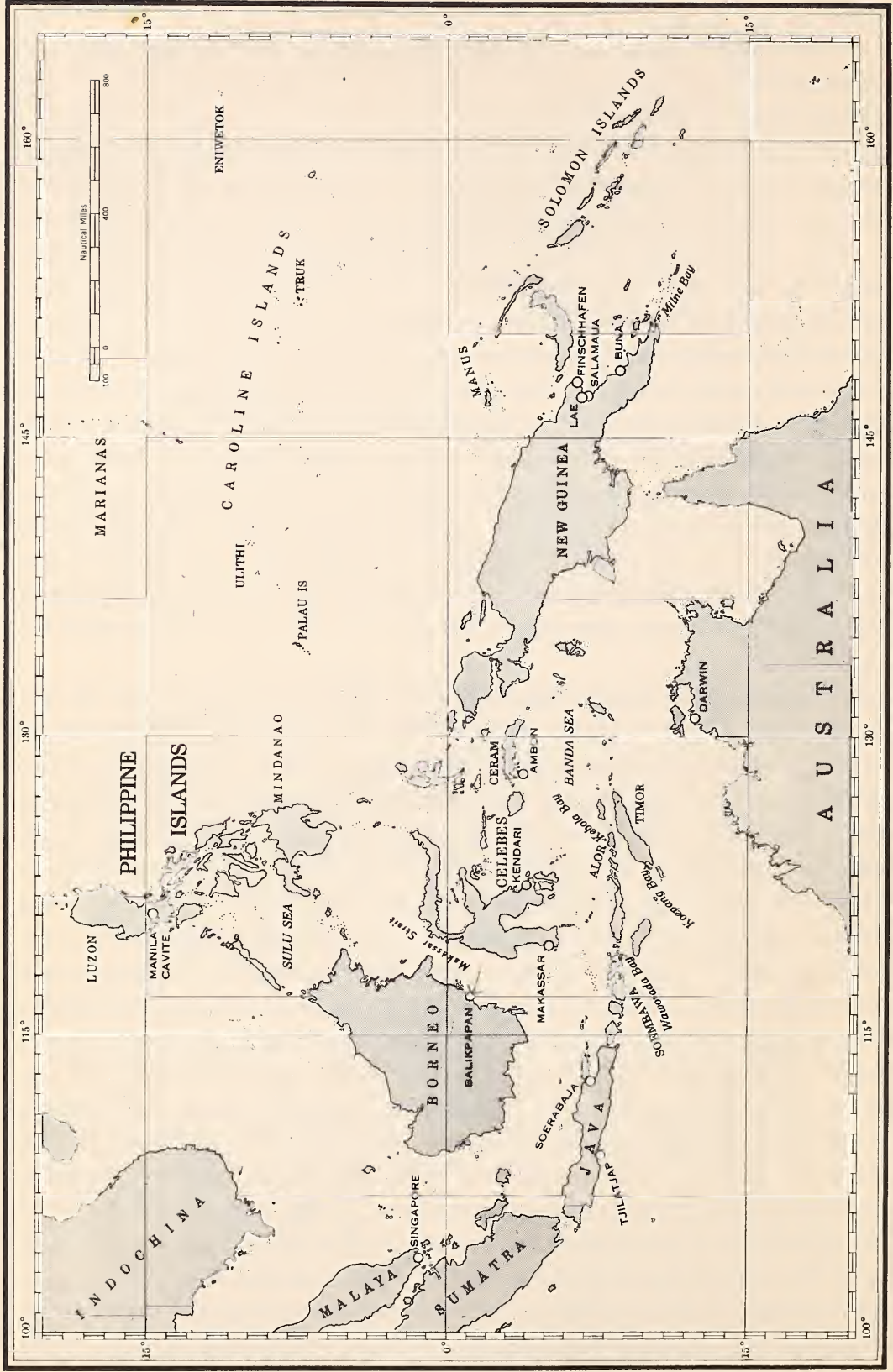
met to the south of Luzon and continued southward through the Sulu Sea. On 12 December the two cruisers left the formation and proceeded on special duty at greater speed.

The ships were in hostile waters, had no intelligence of the enemy's whereabouts, and everyone was keenly alert, every eye strained for possible danger. At 1115, the *Langley* suddenly opened fire on a suspicious object, range 6,000, first spot up 100. The dimly seen object turned out to be the planet Venus, which is sometimes visible during daylight in that particular atmosphere. No hits were made!

On 13 December the light cruiser *Marblehead* (Captain A. G. Robinson) joined, and the next day the whole detachment anchored in Balikpapan, Borneo, where the merchant liner *President Madison*, three Dutch tankers, and two British ships were already moored. Later submarine tenders *Holland* and *Otus* and cruisers *Houston* and *Boise* came in, together with the converted yacht *Isabel*, the auxiliary *Gold Star*, ocean tug *Whippoorwill*, the small seaplane tender *Heron*, the converted destroyer seaplane tender *William B. Preston*, and a few small craft. All the ships were fueled here, and the oilers *Trinity* and *Pecos* refilled with oil and gasoline.

Admiral Glassford divided his Task Force Five into two groups on the basis of speed. The fast group was headed by Captain S. B. Robinson in the *Boise*, the slower commanded by Captain A. G. Robinson in the *Marblehead*, and all, including the flagship *Houston*, sailed for Makassar in the Celebes, N. E. I., where the *Houston* left them for Soerabaja. There Admiral Glassford wished to hold preliminary conferences with the Dutch and British. The two groups remained at Makassar, holding drills and refueling, until 22 December, when they steamed out for their respective areas. The auxiliaries went to Darwin, which was soon found to be too far away, and too hazardous as well, to be any proper logistic base.

Patrol Wing Ten had had rough going from the start, both from operational hardships and from the enemy. Two days before Christmas, 1941, the surviving planes of Squadron 101 of "Pat Wing" Ten were sent to Ambon, in N. E. I. in Banda Sea S. W. of Ceram, where there were some Australians using Lockheed Hudsons. To the westward at Kendari in the Celebes was our Patrol Squadron 22. The *Heron*, *Childs*, and *William B. Preston* did most of the servicing for these squadrons. The Australian command was cordial and the two organizations exchanged some operational and material support, but neither was strong enough to do what was called for in either reconnaissance or offensive strikes.



Southwest Pacific, Australia, New Guinea, Borneo.

On 15 January 1942, 26 Japanese bombers and 10 fighters attacked Ambon. We lost 3 patrol planes and had others damaged. The next day, Patrol Squadron 101, of which only 4 planes were left, was ordered to Soerabaja. Patrol Squadron 22 held on for a few days longer at Kendari. On the 24th the *Childs* barely escaped a Japanese task force there, and it was clear that the end was not far off. Given another month of attention at the hands of an enemy who held control of the air whenever he chose to exercise it, no amount of logistics could save the situation. What we needed desperately and did not have was air power—bombers, fighters, and patrol—in sufficient strength to fight it out with the oncoming Japanese.

Admiral Glassford sent orders on 23 December 1942 making the oiler *Trinity* (Commander William Hibbs) Task Unit 5.5.3 and ordering her to Woworada Bay, Soembawa. The other auxiliaries were designated as the Train and sent to Darwin, which by order of the Chief of Naval Operations in Washington was made the logistic base. Since it was apparent that Darwin was too far away, the *Trinity* was used in some of the bays nearer the scene of operations. Later the oiler *Pecos* and the commercial tanker *George D. Henry* were taken from Darwin and put to more active use. Soerabaja was the main operating base until the final 3 weeks of the defense campaign in the Netherlands East Indies.

The Train consisted of the flagship submarine tender *Holland* (Captain J. W. Gregory), with Captain W. E. Doyle as Commander Base Force (Train) aboard; the submarine tender *Otus* (Commander Joel Newsom); the *Gold Star*, a general auxiliary (Commander J. U. Lademman); the seaplane tender *Langley* (Commander R. P. McConnell); the oiler *Pecos* (Commander E. P. Abernethy); the destroyer tender *Blackhawk* (Commander G. L. Harriss); the small seaplane tender *Heron* (Lieutenant W. L. Kabler); the converted destroyer seaplane tenders *Childs* (Commander J. L. Pratt) and *William B. Preston* (Lieutenant Commander E. Grant); and the converted patrol yacht *Isabel* (Lieutenant John W. Payne).

During January there was considerable moving about between Darwin, Woworada Bay, Koepang Bay, Timor, and Kebala Bay, Alor Island, just north of Timor in the N. E. I. On 18 January the first fueling at sea in this campaign took place when the *Trinity* oiled the destroyer *Alden* at a speed of 10 knots. Again the tanker, on 7 and 8 February, refueled six escorting destroyers at 9.5 knots.

Four days previous—3 February—the Japanese had bombed us out of Soerabaja, and on the 10th practically the entire Asiatic Fleet, with

Train, had gathered at Tjilatjap, Java. But there was no security anywhere. A week later, on 17 February, the *Trinity* had to go all the way to Abadan, Iran, for oil. The Japanese had shut off or captured every East Indian source except a very small supply from the interior of Java, so this dangerous voyage of more than 5,000 miles was necessary. The oiler *Pecos* was also scheduled to refill in the Persian Gulf, but was sunk—with the *Langley* survivors on board—by the enemy on 1 March, just after getting started for Colombo, Ceylon. The Train, in its short 10 days at Tjilatjap, put in some much-needed work on the worn, racked, and hard-pressed ships of our striking force, and then most of its own vessels had to be sent off to Exmouth Gulf, West Australia, for the jig was nearly up in Dutch waters.

Usually ample fuel oil was available for this force, and some of the Dutch tankers were very efficient, but the method of distribution practiced by the Dutch bases was slow. Much of the oil was stored in the interior. The service from our tankers was faster, but in the circumstances these tankers could not be made available to all. Toward the last there was a shortage because of the dependency the naval ports had placed upon peacetime delivery from Borneo and Sumatra, rather than upon full development of interior Javanese oil sources. The Australian cruiser *Hobart*, for example, though undamaged, could not participate in the Java Sea battle on 27 February because she could not get fuel. Tjilatjap was the operating base for both Dutch and American striking forces after we were bombed out of Soerabaja. It was inadequate, but of course it was only a matter of days before it too became untenable.

Each successive raid by or encounter with Japanese planes left us with fewer ships. After her severe mauling on 4 February, the cruiser *Marblehead* was patched up, mainly by her own crew, so that she could start for home by way of Ceylon and the Cape of Good Hope. "Patched up" is a correct term, for we had no real facility for making what we ordinarily would have called temporary repairs according to Navy standards. It speaks well for the initiative and resourcefulness of the shot-up crew of the *Marblehead*—and the men of some other vessels—that the patchwork enabled the ships to function. The destroyer *Stewart*, however, had to be abandoned in a bombed and disabled condition in a bomb-wrecked Dutch drydock. The Japanese salvaged her and put her in service, only to lose her to our Navy in action. Grounding had damaged the *Boise* on 21 January so badly that she was beyond repair by available facilities. She was accordingly cannibalized—stripped, for the benefit of her sisters—of all ammunition and stores and sent limping off to Ceylon.

On 27 February the final attempt to slow the Japanese drive on the Netherlands East Indies was made by the Dutch Admiral Doorman. He had 5 cruisers and 10 destroyers left out of the combined Dutch, British, and American forces, not counting submarines and their tenders, and the old aircraft tender *Langley*, sunk a few days later. The after turret of the *Houston* was inoperative as a result of bombing on 4 February, and there was no facility for repairing it before going into action. Doorman failed, and the order was given to leave the Java Sea. Only 4 American destroyers could do so; all the other ships were sunk by the Japanese. Orders for the withdrawal to the Australian coast for some of the personnel on shore were accomplished only by extreme methods, as we did not have enough vessels. Not even the little shore material there for servicing could be moved. In this campaign there never was sufficient force available to stop or greatly delay the Japanese. No matter how adequate the logistics might have been, the outcome would not have been very different. This brief outline merely shows the relationship logistics bore to the situation.

Logistics of Raiding Forces

In January 1942 Vice Admiral Halsey with Task Force Eight and Rear Admiral F. J. Fletcher with Task Force Seventeen joined in raiding some of the Japanese-held islands of the Marshall and Gilbert groups. Task Force Eight consisted of the carrier *Enterprise*; cruisers *Northampton*, *Salt Lake City*, and *Chester*; the fleet oiler *Platte*; and seven destroyers. Task Force Seventeen consisted of the carrier *Yorktown*; cruisers *Louisville* and *St. Louis*; the fleet oiler *Sabine*; and five destroyers.

Task Force Eight had sailed from Pearl and Task Force Seventeen was just out from the United States. They were guarding the landing of Marines in Samoa when the raids were ordered.

While at sea the carriers and large vessels refueled on 17 January from the tankers *Platte* (Captain R. H. Henkle) and *Sabine* (Commander H. L. Maples), in two task groups, and the destroyers filled up from the larger ships of their own striking groups in latitude $09^{\circ}30' S.$, longitude $169^{\circ}00' W.$ This was repeated on 23 and 28 January. On the 28th the larger ships of the *Enterprise* group were topped off by the *Platte* in latitude $04^{\circ}06' N.$, longitude $176^{\circ}30' W.$ The strikes were made 1 and 2 February on Wotje, Maloelap, Kwajalein, Roi, Jaluit, Makin, Taroa, Lae, and Gugegive, and during the night of 2 February the destroyers again

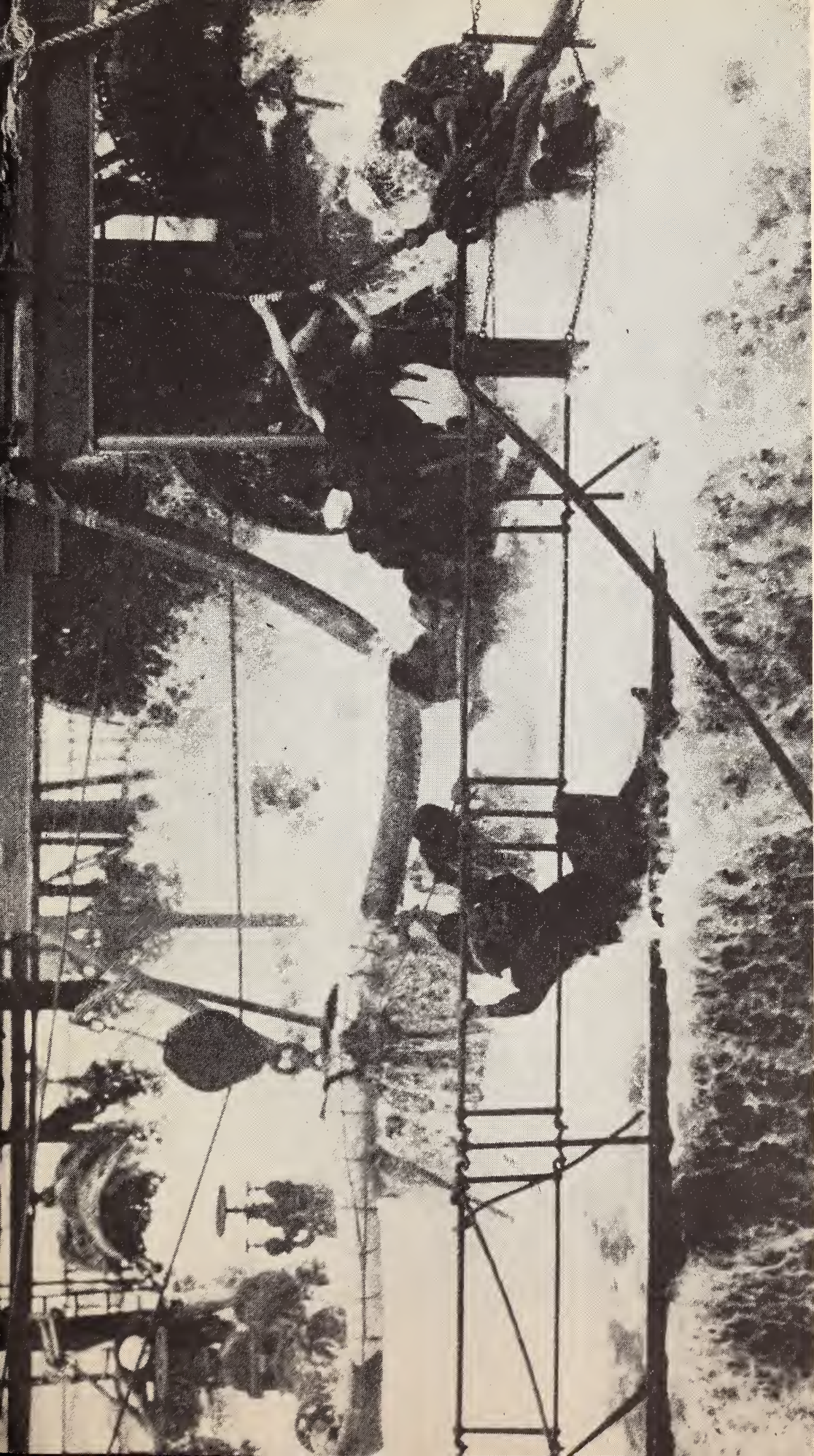
refueled. After withdrawal the *Yorktown* group was fueled on the 4th from the *Sabine*, in latitude $11^{\circ}00'$ N., longitude $163^{\circ}00'$ W.

These raids seemed to warrant a continuance, so on 14 February Halsey with the carrier *Enterprise*, two cruisers, seven destroyers, and the tanker *Sabine* sailed from Pearl Harbor for a raid on Wake Island. On the 22d he fueled his destroyers and took fuel from the tanker in latitude $25^{\circ}30'$ N., longitude $167^{\circ}00'$ E., approximately 300 miles north of Wake. He should have had another tanker in case he lost the *Sabine*, but unfortunately at that time tankers were almost as scarce as carriers. The strike was made on the 24th. Wake was bombed and shelled with excellent results and with the loss of only one plane. The *Sabine* meantime had retired to the northeast, and 2 days later she rejoined, refueling the destroyers once more. Again on 1 and 2 March in latitude $29^{\circ}30'$ N., longitude $173^{\circ}00'$ E., or thereabouts, the task group was refueled and started for a raid on Marcus Island, which was bombed by the *Enterprise* planes, again with the loss of but one plane.

Meanwhile in the South Pacific Vice Admiral Wilson Brown with the carrier *Lexington* and support cruisers and destroyers started a raid on Rabaul. He was discovered, used up much of his fuel in high-speed maneuvers while beating off Japanese plane attacks, and canceled the raid.

Task Force Seventeen, the *Yorktown* group under Rear Admiral F. J. Fletcher, was on its way to the South Pacific. After fueling twice at sea from the *Guadalupe* (Commander H. R. Thurber) it joined the *Lexington* group under Brown in a raid on 10 March on Salamaua and Lae on the New Guinea coast in which considerable damage was done to enemy naval and transport vessels. On 12 March the destroyers fueled from the heavy cruisers *Indianapolis* and *Pensacola*. Two days later the force was joined by the tankers *Neosho* (Captain J. S. Phillips) and *Kaskaskia* (Commander W. L. Taylor), and refueled from them during the next 3 days.

Then came the very dramatic raid on Tokyo, the comparative value of which may never be fully decided. It kept carriers, tankers, other ships, and planes away from the South Pacific where they might well have been used to turn the balance from defensive to offensive weeks earlier. However, the heartening effect upon the nation may have been worth it. On 2 April, Task Force Eighteen, composed of the carrier *Hornet* (Captain Marc Mitscher), the heavy cruiser *Vincennes*, Destroyer Division Twenty-two, and the tanker *Cimarron* (Captain H. J. Redfield), sailed from San Francisco. On 8 April, *Cimarron* fueled destroyers *Gwin*



Neosbo fuels Yorktown in heavy sea.

and *Grayson*. The next day which was set for fueling was too rough. On the 10th the *Vincennes* was fueled and on the 11th the remaining destroyers took some from the *Hornet*. On 12 April the *Hornet* supplied 400,000 gallons of fuel oil in latitude 38°30' N., longitude 175°00' W. On the next day Task Force Eighteen and Task Force Sixteen (Halsey) joined. The latter was composed of the *Enterprise*; cruisers *Northampton*, *Nashville*, and *Salt Lake City*; Destroyer Division Six; and the tanker *Sabine*. Three days later, 17 April (14 April was lost crossing the 180° Meridian), the *Sabine* fueled the *Enterprise* group, and the *Cimarron* did the same for the *Hornet* group, with some destroyers getting their fuel from the heavy ships. This was at latitude 35°30' N., longitude 157°00' E., approximately. There the destroyers and tankers left the striking force and turned back on an easterly course. After dispatching the B-25's on their Tokyo mission the next day the whole force retired at high speed to the eastward and on 21 April were met and again fueled by the *Cimarron* and *Sabine* in latitude 35°45' N., longitude 176°00' E., approximately. Then all proceeded to Pearl, where it was hurry up all logistics and get off to the South Pacific where the Japs looked very threatening. The *Hornet* had to get new squadrons on board and some task-force and ship reorganizations made. On 30 April, Task Force Sixteen (*Hornet*, *Enterprise*, and supporting vessels) sailed for the South Pacific.

Meanwhile, Brown of Task Force Eleven had been relieved by Rear Admiral A. W. Fitch, who, with his flag in the carrier *Lexington*, had sailed from Pearl 16 April to join Rear Admiral F. J. Fletcher, with flag in the *Yorktown*. Fletcher was now senior task-force commander in the South Pacific. The *Yorktown* had been at sea since 17 February 1942, and since the Salamaua raid had fueled from the *Tippecanoe* (Commander A. Macondray) in March, and twice in April from the *Platte*. On 20 April the group reached Tongatabu, where it found fuel, some mail, and limited amounts and types of provisions, and enjoyed a few days of relaxation after 62 days of tension.

When Fitch left Pearl for the South Pacific, available information indicated early concentration of some enemy force there. Later, at Tongatabu, the news definitely suggested a threat in force by the enemy against Port Moresby on the south coast of New Guinea, and perhaps against New Caledonia or Australia. Fitch's Task Force Eleven—the carrier *Lexington*; cruisers *Minneapolis* and *San Francisco*; the destroyers *Worden*, *Dewey*, *Dale*, *Aylwin*, *Farragut*, and *Monaghan*; and the tanker *Kaskaskia*—had refueled once, on 25 April, at latitude 11°30' S.,

longitude 178°30' W. Meantime, Fletcher at Tongatabu got everything he needed except rest, and sailed 27 April for the Coral Sea. Fitch was diverted to join him there. On 1 May Fletcher refueled from the tanker *Neosho*, and during the 2d-3d Fitch did likewise from the *Tippecanoe*, which then departed for Efate in the New Hebrides. On 5 and 6 May 1942, Task Force Seventeen again refueled in the Coral Sea from the *Neosho*, which immediately thereafter was sent off to the southeast escorted by the destroyer *Sims*. The retiring point was not far beyond the range of visibility.

The battle of the Coral Sea will not be dealt with here except to note that the *Neosho* and her escort, the *Sims*, were discovered and destroyed by the enemy 7 May, and the following day the *Lexington* was lost and the *Yorktown* damaged. Meantime our planes had sunk the small enemy carrier *Shoho*, and severely mauled and all but sunk one of the two larger Japanese carriers. This apparently was more than the Japanese had bargained for, so the operation was discontinued and the enemy's combat units withdrew. The action therefore became a victory for Fletcher at what was probably the most critical period of the war thus far.

Nevertheless, if the withdrawal had not taken place, how much longer could Fletcher have held his position without a source of fuel near his force? We need not answer the question, but as a lesson for the future let us not forget the inadequacy of logistic support during the most critical battle in the Pacific up to that time. Fletcher's base at Tongatabu was 1,300 miles away, and Efate, where the nearly empty *Tippecanoe* had been sent, was more than 400 miles away.

Hardly had the smoke cleared away from the Coral Sea when the enemy was detected in preparations for another move in great strength. This time the objective was diagnosed as Midway, and Task Force Sixteen—the *Enterprise*, *Hornet*, and other Tokyo raid ships—which had been started out belatedly for the South Pacific, was recalled to Pearl. Fletcher was also ordered to Pearl with his battered *Yorktown*. There she was hurriedly patched up for the fight to come.

Along with plans for the expected sea and air battle, preparations were being made at CinCPac headquarters for the defense of Midway Island itself. That island needed personnel, planes, antiaircraft guns, ammunition, and certain stores, and needed them in a hurry.

The U. S. S. *Kitty Hawk* (Commander E. C. Rogers) had arrived at Pearl on 17 May 1942, and indeed this was fortunate, as few ships at that time had the crane capacity for unloading planes and heavy cargo at the dock at Midway. After unloading her stateside cargo at Pearl, the

Kitty Hawk was reloaded with the following: 28 planes (11 SBD's; 17 F4F4's) and Marine Air Groups 21 and 45; eight 3-inch AA guns, a Marine crew and ammunition to serve them; and more personnel and cargo. She got underway on the 23d and made her highest speed (17.1 knots) for Midway, arriving at 1918 on the 26th. Just 12 minutes after mooring alongside the pier, the Marines started unloading the AA battery and by the next morning it was in place to protect the airfield on Sand Island. In addition to unloading her important deck cargo she gave the station fuel oil and got clear on the 29th, only a few days before the Battle of Midway commenced. The Kitty Hawk had rendered substantial logistic support to the defense of Midway. In a congratulatory message to Commander Rogers, CinCPac commented upon the "unusually expeditious unloading at Midway."

The task forces which sailed from Pearl on 28 and 30 May to meet the enemy had the tankers *Cimarron*, *Platte*, and *Guadalupe* at sea near them, and refueled on 31 May and 1 June. After the battle, on 8 June 1942, they again refueled a little more than a hundred miles north of Midway Island. The beaten enemy retired, after losing all four of his participating carriers. Lacking certain information, we did not pursue with all the vigor possible, which is unfortunate for we had air superiority and our fast tankers might well have gone farther west in support of our task force had pursuit been carried somewhat farther.

Here at Midway we lost the *Yorktown*. We had not yet learned thoroughly the use and value of fleet tugs and salvage action.

CHAPTER IV

In the South Pacific

Taking the Offensive—Guadalcanal—Logistic Outlook

WITH THE DEFEAT of the Japanese at Midway a more nearly even balance of forces was accomplished, and it was time for us to attempt to take the initiative, to seize the offensive if possible. This was certain to be bitterly contested by the enemy, who might still hope to gain the upper hand if his South Pacific drive could be won. It was natural that this was where we must next stop and defeat him, so the Guadalcanal offensive was planned.

In April 1942, principal commands in the Pacific were:

1. Pacific Ocean Area, Admiral C. W. Nimitz, Commander in Chief. This was further divided into two subordinate commands, the North and South Pacific.

2. Southwest Pacific Area, General Douglas MacArthur, Supreme Commander Allied Forces.

3. Southeast Pacific Area, a region of patrol command principally for security.

Vice Admiral Robert L. Ghormley since May 1942 had been Commander South Pacific. As such, he was charged with the conduct of the Guadalcanal operation under the over-all direction of Admiral Nimitz. Late in July 1942, not counting attack transports, which are considered combatant vessels, we had 15 logistic vessels there. The repair ship *Rigel* was at Auckland, N. Z. At Tongatabu were the destroyer tender *Whitney*, hospital ship *Solace*, stores ship *Antares*, the fresh and frozen food ships *Aldebaran* and *Talamanca*, the ammunition ship *Rainier*, and two district patrol craft, *Yp-284* and *Yp-290*, both with provisions. Two more *Yp*'s, the 230 and 346, were at Efate in New Hebrides. The seaplane tender *Curtiss* and the two small plane tenders *McFarland* and *Mackinac*, the former a converted destroyer, based at Noumea, New

Caledonia, while the limited repair ship *Argonne* sailed 10 July from Pearl for Auckland.

Besides these, the fleet oilers *Cimarron* and *Platte* were to be at Tongatabu to supply oil for the amphibious force ships staging there late in July, and the fleet oiler *Kaskaskia* was scheduled to leave Pearl 20 July. At Noumea there were to be 225,000 barrels of fuel oil brought by chartered tankers, and the same amount about 2 August. Over at Tongatabu the old, slow Navy tanker *Kanawha* (Commander K. S. Reed), with a capacity of 75,000 barrels, was a station oiler.

The chartered tanker *Mobilube* arrived at Tongatabu 19 July, but after fuel had been pumped from her into Rear Admiral Noyes' *Wasp* group of Task Force Eighteen, Rear Admiral Kinkaid's *Enterprise* group of Task Force Sixteen, and two of the transports, the *President Adams* and *President Hayes*, she pumped the rest of her cargo into the *Kanawha* and left for San Pedro 27 July.

The vital importance of an adequate supply of fuel, and its timely and properly allocated delivery to the vessels of the South Pacific for the campaign about to begin, was clearly recognized by Admiral Ghormley. — The distances involved, the scarcity of tankers, and the consumption of oil by task forces operating at high speeds made the solution of this logistic problem difficult enough if the normal operating consumption was used for estimates. But what would constitute "normal" when the offensive was under way? Even more difficult to resolve was the margin of safety to cover unforeseen losses, excesses, or changes in operations. Furthermore, though Ghormley foresaw the situation and tried to anticipate it, his logistic planners were too few and had too little experience. That he had his fuel requirements constantly in mind is shown by his dispatches to Admiral Nimitz. Another thing that worried him was the lack of destroyers for adequate escort and protection of his tankers even when he had the latter. This shortage of destroyers was felt by the task force commanders also, and had considerable influence on all the operations.

In a dispatch of 9 July 1942 Admiral Nimitz said to Ghormley that he, Commander in Chief Pacific Fleet, would supply the logistic support for the campaign. Arrangements, he stated, had been made to have the oilers *Cimarron* and *Platte* accompany Task Force Eleven leaving Pearl for the South Pacific, and that the *Kaskaskia* would leave soon after about 20 July. The *Kanawha* would fuel Task Force Eighteen and then go to Noumea. The chartered tankers already mentioned as bringing 450,000 barrels of fuel to that port would be followed by others with

about 225,000 barrels a month for the carrier task force. Nimitz also promised other requirements, such as aviation gasoline, Diesel fuel, and stores for the task force, would be supplied as Ghormley requested.

All this sounded like a comfortable amount of fuel oil, and based upon past experience no doubt seemed liberal to the estimators. But past experience was not good enough. To begin with, the *Cimarron* and *Platte* had fueled Task Force Eleven on its run down from Pearl. On 21 July the *Platte* was ordered to pump her remaining oil into the *Cimarron*, proceed to Noumea, and refill there from the waiting chartered tankers. She took aboard 93,000 barrels of that oil and rejoined Task Force Eleven.

On 28 July Admiral Ghormley ordered the ammunition ship *Rainier* (Captain W. W. Meek) and the tanker *Kanawha* to leave Tongatabu and proceed to the west side of Koro Island in the Fiji group. The ships were to arrive, escorted by Turner's amphibious Task Force Sixty-two, at the earliest practical time during daylight. The fleet tanker *Kaskaskia* was also ordered there to supply the needs of the Task Force which was to rendezvous there before proceeding to Guadalcanal.

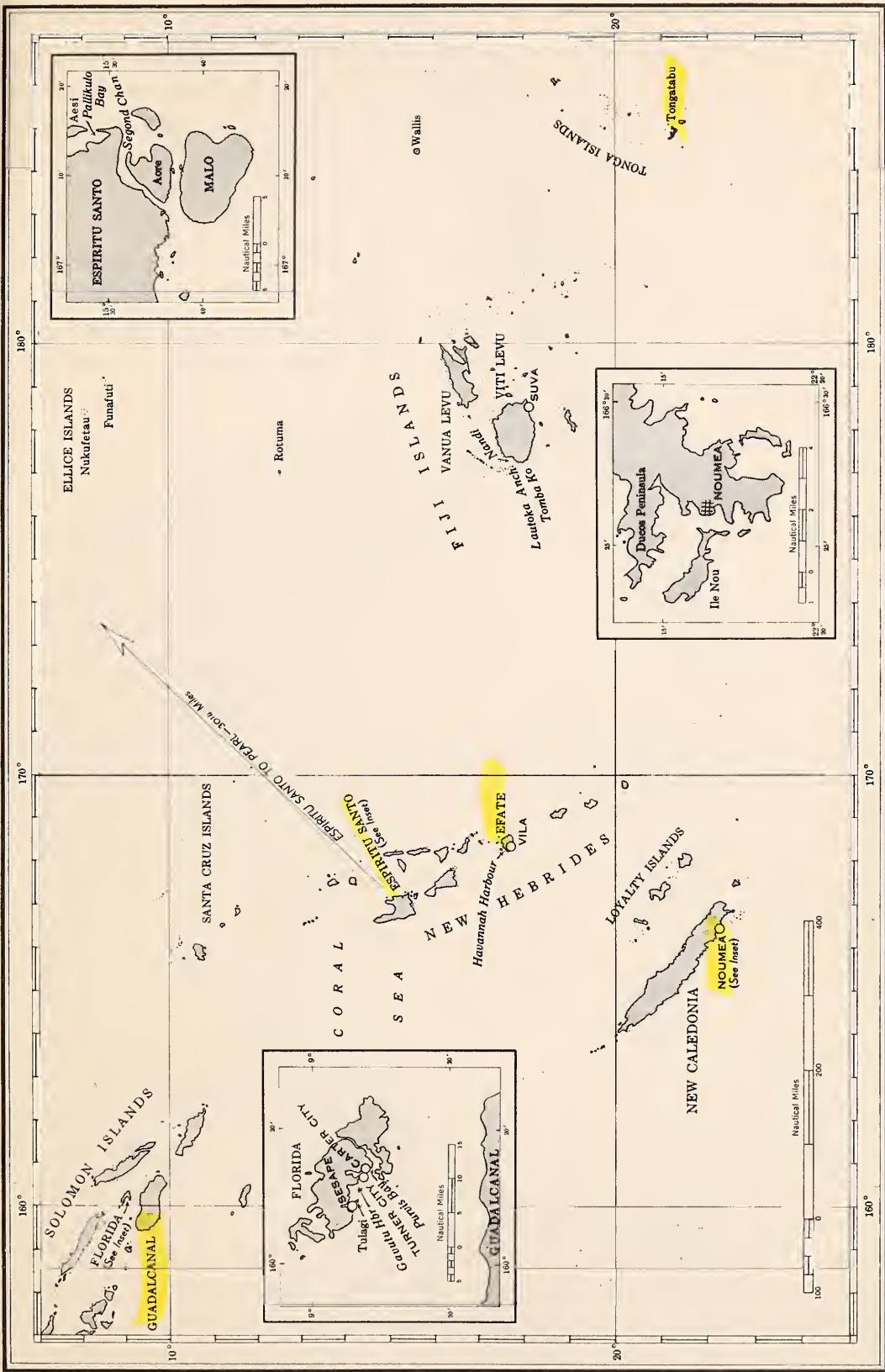
The next day Ghormley ordered the commanding general on Tongatabu to load the coal-burning *Morinda* with one hundred 1,000-pound bombs, four hundred 500-pounders, and one hundred 100-pounders from the stocks available on shore. The *Morinda* was then to return to Efate, New Hebrides, filing her departure report to include route and speed of advance. The reason for this was that she had to go to Suva for coal and water to complete her trip to Efate.

While this was occurring, Task Force Sixteen, the Anzac Squadron, and part of the Amphibious Force joined Task Force Eleven and took all the *Cimarron's* remaining fuel. As soon as the *Platte* rejoined, the former tanker was sent to Noumea to refill. She cleaned out the tankers there, and on 1 August Admiral Ghormley sent word to Commander Southwest Pacific: "Urgently need additional fuel oil New Caledonia area as *Bishopdale*, now empty, being dispatched to Brisbane to refill. Request you dispatch one tanker loaded with 50 to 100 thousand barrels as replacement." Before the *Bishopdale* could clear the harbor she ran into a mine and was out of service. The 225,000 barrels due at Noumea in the chartered tankers *E. J. Henry* and *Esso Little Rock* had already been diverted, one tanker to Efate, one to Suva, so Ghormley could hardly be blamed for feeling uncomfortable about the fuel-oil situation. For his 3 carriers, 1 fast battleship, 11 heavy cruisers, 3 light cruisers, 40 destroyer-type ships, 19 large transports, 1 large and 3 small aircraft tenders, 8

service-force vessels, and 499 airplanes of carrier- and land-based types, the only other fuel he had not already mentioned were some small quantities of black oil in shore storage for patrol craft, and considerable tank and barreled gasoline at Tongatabu and Efate and a smaller amount in New Caledonia. To remedy this acute shortage, Admiral Nimitz on 1 August, after reading of the *Bishopdale's* mishap, ordered the 2 large, fast tankers then available at San Pedro to proceed at the earliest possible moment to Noumea with black oil for diversion by Ghormley. This was in addition to the 200,000 barrels ordered delivered every 15 days. The *Gulfwax* was also ordered to sail from Pearl to replenish the storage supply at Samoa. The next day the tanker *Sabine* left San Pedro for the South Pacific, but could not reach the Fijis before 2 weeks had elapsed.

The task force in the South Pacific was Sixty-one, under Rear Admiral Fletcher, which included Task Forces Eleven (Rear Admiral Fletcher), consisting of the *Saratoga*, two cruisers and five destroyers; Sixteen (Rear Admiral Kinkaid), of the *Enterprise*, battleship *North Carolina*, two cruisers, and five destroyers; Eighteen, under Rear Admiral Noyes, with the *Wasp*, two cruisers, and six destroyers; and Sixty-two (Rear Admiral Turner); the Amphibious Force and the supporting force of six cruisers and six destroyers; and Sixty-three (Rear Admiral McCain), which had the patrol aircraft and shore-based aviation.

With poor bases at Auckland, N. Z.; Fiji; Tongatabu, Tongo Islands; Noumea, New Caledonia; and Efate, New Hebrides, and the beginning of another one at Espiritu Santo also in the Hebrides, the Guadalcanal operation was begun. Not one of these bases was much more than a small airfield and a protected anchorage for ships while they took on fuel or supplies from service vessels. Auckland was the best because New Zealand could furnish food and some repair facilities, but it was too far from the scene of operations. Tongatabu was also too far, and had no facilities other than a little storage convenience established by ourselves. It was selected at a time when our caution was at its peak because it provided a submarine-protected anchorage behind reefs and was well beyond the range of Japanese land-based planes. Of them all, Noumea seemed the most suitable at this time. Its anchorage was large enough for all our ships, and was quite well protected against submarine attack by islands and mine fields. Efate Island had two harbors, Vila and Havannah. The former was too small for more than one or two combatant ships, and the latter, while large enough at that time, had no protection against submarines. Suva in Fiji was, like Vila, too small; the larger anchorage at Nandi was then unprotected.



New Hebrides.

So, with a far-from-desirable logistic situation, and with the expectation of strong Japanese resistance, perhaps even full naval strength, the audacity of the Guadalcanal operation was evidenced in a bold seizing of the initiative. The principal credit for this probably should go to Rear Admiral R. K. Turner, who was ever in the forefront in planning, directing, and carrying out an operation with skill, persistence, drive, and great courage. He thoroughly understood the difficulty of the support problem and worked unceasingly with all concerned in logistics, as he did with troop- and combat-ship commands. He not only could and did think in the large, but he could also when necessary attend to small details such as procuring kegs of nails or bundles of steel landing mat. Reverses or confused action did not discourage him, but made him only the more persistent in having the action improved. His farseeing knowledge of the preparation in logistics in his campaigns throughout the war further served to mark him as the greatest of all amphibious commanders.

In the Guadalcanal operation the situation was for some time "touch and go" mainly because of the logistic factors. Right at the start Fletcher stated that he would not give carrier-plane support for more than 2 days. He felt that the positions of the carrier groups would become too hazardous, and we were not in any condition to lose more carriers. To this Admiral Ghormley emphasized the importance of fighter cover for the transports in the unloading area, and Turner entered a vigorous protest against withdrawal before his transports were unloaded. Nevertheless, on the night of 8 August (the second day), with much unloading of supplies and equipment still to be done, Fletcher felt that he had to withdraw because his carriers' fuel was running low, and his plane losses of 20 percent had not been replaced. Fletcher had previously refueled on 3 and 4 August. He withdrew to a point 500 miles south of the transport-unloading area where he refueled on 10 August. Why Fletcher could not have refueled on 4 and 5 August and held on a day longer is not clear. Twenty-percent loss in fighter planes could hardly have been considered desperate. A day longer would have meant much more supplies and equipment for the Marines and less touch-and-go during the following 2 weeks.

It was unfortunate because it was chiefly the defense by the carrier fighters that had kept the transports from withdrawing when attacked by Japanese planes. There had been some interruption of unloading because of getting underway for fast maneuvers when the enemy planes approached. The transports were not withdrawn, however, but returned



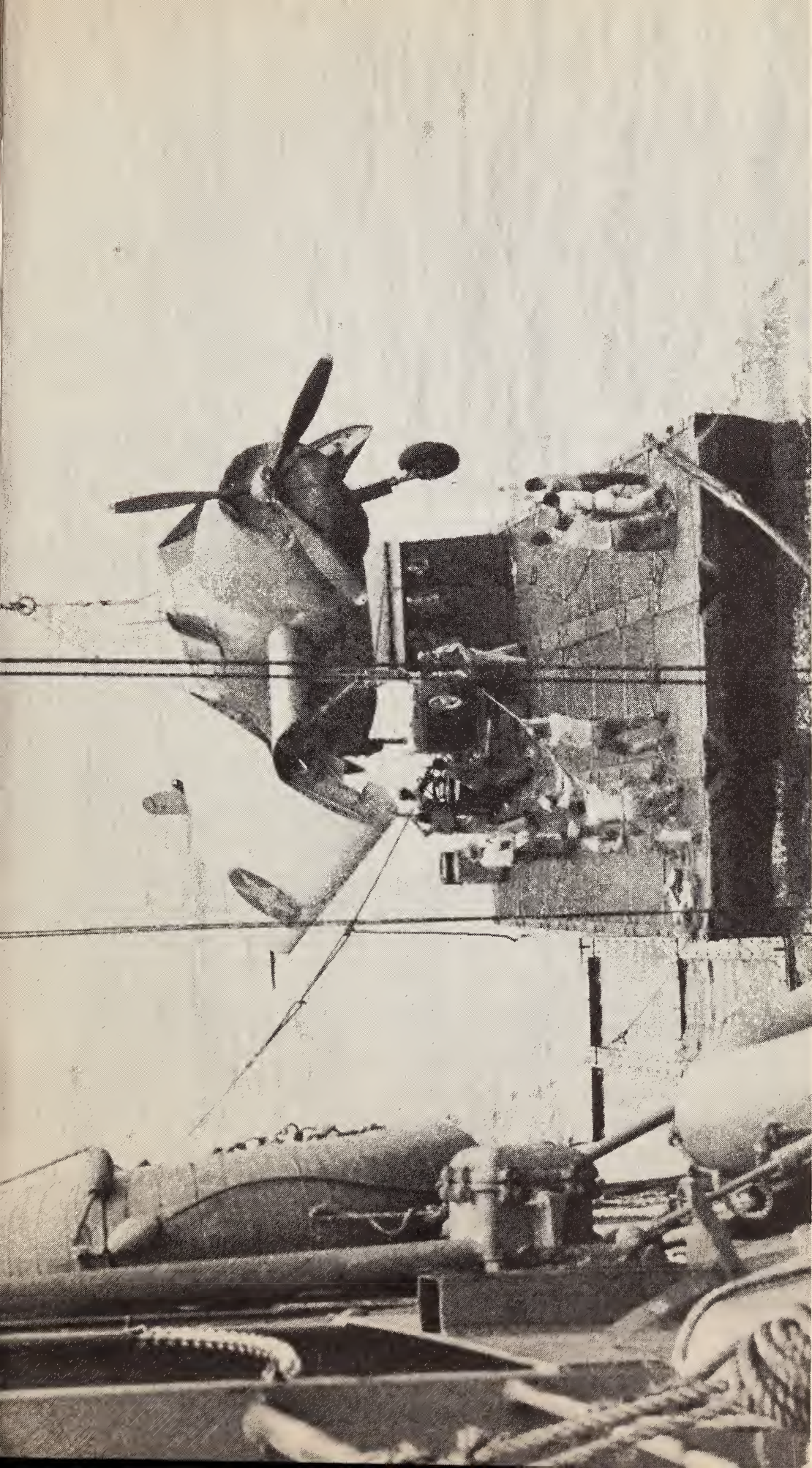
Kitty Hawk supplying planes to the Long Island.

to the unloading points as soon as each attack ended. With Fletcher's withdrawal Turner felt that by daylight of the 9th he must withdraw most of his transports until he could have air support, and he did so. Nevertheless, for the next 2 weeks he skillfully landed the absolutely necessary supplies by sending in only one or two ships at a time, and concentrating on speed in unloading. He also landed many drums of gasoline for the airfield. It was desperate work, with aerial bombing by day and bombardment by cruisers and destroyers at night. While most of the attacks were directed at the airfield and at the Marines' shore positions, the logistic ships had to go to defensive positions repeatedly, and many interruptions in unloading resulted.

Since the lack of proper logistic support for Fletcher was the cause of Turner's inability to land much desirable equipment and supplies, we see logistics depending upon logistics. In spite of this, Turner did manage to get ashore the absolutely essential materials to keep the operation from ending in disaster. The increasing demands born of action, the distances over which most of our supplies had to come in hourly danger of attack, and the necessity of keeping abreast of a highly involved situation made realistic thinking and practical application essential. At the same time the thinking had to be imaginative and intuitive enough to gauge how much of what would be needed in every area in every conceivable circumstance. The timing was also important. On 11 August Admiral Ghormley asked Admiral Nimitz for ammunition for his destroyer-transports and destroyer-minesweepers, adding that none was available in the 4-inch class and only 1,000 rounds of 3-inch.

Commander in Chief Pacific had been thinking ahead also. The following day he replied that the *Cabrillo* had left San Francisco independently on 3 August with 40 guns and 200,000 rounds of 20-mm. ammunition for Auckland, and should arrive there about 23 August. He also said he was sending an additional 50,000 rounds of 20-mm. from Oahu, 50,000 rounds of .50-caliber incendiary, 50,000 rounds of .30-caliber incendiary, 6,000 rounds of 3-inch, and 4,000 rounds of 4-inch in the *Vestal* and *Kitty Hawk*, which would sail 15 August.

Ammunition was by no means the only item needed. On the 12th Rear Admiral McCain, Commander Air South Pacific, at Espiritu Santo in the *Curtiss*, told Admiral Ghormley that the ships arriving at Espiritu Santo needed fuel oil, Diesel oil immediately, and 300,000 gallons of bulk aviation gasoline for tenders within 7 days. If the tanker then en route to Espiritu Santo could not provide all of this, he suggested that the *Sabine* be diverted to him. There was some Diesel oil in the South



U.S.S. Kitty Hawk at Pallikulo Bay, New Hebrides, unloading torpedo plane to self-propelled 50-ton barge.

FOOTNOTE.— This barge, one of the war famous type, made by assembling 21 steel pontoon sections, locked together with fittings known as jewelry. Certain assemblies were used as small docks, and non-self-propelled barges.

Pacific, but the nearest storage was at Suva and in the tankers busy supplying the carrier task groups. Espiritu Santo was becoming more and more suitable for use by the ships, and the *Sabine* was accordingly diverted there. She arrived from Suva on the 22d, remained 2 days, and went to sea to help fuel Fletcher's Task Force Sixty-one. After 2 days with it she started back 26 August 1942 to Espiritu, fueled 11 ships there, and on the 28th sailed for Noumea. There she filled up with the cargoes of the chartered *J. W. Van Dyke* and *Pacific Sun*, taking aboard 32,661 and 52,909 barrels from them on 30 and 31 August. The wherewithal was receiving more and more thought and action!

Meanwhile the Savo Island fight had left us with the crippled heavy cruiser *Chicago*, which had to be sent to Sydney, Australia, for repairs because we had no dock available nearer than that. This was a condition that we were on the way to remedy before the year was gone.

Admiral Ghormley's worries over the fuel situation continued. On 14 August he had notified Admiral King, Admiral Nimitz, and his own Service Force commander that Fletcher's carrier groups of Task Force Sixty-one after 1 week of normal cruising had completely emptied the oilers *Platte* and *Kaskaskia*. He also suggested that both ships be refilled and sent out to a rendezvous at a time to be named, he in the meantime holding the *Cimarron* to keep the force fueled. In reply next day Admiral Nimitz ordered the tanker *Guadalupe* to sail with Task Force Seventeen, the carrier *Hornet* group, on 16 August to reinforce the Southern Pacific.

Even that was not enough to allay Ghormley's anxieties. On 18 August he informed Nimitz that a study based on the actual issues of 23 days indicated that soon after 14 September there would be a fuel shortage. He said his total of on-hand and scheduled arrivals would be gone by that time, as his combatant vessels used an average of 25,000 barrels a day, and his auxiliaries 3,000 barrels, a daily total of 28,000 barrels. He therefore requested monthly shipments to supply that amount, with more to be supplied if additional vessels were sent to the area; said that he would soon send a similar analysis with respect to aviation gasoline, aviation lubricants, and Diesel fuel; and requested advanced notification of tanker departures from the west coast so as to be able to plan more wisely. This detailed summary was most fortunate. The action which followed prevented any further serious shortage during the remainder of the South Pacific campaign.

Fighting results in something more than the mere necessity for replacing exhausted supplies. Battle damage, not only to ships but to men, was a major concern. On 15 August the hospital ship *Solace* had 362

wounded on board which she had to take to Auckland, where we had established a base hospital. Our medical logistics at this time were far from what we desired, and far from what we eventually developed. We had base hospitals started in New Zealand, another one at Efate, a field unit from Cub One—a Cub is an advanced unit with the necessary personnel and material for a medium-sized advanced fuel and supply base—at Espiritu Santo, and a base hospital on the way to being established at Noumea. Before the fight for the South Pacific was over, each of these was filled to capacity, and the three more added at Noumea, Espiritu Santo, and Guadalcanal were doing tremendous jobs. The sick and wounded were brought to them by ships and planes, kept until on the safe side, and then many were shipped home to the continental United States for further treatment and convalescence or, as sometimes occurred, taken to New Zealand or Australia for convalescence and an early return to duty. Many were sent to Pearl Harbor, where two new naval hospitals were set up. Still another was added later.

There was no end to the demands the action made. Now it was "discovered" that spare propellers for destroyers were needed and a call was sent out for them on 14 August. Nine days after the landing, the situation at Guadalcanal seemed to hinge mostly upon logistics.

On 16 August Admiral Ghormley told Admirals King and Nimitz that 11,000 Marines held the island to a depth of 5 miles from Koli Point to Point Cruz. Six thousand other Marines held Tulagi, Gavutu, Tanambogo, Mbangai, Makembo, and spots adjacent to Florida Island coast line. They had only 5 units of fire and 3 days' rations because of the enforced withdrawal of the transports and cargo ships. Enemy aircraft and submarines constantly threatened all shipping in the area. Four APD's (high-speed troop transports, the old flush-deck "four-pipers") had been sent in the night before with aviation gas, lubricating oil, spare parts, and some ground crews. There was no word of success or failure as yet. Two cargo carriers were to be sent in with rations and ammunition; they could be unloaded in 24 hours. Also, 3 carrier task forces were at sea to cover supplies into Guadalcanal and to attack enemy ships, which Admiral Nimitz said might appear between 19 and 21 August. On 16 August Admiral Turner told Admiral McCain, presumably with the idea that the latter could help materially by flying-in some of it, that essential needs at Guadalcanal were food, land-based aviation, ammunition, antiaircraft guns, barrage balloons, and radio-construction personnel. The Marines had captured, repaired, and were using a Japanese radio plant. They had also taken considerable rice and canned food,

without which their rations would have been even shorter. The four APD's unloaded successfully, and on the night of 21 August six more of them repeated the success. The two general cargo ships were also successful in unloading, but more than 24 hours were necessary because of boat shortage and inadequate beach handling of the cargoes. Not all the converted destroyers escaped damage. One of them put into Tulagi and there, with characteristic American inventiveness, made a jury steering rig out of coconut logs which helped her to reach Espiritu Santo.

CHAPTER V

Logistic Organization and Sources South Pacific

Damages and Repairs

TWO WEEKS AFTER GUADALCANAL, when the battle of the eastern Solomons was fought on 23-24 August 1942, logistics again came prominently into the picture. Had the Japanese realized the situation and followed through, the operation might have become a major setback for us.

Fletcher had returned to a supporting position when it was learned that the Japanese were moving south in greater strength than ever, with three carriers; battleships, cruisers, and destroyers. Some four or five transports in another group were coming down the "Slot," the famous passage running down through the Solomons from the northwest. Failing to secure proper information regarding this force, Fletcher had meanwhile sent his *Wasp* carrier group back to the base to refuel. The battle of the eastern Solomons had therefore to be fought with only the *Enterprise* and *Saratoga* groups.

Luckily, we made the first kill, sinking the carrier *Ryujo* quickly. Our fighter pilots were in high gear that day, and destroyed many enemy planes. Our Marine land-based planes likewise did great work, while the anti-aircraft fire of the *North Carolina* was far more effective than the Japanese had anticipated. So, with such heavy plane losses, they decided to retreat.

They could not have known how weak we were without the absent task group, or that some of our land-based planes could stay at the scene only a few minutes, or that the refueling of these planes was a time-consuming hand-to-hand job. The enemy seemed unaware, moreover, that 4 of the cruisers they had fought on the night of 8 August had

sunk, and that a fifth was even then limping slowly back to a repair yard. They had just damaged the *Enterprise* so badly that her planes could operate only at reduced frequency from her flight deck, and she was withdrawing at 24 knots with her steering-engine room flooded, and the suspicion of a bent propeller shaft. Would the Japanese have turned back had they known all this? It is true that something induced their transports to keep going, to attempt to land reinforcements, but at dawn the Marine planes, which had refueled during the night, caught them with but weak escort and drove them into retreat with heavy losses. Could our planes have turned them back if they had been accompanied by their 2 carriers; battleships, cruisers, and destroyers of the force which had retreated the night before? Could the Marine planes, together with "Sara's" air group plus 1 battleship, 8 cruisers, and 12 destroyers, have done it? Fortunately the question did not have to be answered that day, but if our logistic support had been good, the *Wasp* group would have been refueled within supporting distance.

After this, no large scale naval activities were undertaken by the enemy for about 6 weeks. He ran in small detachments of troop reinforcements to Guadalcanal by night, but his logistics were faulty so he was unable to put in any artillery, tanks, or heavy equipment. Meanwhile we were busied with our own supply to the Marines there.

On 1 August 1942, Admiral Ghormley had moved to Noumea with most of his staff and some of the Service Squadron. On the 30th he told the Commander Service Squadron South Pacific, who was still in New Zealand, that our supply set-up was not right under the prevailing conditions, since operations and logistics had to go hand in hand. He was convinced that we should have a good subordinate supply command at Noumea and told ComServRonSoPac to think it over, warning him that he would probably send a plane "in the near future to bring you, Nuber, and Fellows¹ up for conference."

These were rough days. On 30 August the *Saratoga* was torpedoed and sustained a tremendous amount of structural damage in her fire-rooms, though not seriously hurt otherwise. She had to be sent to the Pearl Harbor Navy Yard for repair. Fortunately the *Hornet* group had arrived in Noumea 2 days earlier, so the carrier strength remained for the moment unchanged. This, however, was short-lived. On 8 September we suffered a serious loss in the sinking of the carrier *Wasp* by submarine torpedo and fire. We still lacked something in ship and damage control,

¹ Captain H. D. Nuber (SC) and Lieutenant Colonel T. H. Fellows, USMC, were supply officers.

something that had always been routine in the submarine service. Later, as the war progressed, it became almost as routine for the surface ships as for the submarines, and the amount of damage our ships withstood because of its efficiency was a matter for wonderment. The Service Force developed a fire-fighting school at Pearl Harbor, using the best talent available from some of our finest municipal fire departments. Methods of extinguishing gasoline, oil, and other fires were brought to such a high state of effectiveness that only one ship was lost as the result of fire after that, although many were set on fire more severely than the *Wasp*. Another fire-fighting school was later established at Noumea. Meantime, with the loss of the *Wasp*, we had only two carrier task groups in the area with which to oppose the next strong Japanese naval move for the relief of Guadalcanal.

On 6 September 1942 Admiral Ghormley reminded Admiral Nimitz that all the logistic agencies for the South Pacific were concentrated in the Service Squadron South Pacific, fixed at Auckland. Most of the logistics of the current operations were handled at Noumea by Commander Cowdrey, staff engineer, and two supply officers from the survivors of the heavy cruiser Quincy. Due to the magnitude of the task, plus the necessity that logistics minutely follow operational planning, this set-up was faulty, and unless it was rectified promptly operations would be jeopardized. Ghormley's situation required a fixed base at Auckland under administrative control of Service Squadron South Pacific to service fixed bases in accordance with a joint logistic plan of 15 July. It also required a complete semi-mobile logistic agency with Ghormley for combat operations.

Captain M. C. Bowman, who had commanded the Service Force Subordinate Command at Auckland since April 1942 and worked with the New Zealand Government in establishing logistic bases and aid for the South Pacific forces, was brought to Noumea with Fellows and Nuber for consultation. He recommended the immediate establishment there of an advanced supply depot, with a line captain and suitable staff. As no buildings were available, he proposed that they be constructed. He also recommended the transfer of himself as ComServRonPac to the destroyer tender *Whitney*, at Noumea or wherever Ghormley might be, but suggested that the repair ship *Rigel* remain at Auckland to furnish repair facilities augmenting those of the dockyard. He asked for one line captain, one supply corps captain, one line commander as operations and routing officer, and one experienced communications officer with four assistants for Auckland to carry on the duties previously performed by

his own staff, which he wished to keep with him at Noumea. Ghormley recommended this to Nimitz.

Ghormley's dissatisfaction with his logistics was clear. The magnitude of the job was too much for three officers. He wanted a semimobile logistic agency with him for combat operations, and it can hardly be doubted that he needed the Commander Service Squadron South Pacific nearer than Auckland. Why he had to ask Admiral Nimitz to transfer Bowman to Noumea is not clear, unless he doubted his own authority to do so. On 9 July Nimitz had said that he would supply logistic support. This may have left Ghormley unsure as to the extent of his responsibility and authority in these matters. The fact that he could see the weak points and did not like the arrangement was apparent before Guadalcanal.

Bowman had done an excellent job at Auckland, thus paving the way for Ghormley when the latter arrived the following month (May 1942) with his small staff. However, at that time no Guadalcanal was handed them with its increased tempo, its many ships, and its complex logistic problems. Until after Midway we were on the defensive, and it was perimeter defense which was in mind when the South Pacific Command was established. With the taking of the offensive, however, Bowman found himself trying to operate naval bases, a foreign-purchase department, and a Service Force squadron with a handful of officers with little or no previous experience. The fact that he well understood that operations and logistics go hand in hand was shown by his proposal that he and his staff be brought to Noumea to be in close contact with Ghormley, who had gone there 1 August. The near failure of our supply system in early September resulted more from conditions beyond Bowman's control than from any fault of himself or his staff.

Those conditions were, briefly: a lack of knowledge and experience in the high command and subordinates, when planning operations, as to logistic requirements entailed; the service staff was too small; the bases were too far apart; port handling facilities and storage were insufficient; and the attack on Guadalcanal was necessarily early, with but little time to think out and prepare all details. To these was added the enemy action which made delivery of supplies by Turner to the Marines on Guadalcanal exceedingly difficult. The insufficiency of land-based planes put a heavy load on our all-too-few carriers. Their plane losses in turn put an overload upon our existing replacement system (logistics), and the damage to ships beyond our capacity to repair (again logistics) strained our resources beyond all plans and estimates.

The planning itself omitted few of any items which would be needed, but the quantities were in many instances not much more than guesses, — so there were many cases of too little and too much. Most trying was the failure to realize fully that the distribution at the combat area end of the line was one of the big problems. The where, how, and when of unloading the supplies from arriving ships and distributing to our naval forces had not been given the necessary study. To begin with, the loading was very bad. Parts of the same unit were scattered in different holds and mixed up with similar things, often making identification difficult. Invoicing and marking of cases was bad. At times parts of the same unit were in different ships. ✖ ✖ ✖ ✖

It is well to bear in mind that Commander in Chief Pacific had notified Ghormley on 9 July that he would provide logistic support for the Guadalcanal operations, specifically naming fuel oil, Diesel fuel, aviation gas, and stores. What was included under stores? Were the specifically mentioned items considered the only form of logistic support Admiral Nimitz had in mind when the message was sent, or did support take care of everything? We know from ComSoPac's messages that he was worrying about fuel and to a lesser degree about ammunition, and that he did not agree with the Commander in Chief about the needs in these items. It may be assumed therefore that he did not credit CinCPac's staff with any sixth sense or deep understanding of the South Pacific needs, and he was right. In the meantime, however, his own available staff and that of ComServSoPac were too overworked to attend to the whole matter of estimates of quantities then loading at port of departure, and the unloading, storage, and distribution in combat areas to the units under his command. So it was muddled through, with luck on our side when the enemy failed to follow up an opportunity; or perhaps it should be said, when he failed to see that we were short or could have been cut short. ✖

When on 29 September Captain Bowman and his five staff officers—still far too few—took over from ComSoPac's staff those additional duties required by the situation, muddling did not entirely cease, but we began to see more clearly what was needed and to set about obtaining it in a more efficient way.

At Espiritu Santo in the Hebrides the large landing field was put into operation. More planes were put in and a tanker sent there to provide fuel for the ships of the naval task groups. It was small, but it was a beginning. About this time it was suggested to Admiral Ghormley that Espiritu Santo, instead of Noumea, be made the big naval base, and that

an all-out effort be made at once in developing it. But with Guadalcanal still in doubt he felt that it was too early a venture, and that if we lost the former we should probably lose Espiritu Santo soon afterward, thus furnishing the Japanese a better base for further drives toward Australia and New Zealand.

Fitch relieved McCain on 21 September 1942. With his flag in the *Curtiss* at Espiritu Santo, the readiness of the big field for certain types of planes, the protection of the harbor entrance by mine fields, the building up of Army strength, and the many square miles of ground available and suitable for all kinds of activity, Santo was clearly the outstanding place for a base. Then Halsey relieved Ghormley on 18 October and soon afterward agreed that it was the best place we had. He approved bringing in a "Lion,"—a large advanced base unit consisting of all the personnel and material necessary to the establishment of a major all-purpose naval base able to perform voyage repairs and minor battle damage in addition to its supply functions. Meanwhile he based the cruisers and some of the destroyers there, and for that purpose sent in the repair ship *Rigel*, which gave them meager service of fuel, dry provisions, and occasionally some fresh and frozen provisions. The cruisers had practically no repair facilities other than ship's force and what the overworked *Rigel* had. Some ammunition for light guns had been brought by *Cub 13* and this had sufficed, as there had been no heavy gun engagements in which the vessels had needed much ammunition replacement. There soon might be, however, and the call had gone in, so the "ammo" for turret guns was already being shipped. Storage areas had been allocated in Efate, Espiritu, and Noumea, and it was not long before more ammunition was being dumped than could be properly cared for.

In the battle of Cape Esperance on 11 October the cruisers *Salt Lake City* and *Boise* and the destroyer *Farenholt* were seriously damaged. They reached Noumea and laid alongside tenders (*Whitney* and *Argonne*). The latter was Ghormley's flagship and could do very limited repair work, but all that could be accomplished was to patch over holes to make the cruisers seaworthy enough to reach a navy yard. There were no facilities for turret work. One turret on the *Boise* had been penetrated by an 8-inch shell, whose explosion wrecked it. The two other forward turrets were out of commission from minor casualties and flooded magazines and the ship had been twice hulled, with serious damage at each point.

From Noumea the *Salt Lake City* went to Espiritu Santo, where she made temporary repairs before going to Sydney for permanent work. The

Farenholt's damage was remarkably localized. One shell had penetrated her fireroom and exploded in a corner on a main steam-line expansion joint. As the effect of the blast was taken by the boiler, the crew of that compartment managed to escape. Another shell exploded in the control room upon impact with a switchboard which acted as a shield for the men behind it. Only 1 man was killed there. A third shell had burst against a torpedo tube, forcing it into the smokestack, which it wrecked. In all 3 cases the local material damage was so great the ship had to be patched up temporarily and sent to a navy yard. Both cruisers were cannibalized. The *San Francisco* replenished her ammunition from the *Salt Lake City* at Espiritu Santo, and the *Helena* from the *Boise*. But there was still need for about 2,000 rounds of 5-inch .38-caliber, and 5 torpedoes for destroyers. These needs had been foreseen and shipment made. The other vessels of Rear Admiral Norman Scott's group which had fought the night battle of Cape Esperance had returned to Espiritu Santo for servicing, such as it was.

During those trying weeks of September and October we had been getting needed supplies and equipment to General Vandegrift. Considerable improvement had been made to Henderson Airfield, and an additional strip for fighters had been put in by the Sixth Seabees. Meanwhile, however, the Japanese had succeeded in getting in almost an entire division of troops by their many night landings from destroyers and submarines. They had not been able to land many tanks or much artillery from such light vessels.

We had had some bad luck, too. The new battleship *South Dakota* arrived at Tongatabu 4 September, and 2 days later struck an uncharted coral pinnacle in the entrance passage, suffering such damage that she had to be sent back to Pearl for repair. Before she left she was cannibalized of 1,000 rounds of 5-inch ammunition and some of the fuel she had taken from the commercial tanker *W. S. Rheem*. On 16 October her repairs had been completed and she was on her way back with Admiral Kinkaid's Task Force Sixteen, the *Enterprise* group. In the meantime, on 15 September, the *North Carolina* got a "tin fish" in her bow from a Japanese submarine. She went to Tongatabu, where divers from the *Vestal* cut off the projecting pieces of hull metal, and she too had to go back to Pearl for permanent repairs. She arrived there 30 September and left 6 weeks later, 17 November, to return to the South Pacific. In the interim our forces had only 1 battleship, the *Washington*. More bad luck came when the *Chester* was hit, towed in, found to be beyond ServRonSoPac's capacity for repair, and sent to Australia.

The next major effort by the enemy to relieve or retake Guadalcanal came on 26 October 1942, in the fight off the Santa Cruz Islands, in which we again discouraged the Japanese from following through. We lost the carrier *Hornet* and the destroyer *Porter*, both of which might perhaps have been saved had 2 or more salvage tugs been available, but we had none. The *Enterprise* was damaged, but we could not let her go back to a navy yard, so about 70 picked Seabees were put aboard and made extensive repairs to the forepart of her flight deck and forward officers' quarters. The Seabees went to sea with her on her next operation, as some work was unfinished but could be done while under way. The Seabees were so justly proud of their accomplishment and their seagoing on a combat vessel that it was difficult to get them back into their less adventurous duties again. Of course they lorded it over their less seagoing companions unmercifully.

The battleship *South Dakota* had been in this fight, was bombed, and was repaired by the Service Squadron at Noumea. The *San Juan*, a light anti-aircraft cruiser, received a bomb hit which went through her stern and exploded under her counter, doing considerable damage which could not be repaired by the Service Squadron. She went to the navy yard at Sydney.

One result of this battle was a new requirement of logistics. It was to quarter and clothe at Noumea about 3,000 nearly naked men and officer survivors from the *Hornet* and the *Porter* until they could be shipped home for reassignment. The Navy was not prepared for this, but by cooperation of the Army, tents and cots were obtained, a camp prepared, clothing gathered from all available naval vessels, and each man given some underwear, socks, shoes, and a suit of dungarees. Fortunately the transport *West Point* came in a few days later, and all were shipped back home. This requirement was a lesson that was borne in mind during the following years of the war, though not always implemented in a fully satisfactory way. Tents and extra clothing were carried (not always in proper quantities), and later on, with the formation of Service Squadron Ten, enough extra clothing was carried and barracks ships were eventually available. Transports were also frequently made available for handling considerable numbers of men when necessary.

The Japanese naval operation was planned to relieve their Guadalcanal situation and was timed to the expected capture of Henderson Airfield from the Marines. They failed to capture it, and though the naval action was about even, the Japanese again retired until they could reinforce their troops. We lost 1 carrier, 74 planes, a destroyer, and

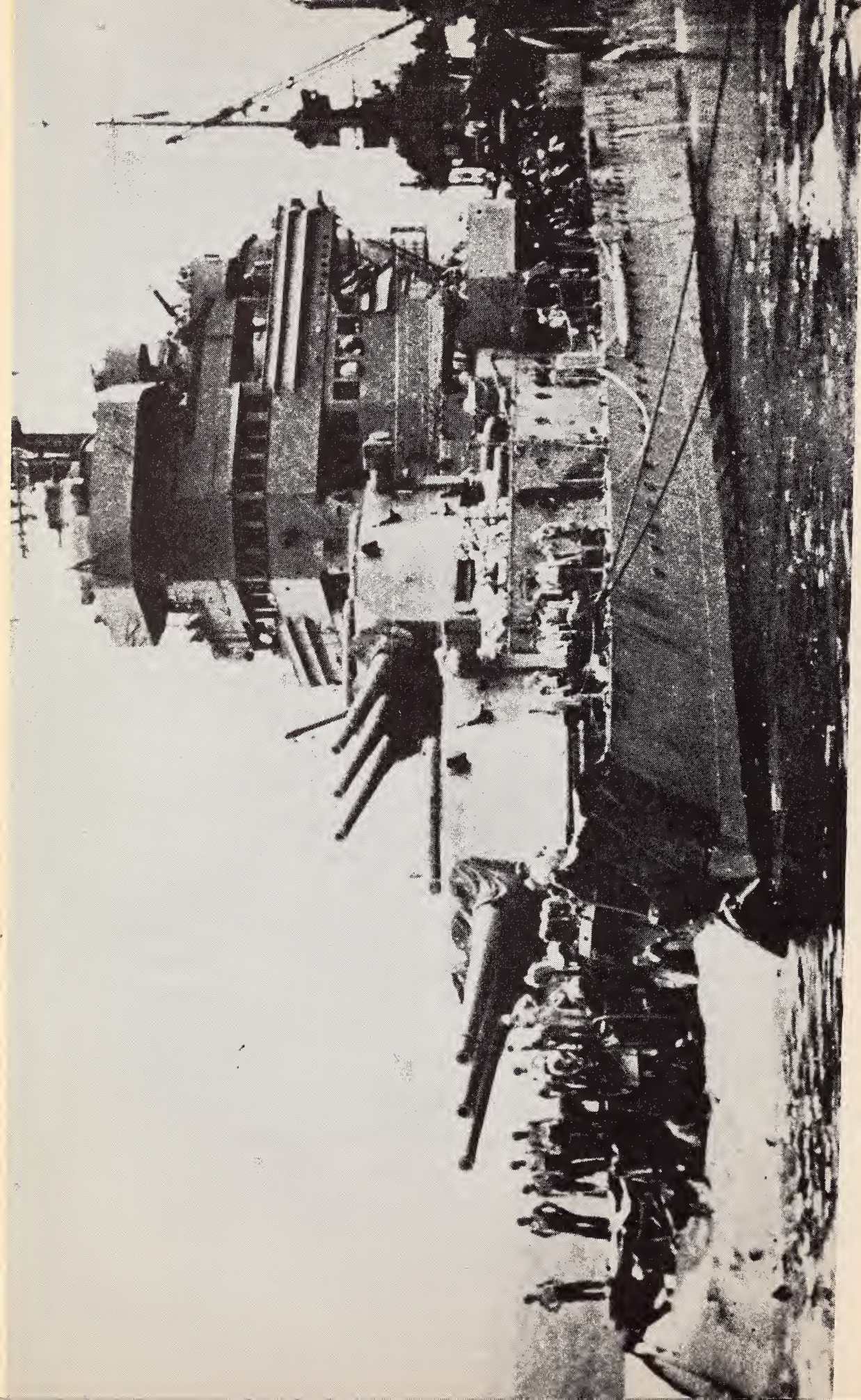
sustained some damage to other vessels. Japanese losses were 2 carriers put out of action and about a hundred planes destroyed.

During the night of 2 November 1942, the enemy landed a beachhead battalion of more than a thousand at Koli Point, but our ships drove them into the woods. Our troops closed in on them and eventually wiped them out. A few days later, on the 6th, Admiral Turner landed 6,000 troops with tanks and artillery. Still others were put ashore on the 11th and 12th. We knew the enemy was also preparing for an attempt in strength to land reinforcements. Admiral Turner was therefore given a strong escorting group, and Kinkaid in further support was present with the *Enterprise*, the battleships *Washington* and *South Dakota*, and cruisers and destroyers. Again the Japanese were prevented from landing reinforcements and supplies, and this time they were really whipped, although we suffered too. The Japanese lost 2 battleships, 1 cruiser, 2 destroyers, 12 transports, and most of the troops and equipment. Our losses were 2 anti-aircraft light cruisers and 7 destroyers. It was in the first phase of this battle that Admirals Callaghan in the *San Francisco* and Scott in the *Atlanta* were killed. The *Atlanta*, which was one of the anti-aircraft cruisers lost, could have been saved had there been a salvage tug available.

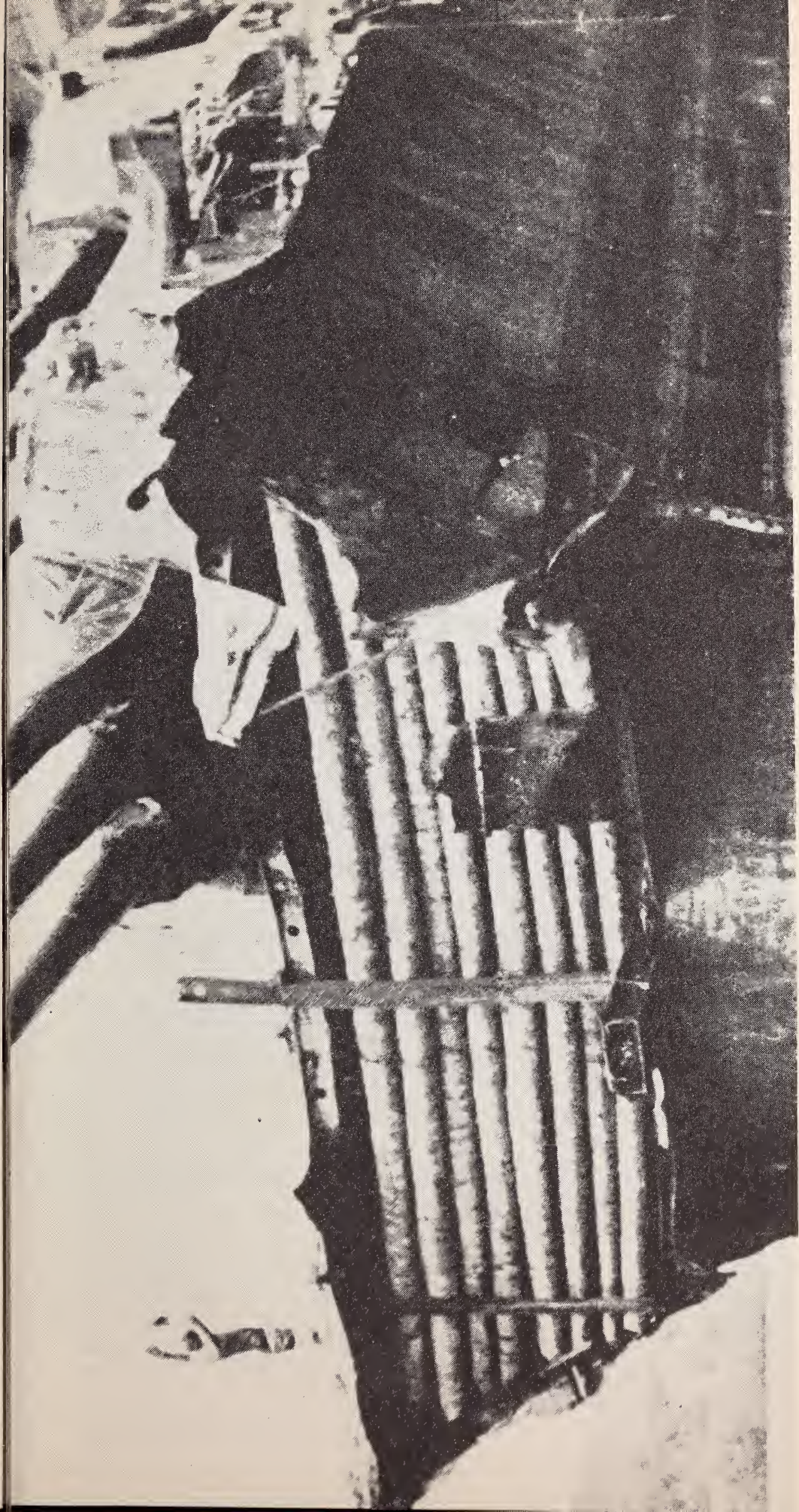
Considerable damage had been done to the mast and superstructure of the *South Dakota*. Much of the damage was to electrical gear, and as it could be handled more advantageously by a navy yard, the ship was sent back. Repairs to the damaged *San Francisco* were made by Mare Island Navy Yard. The *Portland* was patched up in Tulagi after the tug *Bobolink* and the open lighter YC-239 assisted her in from off Kukum. Later, towed by the fleet tug *Navajo* from 22 to 30 November, she made Sydney for dockyard repairs.

After this our position in Guadalcanal was never critical. Our logistic build-up for both the forces there and our ships in the South Pacific was gaining daily, and the enemy realized it. The offensive had really been achieved, and, because of ability to give logistic support to our forces, was never lost, notwithstanding the damage the enemy inflicted upon us in the next 3 years of dogged, bloody fighting.

Two weeks later the enemy sent down eight destroyers to run in support for their Guadalcanal troops. Warned of this, Rear Admiral C. H. Wright was sent with the heavy cruisers *Minneapolis*, *New Orleans*, *Pensacola*, *Honolulu*, and *Northampton*, accompanied by four destroyers, to frustrate this attempt. It was intercepted and the reinforcement prevented, but at the terrific price of losing the *Northampton* and having the



Minneapolis, bow blown off.



Minneapolis, bow repaired with coconut palm tree trunks.

bows blown off both the *Minneapolis* and *New Orleans*, and the *Pensacola* torpedoed and put out of action. All three of the ships were saved, the *Minneapolis* with a temporary bulkhead of coconut logs, and restored to the fleet after a long period out of service. Two additional tugs had been instrumental in saving them, and the patching facilities at Espiritu Santo had been improved a little by the use of Seabees and a PT boat base, with the assistance of the repair ship *Rigel*. Temporary patchwork there enabled them to go to navy yards for real repair. The *New Orleans* had to turn back once for additional patching before she finally made it.

From the beginning of the South Pacific operations the various logistic organizations cooperated in solving supply and support problems. Some units arrived with shortages, but orders that all units consider themselves as part of the same team rather than Navy, Army, or Marine services in a separate and independent sense resulted in a considerable interchange of available supplies and facilities. In October 1942, Rear Admiral C. W. Crosse, commanding the Base Force Subordinate Command at San Francisco, was requested to have all chartered tankers which were sent to the South Pacific equipped with sufficient hose and facilities to supply two ships simultaneously at maximum rate. This would make a quicker fueling for task-force vessels refilling in port, and would make it somewhat easier on the naval oilers, which had been going at a killing pace. This was done on most commercial tankers, and some improvement was noted. Logistic and tactical conditions were improving so much all along the line that whenever there was noticeable falling off from the expected efficiency some complaints immediately followed.

About March 1943, complaints of the lack of fresh provisions began to come from the fleet. The Commander Service Squadron South Pacific made every effort to alleviate this. The condition was primarily due to lack of sufficient transportation for the desired quantities to the area. Additional refrigerator ships had already been requested, and efforts were being made to procure more fresh provisions from New Zealand. In the meantime, tinned and dry provisions had to make up the difference. The forces afloat were informed that they could not expect to be provisioned oftener than every 30 days until more refrigerator ships became available. But "growls" were a good sign. The offensive had been successful; we were no longer hanging on by our eyebrows; we were giving the Japanese tough handling; and, when sailors growl about things, it generally means they have time on their hands and the situation is no longer desperate.

Early in November of 1942, Rear Admiral C. H. Cobb was given command of the Service Squadron South Pacific, and until after the Bougainville campaign in November of 1943, as our combatant forces gradually gained in strength, the logistics and servicing under Cobb gained likewise. The enemy meanwhile had been steadily losing.

In October 1942, Admiral Halsey had taken the shore base development administration from the Service Squadron and placed it under Captain W. R. Carter, with the title of Commander Naval Bases South Pacific. This administration included the assignment of construction battalions, the locating of floating drydocks, the construction of supply storage facilities, base hospitals, ammunition depots, wharves, landing-craft bases, nets, mooring buoys, etc. Early in 1943 this command was made subordinate to Commander Service Squadron. In May it was completely absorbed, and the separate command disappeared, again amalgamated with the Service Squadron South Pacific.



CHAPTER VI

Building up in the South Pacific

WHILE FIGHTING is at times the deciding factor in warfare, it is possible only when the logistic needs of the fighters have been anticipated and met. The flower of the German armies perished in the bitter Russian winter from lack of supplies, as had Napoleon's *Grande Armée* before them. History is full of such tragedies, and every operations planner should realize his utter dependence upon logistics.

In our own case we were faced not only with the vastly increased demands created by forces of unprecedented magnitude, but by the distances over which all supplies and services had to move before they could be effective, and by the need to charter, buy, and build enough ships to bring them where they were badly needed. Moreover, the technical advances made by modern science involved so many items—some of them mechanically intricate—of every imaginable sort, that the services of supply had to provide over a tremendously large and varied field. If a shortage developed, men might die uselessly. There was potential tragedy in every move made. So, dry as it may seem at first sight, what follows is nevertheless the highly significant record of what was done to support our combat units for their bloody work, and of the means by which battered ships and men were repaired.

By late fall of 1942, ammunition depots had been established at Noumea and Espiritu Santo, with a smaller one at Efate. All three handled aviation ammunition as well as larger material. There was more for the flyers at Guadalcanal. Fuel-oil supply storage had been erected on Ducos Peninsula at Noumea, with a capacity of 370,000 barrels of black and 30,000 barrels of Diesel fuel, together with a pier at which vessels could be unloaded and supplied. Our ships sailed on water but they moved on oil, and the demand never ceased. Over on Efate, at Vila, we had seven 1,000-barrel steel tanks for aviation gasoline, two 10,000-gallon Diesel tanks, and four buried 5,000-gallon aviation-gasoline tanks, while at Havannah eight other buried tanks held 5,000 gallons each. In

the Tulagi area we had ten 1,000-barrel tanks plus 12,000 barrels of aviation gasoline, a 60,000-barrel Diesel-oil storage, and a 280,000-barrel fuel-oil farm. Guadalcanal added storage for 1,300,000 gallons of aviation gasoline.

The storage, like the demands, mounted steadily. By July of 1943 we were erecting fifty 10,000-barrel fuel-oil storage tanks on Aore Island at Espiritu, as well as tanks holding 20,000 barrels of Diesel fuel, 17,000 barrels of motor gasoline, and twenty-three 1,000-barrel aviation-gasoline tanks. The fuel unit at Espiritu from November 1943 was one of the busiest of the many supply functions. Before that, fueling of the fleet had been by means of station tankers and incoming oilers. The tank farms and fifty 10,000-barrel storage tanks were connected with a pipeline system and pumps capable of handling 350 gallons a minute. While the amount in storage was not large or the pumping rate high, in the light of previous close escapes from fuel shortages it was a comforting reserve equivalent of about five tanker-loads. The fuel depot also issued 3,000 to 5,000 drums of lubricants a month at its peak early in 1944. In November 1944, the Noumea facilities were no longer necessary and dismantling was commenced.

The consumption of fuels and lubricants was tremendous. At Tulagi alone during the early part of 1943 the motor torpedo boats burned up 3,000 to 7,000 gallons a day and the airplanes about a thousand. By the end of that year the PT boats burned about 5,000 gallons a day and the planes 5,000 to 10,000 gallons. Petroleum products carried afloat averaged 219,830 tons, or approximately 1,300,000 barrels, a month for the first half of 1943, and were steadily increasing. By October, Commander Service Squadron South Pacific sent a dispatch to Commander Subordinate Command San Francisco saying that his estimate of 17 black-oil tankers was not considered sufficient to fill the future requirements. It must be remembered that in this was included both fleet and shore supply, ServRonSoPac being responsible for both. This proved before 6 months had elapsed, not only that Ghormley's estimate of the previous August for the area had not been too large, but on the contrary, too small.

Lion One

The mere technical definition of a Lion as a large advanced base unit consisting of all the personnel and material necessary for the establishment of a major all-purpose naval base conveys little to anyone but

those who have had experience with such an undertaking. In the South Pacific, Lion I under the able command of Captain J. M. Boak, later a commodore, by July of 1943 was rapidly making Espiritu Santo our principal base in the area. In detail it consisted of facilities as varied as our needs. Its torpedo overhaul unit could handle five or six torpedoes a day. An aviation engine overhaul had a huge shop of many buildings, full of machinery and staffed with expert personnel capable of reconditioning 200 engines a month—no small activity in itself. The ship repair unit was completely housed by this time. Some heavy machinery had not yet been installed, but the general equipment and facilities were expected to be complete within a month and be capable of executing repairs as well as could be done by a regular repair ship.

The administration unit consisted of seven departments: Operations, ordnance, captain of yard, supply, disbursing, receiving station, and executive. These covered in separate detail not only the activities ashore, but also boat pool and water transport system, the operation of the port director's service, inshore and harbor patrols, and so on. The supply department had 36 buildings, each 40 by 100 feet, for general stores. The actual business done by its clothing and small stores section during May 1943 amounted to \$175,000. On 28 June, needing more help, it received 244 Negro seamen to supplement the 200 storekeepers and strikers already assigned. Under the executive department came the 6 sections devoted to clerical, fleet post office, welfare and recreation, Chaplain Corps, communications, and intelligence. The Lion, moreover, included activities for issuing pay checks, for camp maintenance, 8 dispensaries completely equipped and staffed, and a 600-bed hospital. War involves not only tremendous effort and expenditure, but the systematic care of men.

Ammunition

The first ammunition supply set up at Espiritu Santo was established by Cub I, the smaller brother of Lion I. It was soon apparent that this was not sufficient, and a much larger depot would be required. The first wave of munitions landed in December 1942, and from that time the stock continued to increase until September 1944, when it reached its peak. On the latter date 38,000 tons of ammunition were stored in 175 regularly designed magazines, and in Quonset huts, Stransteel warehouses, tents, thatched huts in several instances, and much in dumps in the open air.

The depot overhauled and reconditioned a considerable amount of material, including more than 40,000 rounds of 5-inch .38 caliber, with the replacement of the projectile fuses. Until the middle of 1944, issues were made largely direct to the ships concerned. As the war moved westward, this grew steadily less and ammunition ships were loaded at the depot to go forward with the supply. At peak activity in March 1944 the depot serviced 120 vessels, large and small. These included 8 carriers, 7 heavy and light cruisers, 37 destroyers and destroyer-escort types, besides landing craft and the "splinter" fleet, of the submarine-chaser and patrol-boat types. Not all of these were completely reammunitioned, as this would have required more than four times as much as the total in storage. It was a great record nevertheless, and it shows the importance of the part played by the naval base at Espiritu Santo in fleet ammunition logistics.

In the torpedo overhaul shop at Espiritu between May 1943 and May 1945, both fleet and aircraft torpedoes gave the 2 officers and 11 men more than they could do. Of the 2,660 torpedoes received, 2,500 were overhauled and 2,100 reissued. As far as quantity goes this was a very satisfactory performance. Unfortunately the quality of the work was not so high. This was due partly to the hurried and slap-dash training given the personnel, partly to the conditions under which they worked and lived, and partly to the overload under which they started. A mine depot at Espiritu Santo assembled and supplied the mines for any project. An earlier mine assembly had been set up at Noumea, and by the time the Espiritu depot was in full working order much of the mine laying and supplying for the South Pacific was completed. There was also at Noumea an ammunition depot with about 100 small magazines, 40 or 50 warehouses for ordnance materials, all of them steel, and a large area of open storage, including mines and torpedoes.

Provisions and Stores

By the end of 1943 the Naval Supply Depot at Espiritu was operating on a 24-hour basis. Earlier, in August, it had serviced its first large task force as a unit, though there had been individual vessels taken care of from time to time before that. Following the initial landings on Bougainville three large cruisers were rushed down from there to Espiritu, a distance of more than 900 miles, for badly needed supplies. In short order they were loaded with 150 tons of provisions and general

stores by means of barges securing alongside them in the stream.

At this time, late in 1943, the supply storage unit, besides its sixty 40-by-100-foot warehouses, had extensive outdoor storage space approximating 400,000 square feet filled with supplies of all kinds. The fleet provision unit, with 24 large "reefers" (refrigerator boxes or rooms), and 5 warehouses had been receiving and issuing quantities of both fresh and dry provisions. Storage capacity was 2,500 tons of dry and 1,500 tons of fresh and frozen provisions. The incoming stores section had the job of cargo segregation, and both this section and the outgoing stores unit were kept exceedingly busy. The supply depot had been constructed partly by plan, partly by trial and error. It had handled and issued large quantities of war materials, worked its men overtime many a weary day, been cursed roundly any number of times, but had come through. At the depot, pier 4 extended some 200 yards into Segond Channel, and was capable of loading 2 large ships at once. Often it was impossible for the numerous vessels requiring supplies to secure alongside No. 4. In such cases, ships' working parties were brought ashore, trucks were loaded with the necessary material and driven to another pier, unloaded into boats, and the supplies delivered by boats and barges alongside the waiting ships.

Another supply depot had been established earlier at Noumea. It was eventually a very good one, though short-lived, after getting off to a slow start. There were some 80 steel warehouses for covered storage and cargo areas for open field storage. Also there were steel warehouses and a few old buildings for an aviation supply depot which soon found itself too far from the operations front.

Welfare and Fleet Recreation

Of importance among the many advantages officers and men alike of our forces enjoyed to a far greater degree than was possible for those of either the enemy or our allies, was our provision for relaxation and recreation, afloat as well as ashore. As far as was possible in the circumstances, our men were given under war conditions the same types of recreational facilities they had enjoyed before the war at home. The effect upon general morale was admirable, the uplift healthful in every activity. The damning that was heard—and there was plenty of it, for sailors are notorious growlers—was mostly conversation, and did not result from the work or the overtime and mental strain.

Aore Island, for example, had a fleet recreation area which consisted, in addition to the swimming beach, soda fountain, and beer "parlor," of nine softball diamonds, one hardball diamond, three tennis courts, four volleyball courts, three basketball courts, one football and soccer field, three boxing rings, horseshoe courts, eight handball courts, and a theater district. Barbecue pits and picnic facilities rounded out this with something for nearly everyone.

Mafia Island also had a fairly large area for the Pallikulo Bay crowd, and many other recreation facilities were scattered about the Espiritu Santo base. Many of these were for individual shore-based units and were not available to the men of the fleet except by special invitation. Moving pictures also played an important part in the relaxation program. The endeavor was made to circulate films through the ships and show them in rotation whenever possible. The motion-picture exchange and its distributing features contributed to morale importantly. More will be seen of this later as the war developed.

At Havannah Harbor, Efate, there was a recreation area of less pretention, and it was while R. C. "Ike" Giffen's force was at anchor that some 8,000 cases of area beer were "lost" in shipment. It was suggested that it had been mistaken for landing-boat fuel as some of "Ike's" liberty boats handled poorly for a time. The laughter was as good a tonic as the missing beverage.

Maintenance and Repair

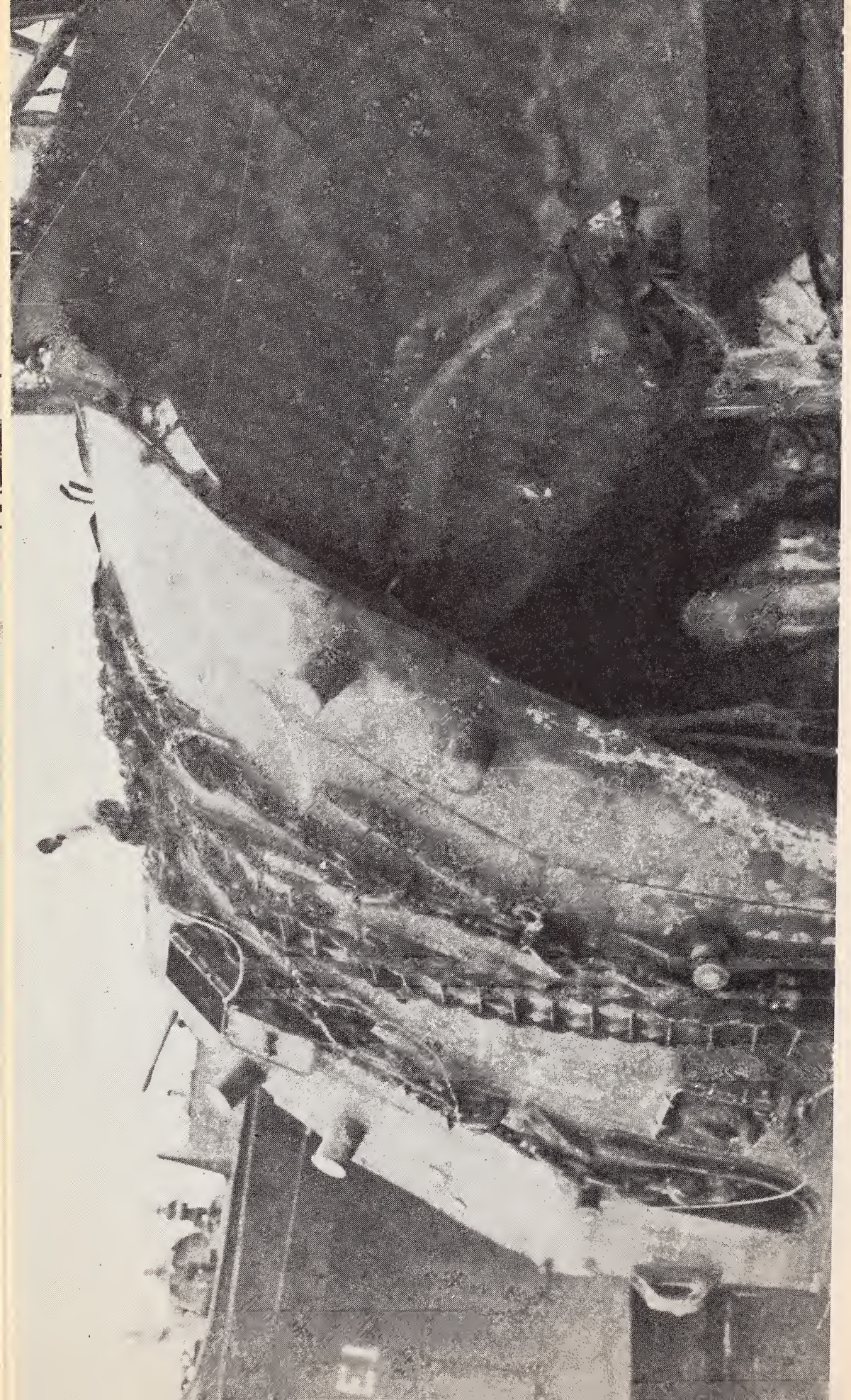
Naval battles mean hurt ships. The damage may be light relatively, or it may be serious. Whatever it is, the nearer the repair facilities the better. Only in the most serious cases of major injuries beyond the ability of local facilities to repair, should a combatant vessel be sent back to a navy yard or shipyard. Such action takes the ship out of the active fleet for a considerable period, weakens our forces proportionately, may delay pending moves, and further exposes the cripple to attack en route while not in proper condition to fight off her enemy.

During early operations our repair ships and advanced bases did everything they could, and the ship's forces themselves often accomplished wonders in patchwork and repair. These, however, were not sufficient, and floating drydocks of various types and sizes were urgently needed. Ships had their bows blown off, their sterns blasted away, huge holes torn in their hulls by torpedoes whose explosions created a chaos that

had to be seen at the time to be fully realized. Japanese shelling, bombing, and bombing planes wrecked engine rooms, put turrets out of action, and touched off tremendous fires and magazine explosions that made the survival of the battered vessel almost a miracle. By getting the victim into a dock where she could be given full attention while still in the supporting area, priceless time and effort were saved repeatedly and the enemy could not know just how hard he had hit us at times.

By late fall of 1942 we had installed a ship-repair unit and a floating drydock, *ARD-2*, at Noumea. The floating docks of this type were 485 feet long and had a lifting capacity of 3,500 tons, which made them able to accommodate destroyers, submarines, and "landing ships, tank" (LST's). But such facilities were small compared to the huge *ABSD* types. Much has been said and written about the great *ABSD-1* which was assembled and put into operation near Aessi Island in Pallikulo Bay. It was a remarkable design, and getting it into operation was a fine job of towing and assembling. There was some delay in the assembling because 1 of its 10 sections was lost in the bay. However, in December 1943 the remaining 9 sections were fastened together and the first docking was accomplished 31 December. "ABSD" means Advanced Base Sectional Dock. This one, originally designed in 10 sections, would have been 927 feet long with a lifting capacity of 90,000 tons. Put together as a 9-section dock it was 844 feet long and could lift 81,000 tons. In addition to this one at Aessi we later had others at Manus and Guam. The Aessi dock was a great potential asset as there were a number of large, heavy ships operating in the South Pacific which could if damaged be accommodated only by this dock. We should have had it in the fall of 1942 when our damage was greatest. It turned out, however, that the *ABSD-1* actually docked only 3 ships which could not have been accommodated by the smaller floating docks. The remainder of its 71 dockings were for medium and smaller vessels. In April of 1945 it was disassembled and towed to Samar.

The ship-repair unit was in operation by the summer of 1943 at Espiritu Santo, but it was never commensurate in size or capacity with some of the other activities there. Most of its effort was spent on necessary routine and emergency repairs to patrol craft, auxiliaries, landing craft, merchantmen, and vessels of the United Kingdom. It did, however, do some battle-damage repair work for our ships of all types, including fleet destroyers. Much of this was minor, thanks to later good fortune of war, and it was done well and willingly. In addition to the large dock in Pallikulo Bay we also had a cruiser-capacity floating dock,



Honolulu at Tulagi with bow damaged by "dud" torpedo.

YFD-21, and were soon to have two smaller ones, *ARD-14* and *AFD-14*, with respective lifting capacities of 3,500 tons and 1,000 tons. The two latter types were single-piece steel craft.

In the Solomons at Florida Island—where as a starter we had only a motor torpedo boat base at Sasapi, Tulagi, with the tender *Jamestown* concealed across the harbor against the mangrove jungle—in the spring of 1944 we had at Purvis Bay the *AFD-13*, destroyer tender *Whitney*, the repair ships *Medusa* (en route to southwest Pacific) and *Prometheus*, the battle-damage repair ship *Aristaeus*, and the repair barge *YR-46*. Valuable services were rendered. In addition to these floating services there were landing-craft repair units at Carter City on Florida Island near Purvis Bay and in the Russell Islands. Large boat-repair stations were at Turner City and at Gavutu Harbor on Florida.

The high point of service in the Florida area was during March 1944, when 261 vessels were repaired, including 1 battleship, 3 light cruisers, 16 destroyers, 18 destroyer escorts, 72 attack transports, 51 LST's, and 31 submarine chasers. During this same period the floating drydocks *ARD-14* (now in Purvis Bay) and *AFD-13*, with 2 pontoon drydocks, made repairs to 110 vessels, including 5 destroyers and 41 landing craft, infantry (LCI's).

During the early part of the war practically all the work on small ships was done in New Zealand to take advantage of the docking facilities there. In January and March of 1943 the *Portland* and *New Orleans* went to Sydney, Australia, because major cases of battle damage could be handled only there. It became a fairly common practice also to send cruisers, destroyers, and similar ships there for drydocking and rehabilitation.

At Auckland, N. Z., repair facilities were such that 4 vessels of the attack-transport type could receive overhaul concurrently with smaller craft. The major part of the work was assigned to His Majesty's New Zealand Dockyard at Bevenport. When the jobs were greater than its capacity, they were farmed out to 112 independent firms, coordinated by the liaison officer in Auckland. In Wellington a cargo ship could be completely overhauled while routine repairs and material work were being carried forward on 3 other similar vessels. Dunedin could give a cargo ship a complete overhaul but could not do simultaneous repair work.

All this repair work in New Zealand was under the direction of the Material Department of the Force Maintenance Office, and included repairs to material under the cognizance of armed guard officers on all

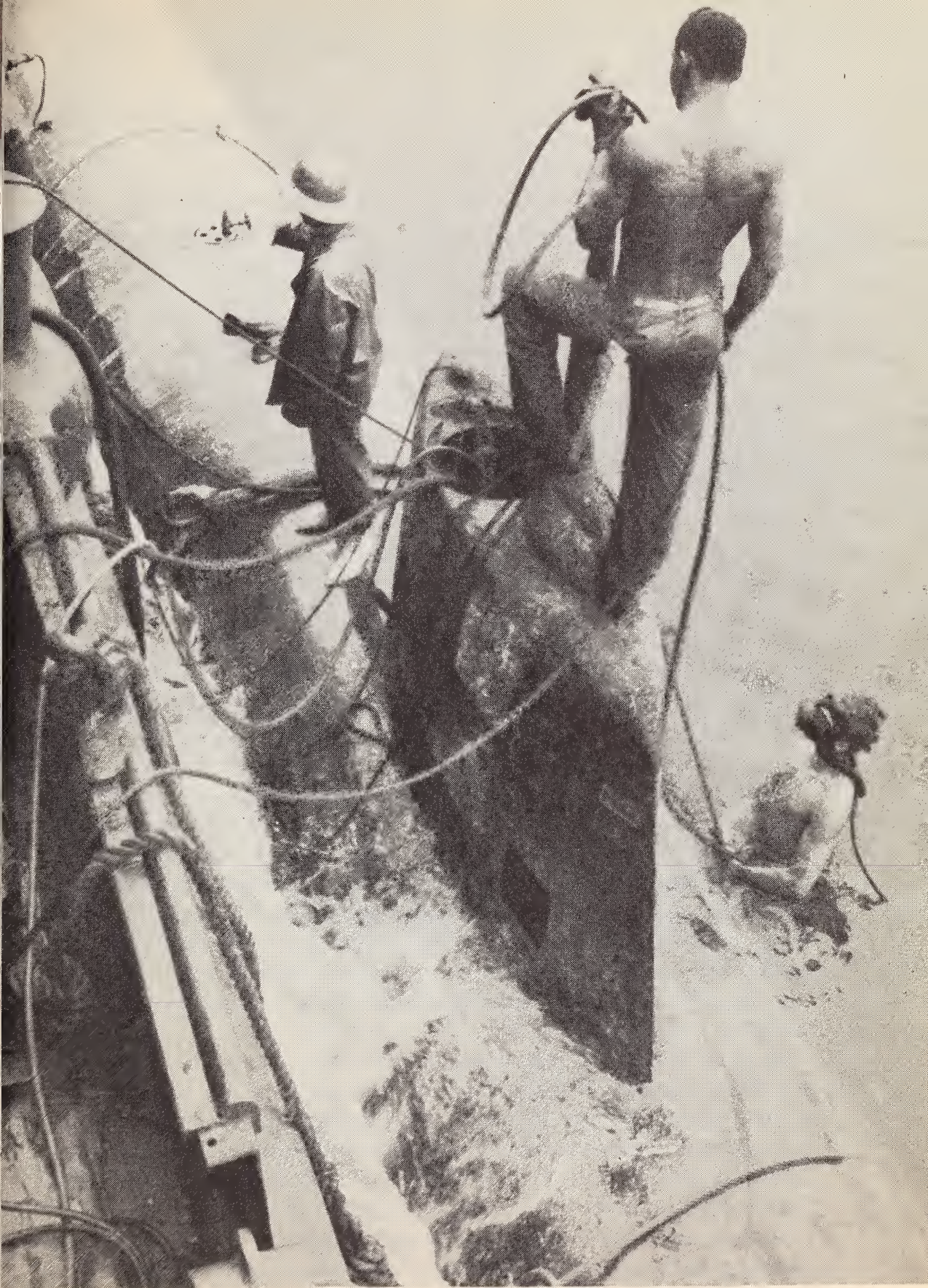
War Shipping Administration vessels. Besides Auckland, several other bases in New Zealand supplied minor repair facilities. Auckland was the most important, however, and in 1943 in 11 months (February excluded) it repaired 282 vessels of all types. The monthly cost of repairs and alterations in this one port ran to about \$100,000.

Havannah Harbor in Efate was a deep-water torpedo-protected port nearer our activities than Noumea, and here for some months a number of combatant ships were based and serviced. On 15 January 1943 the repair ship *Rigel*, which had been doing great work at Espiritu Santo since 20 November 1942, arrived and rendered splendid tender and repair service under the able command of Captain Roy Dudley. She remained until relieved by the *Medusa* 24 April 1943. Four days later the *Rigel* sailed to join the Seventh Fleet. At Pearl the *Medusa* had been busy with repair and salvage jobs and here at Efate she tackled with a will many kinds of maintenance and repair work, not only on board in her own shops but by sending working parties to many different ships. Her log, for example, shows that on 30 April 1943 she had 60 men in 9 working parties doing everything from star-gaging 6-inch guns to mending equipment in the recreation center. During that week she completed 258 separate jobs. She was commanded at this time by Commander J. F. P. Miller, who had grown gray in the naval service getting done things many men would not undertake. The service was indeed fortunate in having him where production counted for so much.

The *Medusa* stayed in Havannah except for the period 24 July-4 August 1943, when she was at Espiritu to ease a heavy workload there. Vessels of the British Fleet were there besides many of our own. On 27 March 1944, she finally sailed to join the Seventh Fleet, with which she remained until the end. If the campaign had gone less successfully, more use might well have been made of Efate, and it was no doubt the part of wisdom to have had it available. Excepting for a very good base hospital, which was kept at full activity and capacity most of the time, the return on the amount of effort put into Efate was small, but this should be charged against the waste of war rather than against inefficient planning.

General Activities

The duty of the service forces was not merely to keep abreast of the combatant fleet activities, but as far as possible to go ahead of them by



Ortolan raises two-man submarine.

being prepared in all respects before assistance was demanded. The difficulties of such an ambitious yet vital task were so great and depended upon so many elements beyond our control, that no account of the work can be wholly objective. The combat forces acted with greater confidence and dash as they became more aware that behind them awaited more of the things they might need in either defeat or victory. The wounded were cared for immediately in the well-staffed and well-equipped hospital ships and base hospitals. The latter were established at Espiritu Santo, where a 600-bed hospital proper was reinforced by no less than 8 dispensaries; there were 2 at Noumea—Fleet Hospitals Nos. 5 and 7, the former with about 1,000 beds, the second with about 2,000—backed up by a huge convalescent camp; one in Guadalcanal of 2,000 beds, one of 1,300 beds at Banika Island in the Russells completed in March 1944; still another at Efate.

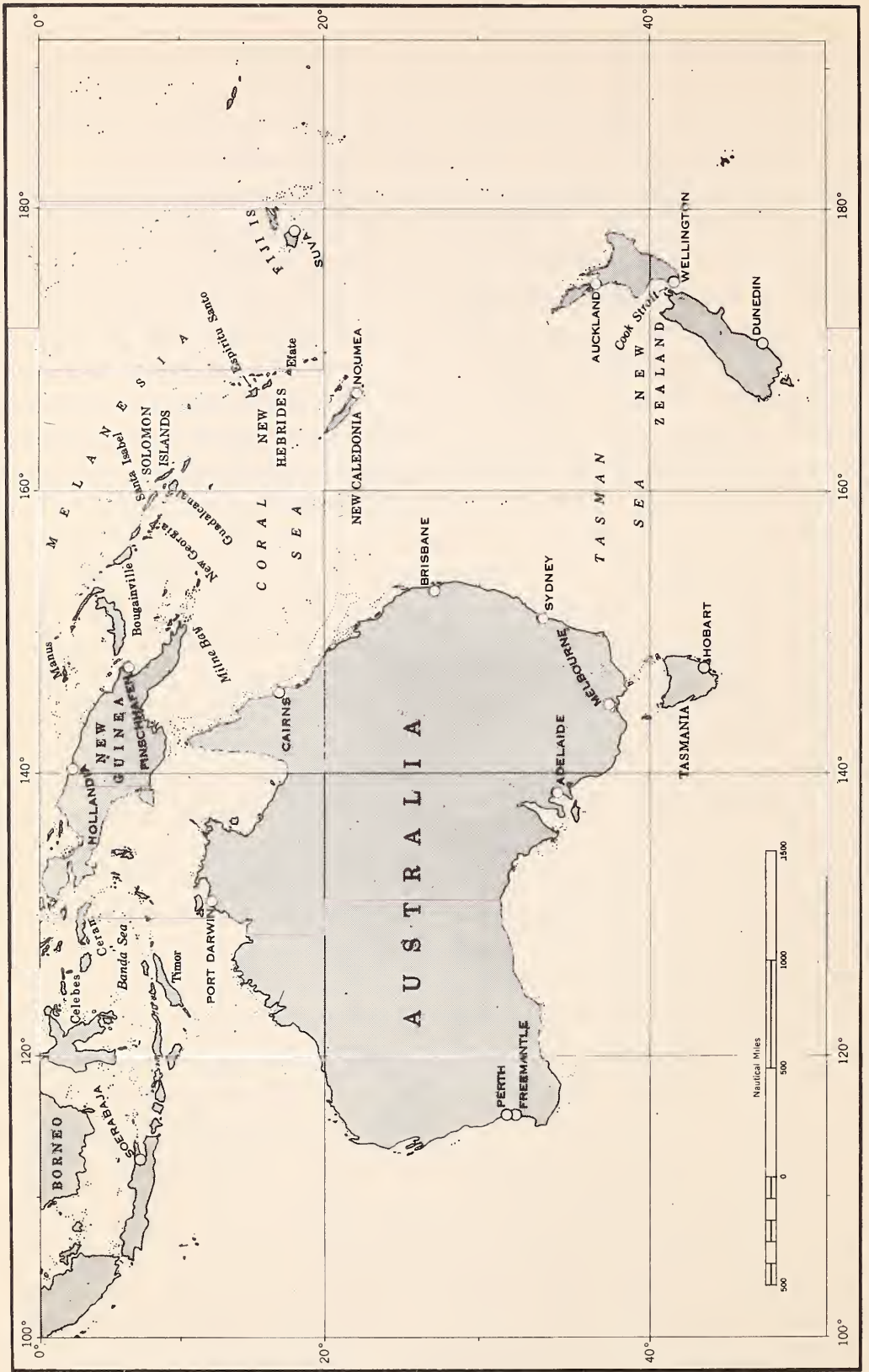
The important supply of fresh and frozen foods was furnished by the fleet provision unit with 24 large reefers and 5 warehouses at Espiritu Santo already mentioned, and 10 ships working out of Auckland to carry their vital freight wherever it was needed. Even this was not enough as our effort grew. In September 1943 the Commanding Officer of Service Squadron South Pacific estimated that he had exactly half enough ships to carry the provisions contracted for in New Zealand for 1944.

The activities there began in April 1942 under the direction of Commander H. D. Nuber of the Supply Corps, whose office was in Auckland. For some months that port was the main supply base and was able to fill the requisitions made on it. But by the time we landed on Guadalcanal it was apparent that New Zealand was too far in the rear to be an operating base for directly supplying the forces afloat. From that time onward the principal supply to the fleet was made by United States provisions ships and the supply depots on advanced bases at Noumea and Espiritu. Beef, mutton, and other foods were, however, supplied to these sources from Auckland for some time thereafter. New Zealand also continued to supply large quantities of food to the shore forces.

More of everything was being called for day by day. In May 1943 it was reported that 17 more tugs, in addition to the 8 on hand, were needed. Two more fuel-oil barges were demanded to supplement the 4 on hand, and 5 gasoline barges were required. A month later the call for more again went out—9 Diesel-engine repair ships, 3 aviation stores (bulk) ships, 2 destroyer tenders, 6 LST's as aviation stores issue ships, 4 landing-craft repair ships, 1 landing-craft tender, 10 tugs, 60 LCVP's (landing craft, vehicles, personnel; 36-foot single-screw Diesel, built of

plywood and very useful in handling stores up to about 5 tons or limited personnel) per month for 6 months, 3 big salvage tugs (ARS's), and 2 motor-torpedo-boat tenders (AGP's). This was a time when the advantages of floating services were manifesting themselves strongly.

Many other facilities of smaller and less spectacular sorts were located at Noumea and Espiritu. Among them were the fleet post offices, with their eagerly perused letters from home, an antiaircraft gunnery school, fire-fighting school with advisory instructors already mentioned, the motion-picture exchanges, gas plants, sections for the purchase of war bonds, and so on. [All these went to make great bases which after a very short period of activity found themselves so far in the rear as to raise the question of whether the amount of shipping required to build them might not have supplied the necessary fleet support afloat, and been mobile and ready to go forward at short notice.]



Australia.

CHAPTER VII

The Southwest Pacific Command

Early Logistics

THE LOGISTICS of the Southwest Pacific Force, later the Seventh Fleet, will be treated rather briefly in this book because they follow somewhat the same pattern as service activities elsewhere. When from time to time the subject is taken up, it is because of its tie-in with other forces or to show the general logistic activity in progress.

In the Southwest Pacific, 1942-43, a service force was developed under the over-all command of Vice Admiral A. S. Carpender, under the immediate command of several successive officers. At first, for a short time, Captain H. E. Paddock headed it; then Rear Admiral D. E. Barbey, whose principal job was to organize an amphibious force but who was temporarily assigned the service force as well.

Next came Commodore R. G. Coman, under whom the initial development assumed important proportions. While there were not many floating auxiliaries at first, the destroyer tender *Dobbin* was at Sydney, where she did some great work of battle-damage repair as well as routine service which was by no means confined to destroyers. She took on submarines for repair and routine tender services, besides working on the cruisers *New Orleans*, *San Juan*, *Chester*, *Portland*, *Phoenix*, and others. In addition there were a U. S. repair barge YR, a sort of floating machine shop, the naval dockyard, and the large graving dock at Woolloomooloo. The Australian facilities were being expanded, and the United States shore activities, together with storage depots, were being developed.

A submarine base at Brisbane, which consisted always of one tender (often complemented by another), and a number of shop and shore activities, was constantly expanding and improving. Three small ferry-boats fitted up as machine shops made repairs to patrol and mine craft. There were also a degaussing range, a very important radio repair unit,

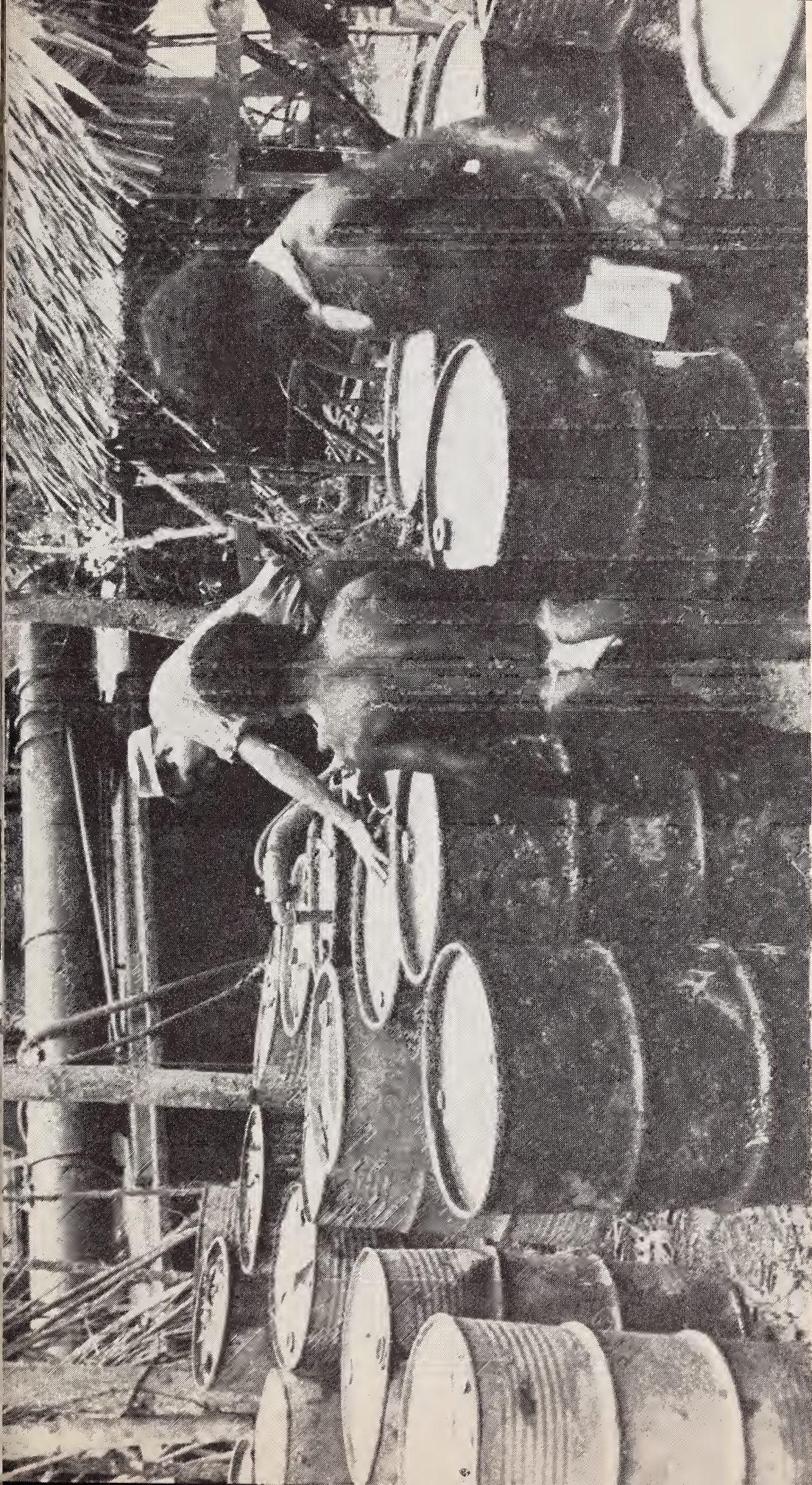
and a marine railway which was constantly busy. The motor-torpedo-boat repair unit at Brisbane at first contributed to the upkeep and maintenance of other vessels as well as its own craft. A receiving barracks was established to handle the distribution and staging of personnel. The administrative headquarters of the Commander Southwest Pacific Naval Force was located here in the spring of 1943.

Farther up the east coast at Townsville, and still farther north at Cairns, landing-craft bases and amphibious training centers were being located. A base construction depot, ammunition depot, and staging center were also being established.

In the southwest corner of western Australia the submarine base at Fremantle had been somewhat improved, and another established farther north in Exmouth Gulf. There was always one tender available at Fremantle, occasionally two of them, with the Australian local facilities cooperating to capacity. There were a marine railway and fair food supply there, but oil, ammunition, and torpedoes of course had to be brought in by sea to keep the submarines and other vessels supplied. By June of 1945 the oil storage developed at Fremantle, between naval and commercial facilities, amounted to more than 700,000 barrels, a considerable portion of which came from the Persian oil fields. In addition to this bunker fuel there was storage in the area for about 206,000 barrels of Diesel fuel.

In the beginning there was no drydock large enough to take our submarines; only a marine railway able to lift 850 tons. On occasion it was necessary to do repair work with only a part of the submarine hauled out of the water. Later, in 1943, the floating dock *ARD-10* was sent there and remedied the deficiency. A ship-repair unit, Navy 137, with special qualities for work on submarines, was also installed. Ammunition storage grew to a capacity of about 4,000 tons.

By 30 July 1943 there were half a dozen district patrol vessels in the food supply duty for General MacArthur's bases and forces at advanced points. More often than not they were used to supply these advanced points, but nevertheless helped in supplying fresh and frozen foods to some of the vessels of the fleet. By this time Milne Bay was well started as a base, both air and naval. Thus the Southwest Pacific facilities started and grew along lines somewhat similar to those already mentioned for the South Pacific, with floating drydocks of various sizes at several small bases, and continually advancing. Milne Bay and Finschhafen, both in Papua, New Guinea, began respectively in May 1943 and November 1943. Later on came the great Manus base, Morotai, and other smaller



PT boat fueling depot Base No. 8 Morobe, New Guinea.

ones for PT boats, small craft, and seaplanes, and finally the Philippine bases. Tenders and repair ships increased. Ammunition and store ships also increased in numbers, and though South and Southwest Pacific services to the fleet were partly from ships and floating sources, it was the gain in the latter that permitted the increasing tempo of the offensive. The floating facilities could be moved forward on short notice; the shore establishments could not be moved quickly, and sometimes could not be moved at all.

About 300 miles north of Lae, New Guinea, and about 2 degrees south of the Equator are the Admiralty Islands, among which are Manus and Los Negros. Saipan, Guam, and Tinian are about 1,000 miles almost due north; Truk lies to the northeast and Palau and Yap northwest. On a chart, lines joining these islands form the shape of a kite, with Manus at the southern tip or tail of the kite. To the east of Manus, and almost joining it, is the smaller island of Los Negros, which sweeps in a curve to the north and northwest, forming with some smaller islets as a northern enclosure one of the best anchorages in the Southwest Pacific: Seeadler Harbor.

A surprise amphibious attack had been executed here on 29 February by Task Group 76.1 of nine destroyers and a transport unit of three destroyers, all under Rear Admiral W. M. Fechteler. Task Force 74, of the cruisers *Phoenix* and *Nashville*, with four destroyers, acted as a covering force and bombarded positions on Los Negros and Manus before the landings. The landings on Los Negros were the first step to obtain control of the entire Admiralty group, not only for the establishment of strategically located airfields but also for the development of Seeadler Harbor as a major fleet anchorage with shore base. Our forces here and at Emirau Island, captured later, not only had an advanced base from which to strike but which effectively cut off Kavieng and Rabaul from their supply lines. Emirau, in the St. Mathias group, is 75 miles northwest of Kavieng. Since no enemy activity had been detected there, Rear Admiral T. S. Wilkinson, commanding Task Force 31, was able to land two battalions of the Fourth Marines easily, though cruisers and destroyers were in position for gunfire support if necessary and planes from the *Enterprise* and *Belleau Wood* were on hand for air support. No special fleet logistics were involved.

On Manus Island, Commodore J. E. Boak, after having done a splendid job completing a Lion base at Espiritu Santo, established another, a modified Lion, and in April 1944 assumed command of it by order of the Commander Seventh Fleet. At this time the Army estimated

that four or five hundred enemy effectives might still be at large on the island, though all organized resistance had ceased. This was just after Admiral Spruance had delivered an air attack on Truk, and after a preliminary carrier-task-force attack had been made in the Marianas. Later in September of that year Seeadler Harbor became the *locus operandi* of a number of units of Service Squadron Ten, helping that base by supporting the Third Fleet and some units of the Seventh from mobile equipment. The developments of a major naval base, such as the building of airfields, seaplane bases, hospital, tank farm, and supply depot, took place. One activity upon which Service Squadron Ten was later to depend was the water-supply system, capable of producing 4,000,000 gallons daily. Compared to Guam and Leyte-Samar, the base at Manus was the third largest, judged by the amount of money finally spent on it.

CHAPTER VIII

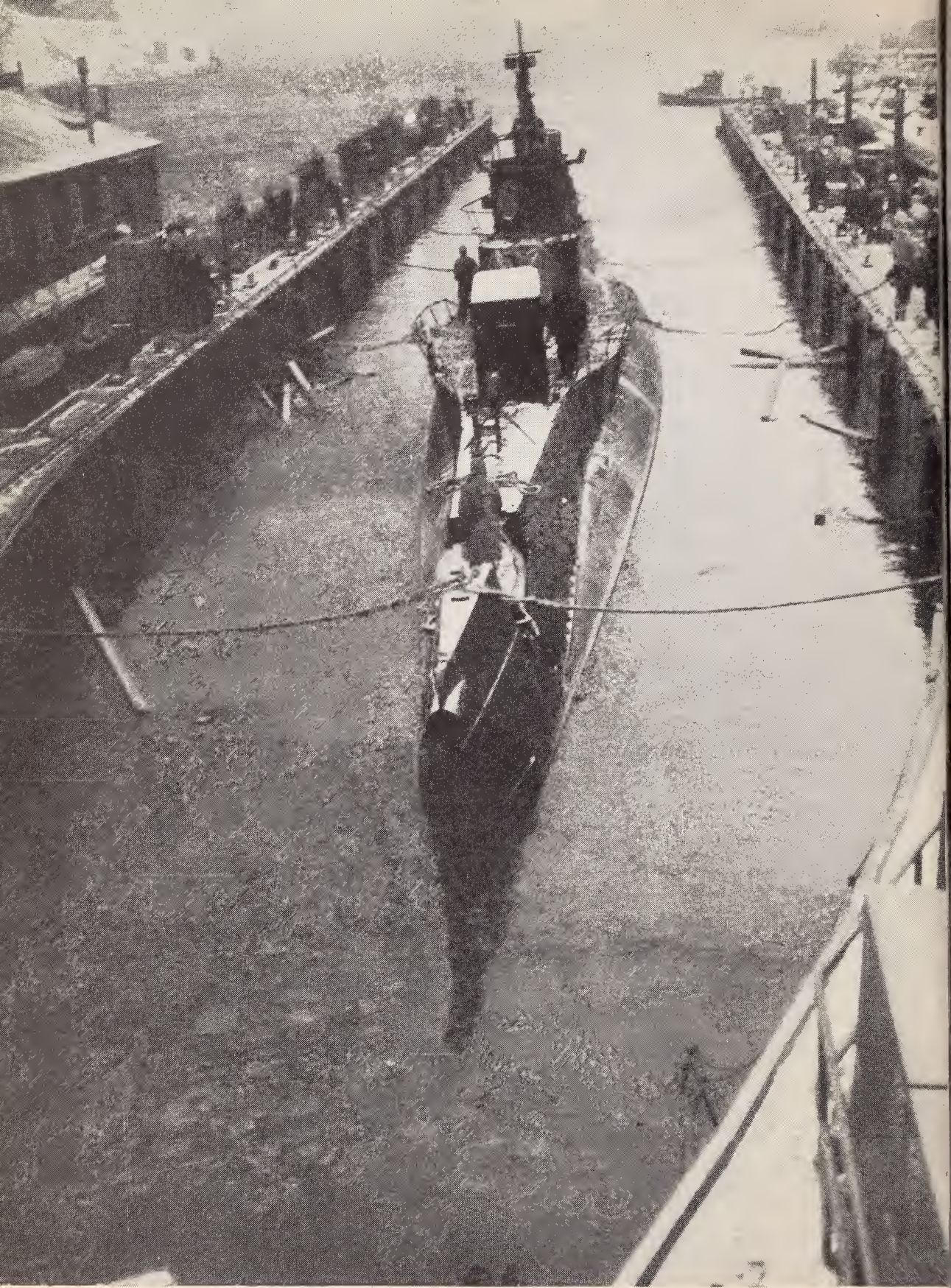
In the Aleutians

EARLY IN 1942, fortifying the strategically important Aleutian Islands seemed a vital necessity, but with the main Japanese force soon to be dealt with in the Coral Sea and at Midway only a scanty force could be diverted to the whole Aleutian-Alaskan theater. Rear Admiral Robert A. Theobald had been designated to command all Army, Navy, and Canadian forces in the area. From the outset he was faced with the problem of an inadequate number of ships and personnel, plus the ever-present natural enemy—the weather.

Our first encounter with the Japanese in the North Pacific occurred 3 June 1942, when their bombers, escorted by Zeros, made a surprise attack on Dutch Harbor. Several days later we discovered that they had followed this with landings on the islands of Kiska and Attu, at the farther end of the Aleutian chain. After that the best that Theobald's task force could do was to prevent the landing of enemy reinforcements and to attempt to check further advances until our forces could take the offensive. Yet in October 1942 his already meager force was diminished by the withdrawal of a number of troops needed to aid in the Solomons campaign.

Meanwhile on 30 August our troops occupied Adak Island, and on 2 January 1943, Amchitka Island, to establish airfields on both, each time drawing closer to Japanese-held Attu and Kiska. Adak later developed into more than a mere airfield when Kuluk Bay on the east coast proved to be a good anchorage for our naval forces. In November of 1942 Rear Admiral T. C. Kinkaid was relieved in the South Pacific by Rear Admiral F. C. Sherman and assigned as Commander Task Force Eight, North Pacific, relieving Theobald. He assumed his new duties 4 January 1943. His achievements in them and his subsequent assignments form a brilliant record reflecting glory on his country, the Navy, and himself.

The bases and services available at this time were being expanded in order to take the offensive, recapture Kiska and Attu, and, if successful there, perhaps to strike down along the Kuriles as one prong of our



Submarine undocking from ARD-6, Dutch Harbor.



Sweepers Cove, Adak Island.



Finger Bay, Adak, Aleutian Islands.

offensive against the enemy homeland. Rear Admiral J. W. Reeves, Jr., was charged with the naval-base development for the whole North Pacific area, and his command had been making great headway despite adverse weather and the distances involved.

Kodiak was rapidly being turned into a first-class air base. Dutch Harbor was already a submarine operating base, and improvement was being attempted on the airstrip alongside Ballyhoo Mountain, while facilities for additional oil storage and an anchorage for heavy ships were being developed in Iliuliuk Bay. The floating drydock *YFD-22* was in operation at Dutch Harbor, and in June 1943 drydock *ARD-6* was added. At Adak, a combined military and naval base was being pushed ahead under the efforts of both Army and Navy, and one large airfield was already operating. A seaplane base in Andrew Lagoon was in use and a steel-plated (Marston mat) airfield in this latter area was contemplated.

The main fleet anchorage at Adak in Kuluk Bay was well protected by the natural physical formations, supplemented by a net and sonar buoys. The inside harbor, Sweeper Cove, had three unloading wharves and was entirely closed against submarine attack. All the facilities on Adak had been built by our forces. Before the war there was nothing on the island but a single fox farm. At Finger Bay, Adak, a base for PT boats was well under way, and a floating *ARD* drydock was operating.

During April and May 1943 the destroyer tenders *Markab* and *Black Hawk* moved forward from Dutch Harbor and did fine around-the-clock maintenance and repair work for destroyers, besides special jobs for other vessels. At Sand Bay, Great Sitkin Island, across from Adak, a fueling dock and fuel-oil storage tanks were being built, and in the valley right under the crater of a smoking volcano a naval ammunition storage was being constructed. Facilities for warehousing provisions and other stores were built during the spring of 1943 and were virtually complete by the middle of May when the Attu operation was undertaken.

Few people realize the distances involved in this cold and barren part of the world. Not only is it a long way from west coast ports, but the distances between harbors within the area itself are considerable. For example, Anchorage, lying to the northwest 1,242 nautical miles by air from Seattle, is 220 miles from Kodiak; 855 miles separate Cold Bay from Attu. It and Adak are 378 miles apart, and from Adak to Paramushiro in the northern Kuriles it is 1,019 miles.

On 26 March 1943, between Attu and the Komandorski Islands, Rear Admiral C. H. McMorris in the *Salt Lake City*, accompanied by the

Richmond and the destroyers *Bailey*, *Cogblan*, *Dale*, and *Monaghan*, encountered a heavily protected convoy headed to reinforce the Japanese garrisons on Attu and Kiska. Our ships had a running gun fight with the heavier Japanese force, with resulting damage to the *Salt Lake City*, *Bailey*, *Cogblan*, and *Monaghan*. This necessitated sending the first two, after temporary repairs by the *Black Hawk* and *Markab* at Dutch Harbor, more than 2,000 miles to the Mare Island Navy Yard. Thus it was evident that if a naval or an amphibious campaign were to be carried on in this area some logistic resources would be required in certain localities within the region. If adequate shore facilities were not possible, floating equipment must be obtained, which demanded that proper harbor requirements be met. At this time in the Atlantic, German submarines still had the edge on us. In the South and Southwest Pacific we had just gained superiority enough to hold the offensive, and could spare few floating units from those areas. So in the beginning only a meager combination of floating equipment and new shore-based facilities would be available in Aleutian waters.

As a result of agreement between the Commander in Chief Pacific Fleet, and Lieutenant General J. L. DeWitt, Commander of the Western Defense Command, Rear Admiral F. W. Rockwell, commanding the Amphibious Force of the Pacific Fleet, was directed in December 1942 to devise plans to retake Kiska. Requirements in ships and services were large. The venture appeared especially formidable since we were not quite sure early in 1943 of the outcome in the South Pacific, and therefore could not expect much help from that area. A joint staff of officers from the Alaskan Defense Command and the Amphibious Force was organized in San Diego to formulate the plans.

After Kinkaid relieved Theobald in January 1943, Theobald reported to Nimitz in Pearl Harbor for a few days. One of his recommendations was that consideration be given to capturing Attu prior to Kiska. This was because the weather came from Attu toward Kiska. With Attu in our hands we would be in a better position to take Kiska, the tougher of the two objectives.

When Kinkaid had had time to estimate the Alaskan situation, he too recommended that Attu, not Kiska, be the first objective. He was evidently influenced by the inability to get adequate shipping (in particular, attack transports and attack cargo carriers), and by intelligence reports which showed that Attu could be taken more easily with a smaller force. Work on Kiska planning was abandoned for the time being, and the joint staff was directed to begin a study of Attu.

Besides those forces already assigned to the Alaskan theater, Nimitz made available Battleship Division Two (*Idaho*, *Nevada*, and *Pennsylvania*), Cruiser Division One (less the *Raleigh* and *Salt Lake City*), Destroyer Squadrons One and Fourteen, of 16 destroyers and 4 attack transports. The only attack cargo carriers available would have to be withdrawn from the South Pacific, and this was disapproved. Later, to alleviate the small-boat situation, a number of landing craft were delivered to the Army in San Francisco. The *Perida*, the only Army ship to accompany the assault force, carried 1 LCM and 10 LCV's.

The secrecy surrounding the early planning of the Attu operation (Landcrab) proved detrimental in loading the transports on the west coast. Commanding officers were called to conferences on loading plans without being acquainted with the mission. Only a few knew that Alaska was the destination. Winter clothing was secreted aboard ships; as a diversion, medical officers were directed to give lectures on diseases and sanitation in the tropics.

X In loading the attack transports too much emphasis was placed on supplies for occupation forces and not enough on combat supplies. Admiral Rockwell remarked in his action report on the Attu landings: "The time has come for combat troop organizations to realize that landing on territory occupied by the enemy means a *campaign* and not an occupation, and that the first days following such a landing will see them involved in action in which the fighting tools of war have first priority."

A large amount of cargo in addition to that originally agreed upon was sent to the docks at San Diego and San Francisco and every effort made to cram it aboard without regard to consequences. This naturally resulted in confusion and delay in unloading at the objective. In some cases high explosives were loaded in the same portion of the ship as gasoline. This could have been disastrous had any of the ships been hit.

The task organization as finally constituted was made up of Task Forces Sixteen and Fifty-one, of more than 60 vessels of all types, including 2 Canadian destroyer escorts. The aircraft also included 28 RCAF fighter planes. Some changes were made after the Attu landings, notably the addition of the battleships *New Mexico*, *Mississippi*, and *Tennessee*; the heavy cruisers *Indianapolis*, *Salt Lake City*, and *Portland*; several destroyers; and the tankers *Neosho*, *Pecos*, and later the *Schuylkill*. With the exception of the assault contingent (Task Force Fifty-one), all vessels had been either operating in the Alaskan area or had been diverted to it prior to 1 May. Task Force Fifty-one left the west coast late in April and

reached Cold Bay, Alaska, on the 30th. Here final arrangements for the operation and logistics were completed, and the force sailed to the point of attack 4 May.

Because of bad weather, D-day for Attu, scheduled for 7 May, was postponed until the 11th. A dense fog on the 10th caused considerable difficulty in lining up ships for the approach. The destroyer *Macdonough* and the light minelayer *Sicard* collided. Their loss to the operation was a severe handicap, as the *Sicard* was to have been used as a boat-control ship and the *Macdonough* personnel had been trained for fire support. *Sicard* took *Macdonough* in tow and proceeded to Adak. *Tatnuck*, an old ocean tug, was dispatched from Adak to meet the two vessels and take *Macdonough* in tow. On arrival at Adak both ships went alongside the *Black Hawk* for repairs to enable them to make the journey to a west coast navy yard. The oiler *Tippecanoe* towed *Macdonough* back to the United States, while *Sicard* was able to proceed under her own power.

Foul weather conditions prevented the fleet tug *Ute*—the only tug to accompany the assault force—from assisting during the early phases of the landings on D-day, as she was unable to take station for the final approach because of lack of suitable radar equipment. The following day she went to the assistance of the Army transport *Perida*, which hit a pinnacle in shifting anchorage. The *Perida* was beached, and salvage and unloading operations proceeded simultaneously.

A shortage of landing craft was soon evident. In the Massacre Bay area it was necessary to shift to one transport landing craft assigned to another, to augment the boats available for landing a complete combat team. The dense fog made it extremely difficult for the boats to locate the designated transports, and many of them became lost for long periods before they finally reached their destinations. The landing craft proved too fragile to withstand the rugged conditions, and the equipment was not substantial enough, despite the fact that a few LST's and LCT (5)'s had been sent to Alaska previously to test their ability in that theater. In addition to the immense amount of labor required to keep their hulls in proper condition, there was a shortage of spare parts, particularly engineheads, cylinder liners, pistons, and starters. On 23 May General Landrum, the landing-force commander, urgently requested Admiral Kinkaid to send tugs and barges to Attu to replace the small boats, which were "deteriorating rapidly."

At the outset both the fuel situation and the bombardment ammunition supply gave Admiral Kinkaid some concern. However, no critically serious shortage developed in either case.

Because of the weather, air spot could not be depended upon. In consequence an enormous amount of ammunition from our bombardment ships failed to knock out the Japanese artillery and anti-aircraft emplacements. On the morning of 14 May Admiral Rockwell informed Colonel Culin, commanding the northern troops, that there was naval ammunition for one more attack and that time was vital. By afternoon the battleships *Idaho* and *Nevada* had expended all their high-capacity 14-inch ammunition, and in view of the threat from enemy submarines they were ordered to proceed northward, refuel certain destroyers, and await orders. By evening of 15 May the *Pennsylvania* reported her H. C. ammunition exhausted, and she too moved seaward. The destroyer *Phelps* then took over in the Holtz Bay area and the *Abner Read* in the Massacre Bay area. Provision was made to replenish the *Phelps'* ammunition from other destroyers, from which she was able to obtain 1,120 rounds of 5-inch .38-caliber. The destroyers *Meade*, *Farragut*, *Edwards*, and *Hull* were prepared to give additional fire support if necessary. On the 17th the *Pennsylvania* gave the *Abner Read* 875 rounds of 5-inch .38-caliber before withdrawing. The destroyers *Ammen* and *Alywin* were also instructed to deliver gunfire if ordered. Meanwhile, the ammunition ship *Shasta* had arrived at Adak 8 May with replacement.

Ashore on 18 May the landing-force commander asked that replacement ammunition be sent from Adak, as the 105 millimeter was running low. At the same time he reported that considerable Japanese had been captured. Kinkaid answered this by stating that half the reserve ammunition at Adak was being forwarded, and that 5,000 additional rounds of 105 millimeter were available in the transport *Fillmore*.

As for fuel, Admiral Kinkaid notified Commander Northwest Sea Frontier and Commander Alaskan Sector on 13 May of the necessity of a quick turn-around of all available tankers. He further inquired whether a fuel shortage in the Seattle area required that tankers proceed to San Francisco or San Pedro. Once again that old bugaboo of the uncertainty of the fuel-oil situation raised its ugly head. The reply on 14 May confirmed the shortage and stated that the *Tippecanoe*, returning for reloading, was being diverted to San Francisco instead of putting in to Puget Sound. On the 19th Kinkaid requested that the oiler *Guadalupe* at San Pedro make a quick turn-around as "the logistic situation in this area does not make any delay feasible."

Fueling of Task Force Fifty-one, which had left San Pedro and San Francisco on 23 and 25 April, respectively, was done at Cold Bay by the *Neches*, which had accompanied the group. On 3 May she was damaged

by grounding on leaving Cold Bay and, after pumping out her remaining fuel at Kodiak, had to be withdrawn to Puget Sound for repairs.

The fueling of the supporting task groups—Task Group 16.6 (Admiral McMorris), with four cruisers and five destroyers; Task Group 16.7 (Admiral Giffen), three cruisers and four destroyers; and Task Group 51.1 (Admiral Kingman), three battleships, one escort carrier, and seven destroyers—was done at sea on 2, 3, and 9 May and subsequently on the 15th, 16th, and 17th by the *Neosho*. The *Pecos* (she and the *Neosho* were new vessels named in memory of the *Neosho* sunk in the Coral Sea and the *Pecos* sunk south of Java) fueled Task Group 16.6 at sea on the 21st, and the following day effected rendezvous with Task Group 16.7 for fueling. She was relieved by the *Neosho*, and after servicing the destroyers *Phelps* and *Meade* and the transport *St. Mihiel* at Adak, pumped her remaining fuel into the *Platte*, which had arrived from San Pedro on the 20th. She sailed on the 26th for San Pedro to reload.

Neither the *Neosho* nor *Pecos* is listed in the Operation Plan Landcrab, but this is probably because they were not assigned to the task force until 22 April, before which date the plan was probably printed and ready for distribution. It is perhaps because of this omission that the task-force commander likewise overlooked them, and when the *Neches* had to be withdrawn for repairs felt the fuel situation to be more serious than it proved to be. From 5 May until September, *Neosho* and *Pecos* serviced the task forces at sea and at anchor, often in thick weather.

During that period the *Pecos* made 4 trips and the *Neosho* 3 trips to San Pedro (Adak to San Pedro, 2,704 miles), bringing on each trip 95,000 barrels of fuel, 80 drums of lubricating oils, 150 cylinders of bottled gases, about 95 tons of provisions, and about 300,000 gallons of aviation gasoline, besides any additional deck cargo they could handle, such as airplanes or boats. About 8 SBD-5 Douglas scout bombers could be carried by the big tankers. These two ships alone in a total of 7 trips from May to September carried nearly 700,000 barrels of fuel to the Aleutians, nearly 700 tons of provisions, about 2,100,000 gallons of aviation gasoline, more than 500 barrels of lubricants, and numerous smaller items. That is a brief summary for 2 tankers, but a number of others were making regular trips during the period. The *Tippecanoe*, *Platte*, *Guadalupe*, *Neches*, *Cuyama*, *Ramapo*, *Brazos*, *Schuylkill*, *Neshanic*, *Saranac*, and the commercial tanker *Fort Moultrie* jointly made about 27 trips, adding a total of about 2,545,000 barrels of fuel to the 665,000 delivered by *Pecos* and *Neosho*, making in round figures well over 3 million barrels for the May to September supply. While this was

inconsequential in comparison to what the carrier striking forces in the Pacific were using, and a mere drop in the bucket to what was later used in the Central Pacific, it was at that time, considering the long haul and the shortage of tankers, a matter of some logistic magnitude.

The storage in shore tanks was small, and most of it not yet in operation. At Kodiak there were two 10,000-barrel tanks; at Dutch Harbor, more; but not all of this was available during May–September 1943. Four storage tanks there had been knocked out during the Japanese raids in June 1942. There was also a small storage at Akutan, an old whaling station converted for fueling use, with a capacity of about 32,000 barrels. At Adak it was planned to have tanks at both Andrew Lagoon and at Sand Bay on Great Sitkin Island, 20 miles to the east, but at this time neither was completed. The oilers not only brought fuel to the task forces but furnished many provisions, all bottled gases, most of the Diesel oil, gave the small ships their depth charges at sea, delivered nearly half the mail, gave canteen stores and ice cream to the small ships, and took off many of the sick and emergency cases.

The record of the *Neosho* illustrates such activities. She reached Kuluk Bay, Adak, 8 May 1943, and unloaded a considerable quantity of stores, drum oils, and aviation gasoline to the air station. A number of small craft were fueled and provisioned in the anchorage. On the 13th she sailed to make rendezvous at sea with Admiral Giffen's Task Group 16.7. On the 15th she supplied the heavy cruisers *Wichita*, *San Francisco*, and *Louisville*, and the destroyers *Balch*, *Mustin*, *Hughes*, and *Morris* with 22,166 barrels of fuel, 19,423 pounds of provisions, 7,488 candy bars, and 7,500 packs of cigarettes. The next day she fueled Task Group 16.6 (Admiral McMorris), giving the light cruisers *Santa Fe*, *Detroit*, *Richmond*, and *Raleigh*, and the destroyers *Bancroft*, *Frazier*, *Caldwell*, and *Gansevoort* 24,205 barrels of fuel, 63,485 pounds of provisions, acetylene and oxygen cylinders (not counted), 9,360 candy bars, and 11,500 packs of cigarettes.

Meeting Admiral Kingman's Task Group 51.1 the next day, she gave the *Nevada*, *Idaho*, and *Hull* 35,061 barrels of fuel, 52,511 pounds of provisions, 12,000 candy bars, 16,000 packages of cigarettes, and miscellaneous items, including lubricating oils. Returning to Adak next day, 18 May, she went alongside the commercial tanker *Fort Moultrie* for cargo; remained at Kuluk Bay 4 days fueling vessels; topped off cargo from the *Cuyama*; and sailed 26 May to meet Task Group 16.6, which she gave 21,949 barrels of fuel, 32,650 pounds of provisions, acetylene, oxygen, lubricating oil, cigarettes, and candy. The next day, 28 May, she met Admiral R. M. Griffin's Task Group 16.12 and gave the *Mississippi*

12,993 barrels of fuel and 500 gallons of aviation gasoline. To the *New Mexico* she brought 9,033 barrels of fuel and 1,000 gallons of aviation gasoline. The destroyers *Dale*, *Monaghan*, and *Farragut* received, respectively, 810 barrels of oil and 4,750 pounds of food; 886 barrels of fuel, 100 pounds of food, and 1 cylinder of Freon gas, and 1,226 pounds of food and 1 cylinder of oxygen.

On returning to Adak on the 29th she put into the oiler *Platte* 34,452 barrels of fuel oil, 67 drums of lubricants, 30 cylinders of CO₂ gas, 9 cylinders of Freon gas, 45 cylinders of oxygen, miscellaneous depth charges, pistols, boosters, and detonators. On the 30th she sailed for San Pedro, reloaded, and returned to Kuluk Bay 20 June to begin servicing all over again. This was only a little more than a month's activity for one oiler, and by no means represents an unusual case. These ships made service their mission, and they gave unsparingly and efficiently. The services they rendered at sea clearly showed that much more than oil could be transferred from ship to ship. They showed the way in the technique of supplying at sea which led to the formation of Service Squadron Six in the winter of 1945. Its establishment was merely a question of awaiting the availability of suitable ships to carry sufficient "other than oil" types of supplies.

The bulk of the provisions for the Alaskan-Aleutian sector was supplied by three provisions ships, *Bridge*, *Antigua*, and the merchant ship *Platano* formerly operated by the United Fruit Company. Some foodstuffs were supplied to the ships of the task forces by direct contact while in port, others by storage barges which had been stocked from the provisions ships. So far as having enough to eat was concerned, provisions were never any considerable problem; but to obtain the amount of fresh and frozen foods the ships wanted was entirely out of the question. Throughout the war there were never enough to keep them stocked to their liking. The days of dry stores, bully beef, and canned foods were not relished by our crews. So at a great deal of effort and expense, ships with refrigeration plants were sent with fresh and frozen foods at every opportunity. Since there were insufficient "reefers" to meet the demands, the tankers supplemented them as much as possible by carrying what they could in excess of their own needs.

At first, Commander North Pacific had had a few task groups made up of battleships, cruisers, destroyers, and some submarines, for bombardment and patrol activities from the summer of 1942 on, and these received such maintenance services as Kodiak, Dutch Harbor, and Adak could afford. For any major repair or overhaul, or for underwater work,

it was necessary to send ships back to Seattle, San Francisco, or San Pedro. In the spring of 1943, when plans were under way to retake Attu and Kiska, the destroyer tenders *Black Hawk* and *Markab* were sent to Dutch Harbor. They soon moved forward to Adak, *Black Hawk* in mid-April, *Markab* at the end of May. Vessels of all types were serviced by these two, with temporary repairs also for those which had to go back home for major repairs or drydocking.

In July 1943 the repair barge YR-38 was towed from Dutch Harbor to Adak, and in early August went on to Attu as plans shaped up for the Kiska operation. During July, Commandant Thirteenth Naval District recommended to the Vice Chief of Naval Operations that the drydock YFD-22 be transferred from Kodiak to Adak, and that ARD-6, which had reached Dutch Harbor 15 June, remain there for the time being. YFD-22 could provide much needed docking for LST's at Adak, besides taking some of the burden from the *Black Hawk* and *Markab*. YFD-22, towed by the tugs *Oriole* and *Tatnuck*, reached Adak 25 July.

Probably the busiest service vessels in the Aleutians were the tugs *Ute*, *Tatnuck*, *Oriole*, and *Cree*. The latter did not arrive until after the Attu landings, but the other three were constantly on the move and when not hauling equipment or landing craft from one base to another were assisting some stranded vessel. Such a scarcity of tugs existed at this time that Admiral Kinkaid ordered that none leave the area. The transport *Arthur Middleton*, badly damaged by grounding in the January 1943 landings on Amchitka, was directed to wait at Dutch Harbor until the *Cree* and *James Griffith*, bringing the ARD-6 from the United States, arrived on 15 June, when she would be taken in tow by these two on their return trip. After delivering the *Arthur Middleton* the tugs reported back to Dutch Harbor for Aleutian operation by mid-July.

The main part of Task Force Fifty-one returned to the west coast as soon as the troops were ashore at Attu with their supplies and equipment. Admiral Rockwell and staff returned to San Diego in the transport *Zeilin*, and immediately began to initiate plans for operations against Kiska. Many lessons were to be learned from Attu, and plans proceeded with that in mind. The *Pennsylvania*, flagship of Admiral Rockwell at Attu, was undergoing conversion at Puget Sound to fit her as headquarters ship for the coming operation. Consequently, after making preliminary plans, Admiral Rockwell boarded the transport *U. S. Grant* 22 July for passage to Adak. The *Pennsylvania* was directed to proceed to Adak early in August on completion of her overhaul. Here final plans for Kiska were coordinated.

Meanwhile, from the seizure of Attu until the middle of August the ships of ComNorPac guarded and supplied Attu while continuing the softening up of Kiska. An airfield was immediately begun in the Massacre Bay area on Attu, and another, previously started by the Japanese on Alexei Point, was rapidly put into operation. Nearby, on the small flat island of Shemya, a medium-bomber field was completed 18 July. This was needed because of the many losses due to fog when the mountain-obstructed fields on other islands were used.

Kiska was known to be more strongly defended, and therefore was bombed by air and bombarded by ships to much greater extent than was Attu. Ammunition dumps of fairly large size had been established at Adak, but there was still a limited quantity of high-capacity projectiles. The *Shasta*, as before, remained at Adak to replenish ammunition for the Kiska forces. A considerable number of aerial bombs were stored at Amchitka. The battleships *Tennessee*, *New Mexico*, and *Idaho*, with cruisers and destroyers based at Adak, conducted preliminary sweeps and bombarded the Japanese positions on Kiska during July and August. These vessels were serviced by oiling from tankers, at sea or in port, and with ammunition at Adak.

One such bombardment of Kiska occurred 2 August, when Task Groups 16.6 (*Richmond*, *Raleigh*, *Detroit*, *Salt Lake City*, *Indianapolis*, *Gansevoort*, *Frazier*, *Edwards*, and *Meade*) and 16.7 (*Tennessee*, *Idaho*, *Phelps*, *Dale*, and *Anderson*) shelled the island in two places. The estimated ammunition expended in less than an hour's firing was 120 rounds of 14-inch, 200 of 8-inch, 600 of 6-inch, and 1,400 of 5-inch. Ten such dual bombardments were executed between 2 and 15 August. The task groups, again under the supreme command of Kinkaid, now a vice admiral, were much the same as for Attu. Captain Buchanan's transport group was considerably enlarged, and a large landing-craft group under command of Captain Robert Bolton was added.

The rearrangements required very little change in the servicing group, now designated as Task Group 16.13. Most of the oilers which had supplied the Attu forces continued through the summer to deliver their cargo in anticipation of the final drive on Kiska. Ships which made one or more trips during this period were the *Platte*, *Ramapo*, *Fort Moultrie* (merchant ship), *Cuyama*, *Brazos*, *Neosho*, *Neches*, *Pecos*, *Saranac*, *Guadalupe*, *Tippecanoe*, *Schuylkill*, and *Neshanic*. Some discharged their cargoes immediately and returned to San Pedro. Others, coming from the west coast, operated in the Alaskan area, fueling ships at sea and discharging oil to port storage tanks before returning for reloading.

D-day for the seizure of Kiska was set as 15 August. Landings proceeded on schedule, with accompanying naval gunfire and air coverage. As at Attu, low visibility proved a handicap to operations ashore and afloat. Though our forces failed to establish contact with the Japanese on D-day, it was generally thought that they had well-entrenched positions in the hills, and considering their failure to defend the beaches at Attu, which resulted in severe fighting on high ground, plans for landings on D-plus-1 went ahead as scheduled. However, ammunition for fire-support ships was reduced about 50 percent.

In all sectors evidence soon showed that the Japanese had made a hasty evacuation about 10 days to 2 weeks previous. Considerable quantities of ammunition, food, clothing, and equipment were found, and almost all guns had been disabled before withdrawal. By 22 August Admiral Kinkaid announced the completion of the amphibious phase of the operation.

Though more than 34,000 troops participated, the seizure of Kiska could not be considered a combat operation, but the planning, training, and landing phases were conducted with full expectation of strong enemy resistance. The operation medical plan had been worked out on the basis of an estimated 9,000 casualties, which was later believed justifiable had the island been defended.

Despite the absence of the Japanese, some few casualties to our forces did occur. In the early morning hours of 18 August the *Abner Read* hit a mine while on antisubmarine patrol. Her stern was blown off from frame 170 aft. She was towed by the *Ute* to Adak and placed alongside the destroyer tender *Markab* for temporary repairs prior to heading for the west coast. Her casualties were 1 dead, 70 missing, and 34 wounded and hospitalized.

This Kiska operation (Cottage) was of some value in the practice it gave. Some lessons of what to do and what not to do were learned. Admiral Kinkaid commented: "The fact that the Japanese chose to evacuate rather than stay and fight, must in itself stand as the reward for the officers and men of the United States and Canadian forces involved." Admiral Nimitz commented similarly: "The disappointment of our forces at the enemy's escape without engagement is fully appreciated. It should be realized, however, that the effort of preparation for this operation and the diversion of forces to it were by no means wasted, since our experience and proficiency were improved thereby; and the evacuation without resistance which was forced upon the enemy not only saved us inevitable heavy losses, but released ships, men, and

equipment for other theaters much earlier than would otherwise have been the case.”

With the reoccupation of Kiska the Aleutian campaign ended. Thenceforward to the end of the war, operations there were principally a matter of routine building up of shore facilities, with a raid now and then on the Kuriles. The scene henceforward shifted to the Central Pacific.

Soon afterward Vice Admiral F. J. Fletcher relieved Vice Admiral Kinkaid, who was ordered to the Southwest Pacific to assume command of General MacArthur's naval force, the Seventh Fleet.

CHAPTER IX

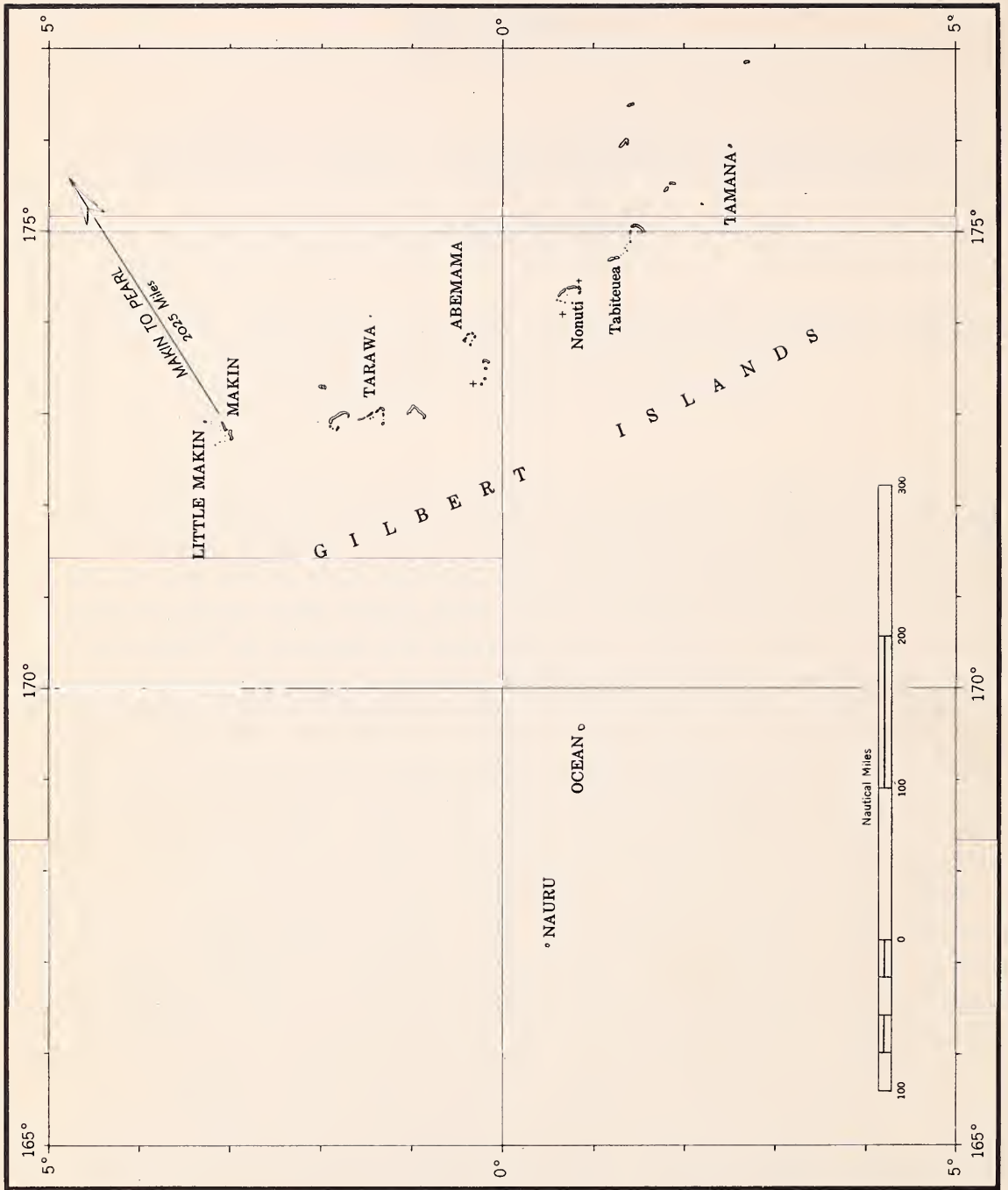
Operation Galvanic (the Gilbert Islands)

Mobile Service Squadrons Begin Growing—Service Squadron Four at Funafuti

BY FALL OF 1943, carriers were sufficiently numerous in the Pacific to begin attacks all along the enemy's eastern defense perimeter. (Until then our submarines had been carrying most of the war to the enemy in the Central Pacific.) For a start, plans were made to seize bases in the Gilbert Islands. The operation was known as "Galvanic." The assumption was that we needed airfields to contribute to future operations against the enemy. Vice Admiral Spruance's Central Pacific Force was therefore assigned the following mission: This force will seize, occupy, and develop Makin, Tarawa, and Abemama, and will vigorously deny Nauru to the enemy, in order to gain control of the Gilbert Islands and to prepare for operations against the Marshalls.

Admiral Spruance's force was divided into three major groups. The total number of ships involved was 179, not including support vessels such as oilers and other naval auxiliaries operating at Funafuti, Espiritu, Nandi, and at sea, and commercial tankers, etc., all of which contributed to the success of this operation. The main divisions were the Assault Force of Rear Admiral R. K. Turner; Carrier Force, Rear Admiral C. A. Pownall; Defense Force and Shore Based Air, Rear Admiral J. H. Hoover. The Assault Force itself was divided into Northern Attack, under Turner, and Southern, under Rear Admiral H. W. Hill. Each consisted of a transport group, a fire-support group, air-support or carrier group, mine-sweeper group, landing force, and LST and garrison groups.


Admiral Pownall's main Carrier Force was in four groups: Interceptor, Northern Carrier, Southern Carrier, and Relief Carrier, commanded



Gilbert Islands.

respectively by Rear Admirals Pownall, A. W. Radford, A. E. Montgomery, and F. C. Sherman. The assaults began on 20 November 1943, and Makin, Tarawa, and Abemama atolls were occupied. This move involved the largest force of ships yet assembled in the Pacific and required somewhat more logistic consideration than previous operations.

Admiral Nimitz, in his "Operations in the Pacific Ocean Area for November 1943," stated that the Galvanic operation involved 116 combatant vessels and 75 auxiliaries, a total of 191. During September the Gilberts operation was largely in a stage of planning, organization, and assembling of men and supplies. Early in October specific training began. The vessels of the Assault Force were widely dispersed, but were brought together in two main groups, the Northern in the Hawaiian Area, the Southern in the New Hebrides. The former left Pearl Harbor 9 November, the Southern sailing from Efate 12 November. Each received its initial supplies and services at the point of departure.

These initial loads consisted, for both combat and auxiliary ships, of 120 days' supply of dry provisions for ship's company and 45 days' supply for embarked troops; fresh provisions to capacity; clothing for 90 days; ship's store, 90 days; general stores, 120 days; fuel and ammunition to authorized capacity. Generally speaking, each group refueled at sea while en route to the bombardment and landing rendezvous in each one's area, and each was accompanied by its own tankers. The Northern Attack Force was oiled by the *Suamico*, Commander R. E. Butterfield, and the *Schuylkill*, Commander F. E. Hardesty; the Southern by the *Neches*, Lieutenant Commander H. N. Hansen, and the *Tallulah*, Commander J. B. Goode. With the carrier groups, the *Lackawanna*, Commander A. L. Toney, and the *Neosho*, Commander D. G. McMillan, fueled the Northern force; the *Neshanic*, Commander A. C. Allen, oiled the Southern, and Admiral Sherman's Relief Carrier Group was cared for by the *Tallulah*. 

Battleships and destroyers of the Carrier Interceptor and Northern Carrier Groups had been at Nandi, Tomba Ko, and Viti Levu, all in the Fijis, prior to 7 November. The oiler *Guadalupe* came to Nandi 4 November, replenished her cargo from the commercial tanker *Fort Dearborn*, and then fueled the *Washington* and *Fletcher*. The *Neches* fueled the *Maryland*, *Portland*, *Mobile*, and 4 others, went to Nandi, and filled up from the commercial oiler *Pennsylvania Sun*. The fueling anchorage was Lautoka, on the west coast of Viti Levu. The *Platte*, Commander C. H. Sigel, fueled the *Indiana* and 2 destroyers. Not all the oiler operations are mentioned, but enough to show something of this phase of

logistic support. During the Galvanic operation the 15 fleet oilers operated under a Task Group 16 designation (ComServPac) in task units of 3 each at designated areas for fueling at sea.

In preparation for Galvanic, the *Boreas*, Commander E. E. Burgess, made issues of her fresh and frozen provisions at Havannah Harbor in the New Hebrides from 27 October to 10 November, and from 11 to 18 November in Segond Channel at Espiritu Santo. She then returned to Oakland, California, to replenish her cargo of fresh, frozen, and dry provisions.

During the preparatory period for Galvanic, the idea of giving logistic support from floating mobile bases had been approved, but it was not until November 1943 that the first unit, Squadron Four, under Captain Scull, came into active operation. It reached Funafuti in the Ellice Islands 21 November for services subsequent to D-day. Makin LST Groups One and Two and Tarawa LST Groups One and Two proceeded to Funafuti for servicing. The operation plan required that battle-damage-repair facilities be available there.

Ammunition replacement was directed to be made from ships in the Samoa-Ellice area, but no names were given and no places designated in the logistic annex of the operation order.

The Mobile Service Squadrons

Early in the fall of 1943 Admiral Nimitz ordered Commander Service Force to organize two mobile service squadrons. The idea was that as it advanced across the Pacific the fleet would base on one, capture its next objective, and thereupon bring up the second. It would base on the second until still another forward area had been gained, whereupon the first service squadron would leapfrog over the second, and so on alternately. As will be seen later, this scheme was not used; but two service squadrons were nevertheless organized.

As the plans were developing for the Gilbert Islands campaign it was thought that Funafuti atoll, 8 degrees south of the Equator, would offer a submarine-protected anchorage nearer the area of attack than either Pearl Harbor or Espiritu Santo, and would be desirable or perhaps even badly needed. It was to be a fueling anchorage and a place for holding in readiness such naval forces as might be required if the Japanese sent out any great naval strength in defense. It was also to be a place of retirement for damaged or crippled ships until temporary repairs enabled

them either to return to service or to proceed to a navy yard or base for complete restoration.

Vice Admiral Calhoun designated his chief of staff, Captain H. M. Scull, as commander of the first service squadron to be formed, Squadron Four, to be based at Funafuti. It was commissioned 1 November 1943 and consisted of the destroyer tender *Cascade*, Captain Samuel Ogden, flagship, and 23 other vessels ranging from the repair ships *Phaon* and *Vestal* down through tugs and patrol craft to fuel-oil barges and 500-ton lighters. Captain Ogden was chief staff officer in addition to his duties in commanding his ship. Rear Admiral Hoover had been ordered as Commander Aircraft Central Pacific to take station at Funafuti in the large seaplane tender *Curtiss*, which serviced the planes of Patrol Squadrons Fifty-three and Seventy-two. He was also senior officer present afloat, which actually made Scull's squadron a part of his command.

The organizational scheme accorded with Admiral Spruance's operation campaign order. This required that Commander Service Squadron Four establish and maintain a mobile supply base at Funafuti to supply the forces engaged; also that Four's assigned ships and others placed under its operational control should conform to the directives, plans, and needs of Commander Central Pacific Force (Spruance). Operational control of harbor facilities in Funafuti was delegated to Scull by Admiral Hoover. The same command relationships were in force for the Marshalls campaign and the seizure of Kwajalein and Majuro; but in addition to Service Squadron Four, mention was made in Spruance's operation order that Squadron Ten was being assembled, and that both Four and Ten were under the operational control of Commander Defense Force and Land Based Air, Admiral Hoover, who later became Commander Forward Area, Central Pacific.

Funafuti, Ellice Islands

On 12 November 1943 the *Curtiss*, and on the 21st the *Cascade*, reached Funafuti. The former remained until 31 December, when she went on to Tarawa, the *Cascade* staying until February 1944. During the November-February period the *Cascade*, assisted by a rather limited assortment of yard craft, serviced 10 destroyers, 8 destroyer escorts, 6 landing ships (tank), 6 landing craft (tank), and various smaller types. The repair ship *Ajax*, Captain J. L. Brown, was present under temporary

control of Service Squadron Four, and made repairs to LST, LCT, and PC types. The Diesel-driven repair ship *Luzon*, Commander E. R. Runquist, repaired landing craft, and the *Rainier*, Commander R. B. Miller, issued ammunition to the heavy cruisers *Chester* and *Pensacola*. On 22 November the *Vestal*, Commander W. T. Singer, after a year's service at Espiritu Santo where she did great work on war-damage repairs, came to Funafuti. Three days later she was alongside the small carrier *Independence* to make emergency repairs—the first war-damage repair undertaken by Squadron Four.

The *Independence*, torpedoed 20 November (D-day), her after engine room flooded, had a ruptured fire main, which left the after part of the ship without water pressure. Her No. 1 shaft vibrated and broke and had to be secured. Submersible pumps kept the after fireroom under control, though flooded. A magazine was also flooded. After the transfer of aircraft and spare parts, and the removal of ammunition and gasoline from the cripple, the *Vestal* removed damaged protruding plating, dewatered and made tight the third deck, installed pipe jumpers to provide fire-main pressure in the after part of the ship, and removed some blister plating. Her divers removed No. 1 propeller, and secured Nos. 2 and 3 propellers together by a cable to prevent them from turning when the ship was under way. On 7 December the *Independence* sailed for Pearl, and thence to the United States for permanent repairs.

The *Vestal* remained at Funafuti doing various repair jobs, large and small, of every description, including boiler repairs on the *Massachusetts*, gunsights on the *South Dakota*, radar work for the *Washington*, watertight doors for the *Alabama*, and putting back into operation a coding machine on the *North Carolina*. The propellers of the carrier *Bunker Hill* were inspected by divers. The *Vestal* repaired the air pumps of the heavy cruiser *Chester*. These and dozens of trifling jobs, none significant in themselves but all going toward making the difference between efficient operation and high morale and inefficient operation and lowered morale, kept the *Vestal* busy until she sailed for Majuro on 30 January 1944 to tackle the damage resulting from a collision of the battleships *Washington* and *Indiana* and to become a valuable unit of Service Squadron Ten until the end of the war. These activities, of course, were only a part of the varied services rendered by Squadron Four at Funafuti. Maintenance and repair operations there did not involve many large jobs, nor were they so extensive as had been anticipated, and as later proved to be the case in other parts of the Pacific.

Funafuti was not a good place because of the very rough water, which

made boating and servicing difficult for ships and seaplanes. Furthermore, it lacked sufficient land area to make it much more than a very indifferent airplane base. There were no fleet recreation facilities, and while this may not seem important as a logistic item, it was.

As soon as Tarawa was captured, most of the services except those for deep draft battleships and carriers were moved up to the Gilberts. It was soon clear that the enemy was not going to bring his navy out to contend for the Gilberts, and thereafter our heavy ships did not use Funafuti much but backed away to the better bases at Efate, Espiritu, Nandi, and Pearl.

CHAPTER X

Service Squadron Ten Organizing at Pearl

Relationship of the Service Force Administrative Squadron Eight

WHILE THE EVENTS just related were going on, Captain W. R. Carter was organizing the second of the mobile service squadrons—Service Squadron Ten—at Pearl Harbor. It was realized from the beginning that the demands of such a group would exceed anything ever before experienced. The requirements would become steadily greater as the drive toward Japan drew farther away from Pearl while enemy resistance stiffened, and as the number of our vessels increased.

The proposed duties of Ten as seen at the time of its organization were:

Service Squadron Ten, a mobile base, will furnish logistic support, including general stores, provisions, fuel, ammunition, maintenance, repair, salvage, and such other services as necessity may dictate in the support of an advanced major fleet anchorage in the Central Pacific Area. It will furnish similar logistic support to Navy and Marine shore-based units not otherwise provided for in the area, as well as Army units which may be prescribed from time to time by the Commander in Chief, Pacific Ocean Areas. When Service Squadron Ten or units of it are at an advanced base, it will furnish such services and supplies as any of our armed forces thereat may require and the existing circumstances and capabilities permit.

The Commander Service Squadron Ten is responsible to Commander Service Force, Pacific Fleet, for the accomplishment of the tasks which may be assigned Service Force in advanced areas where the operations of Central Pacific Forces are being conducted. The operations of the squadron will conform to the directives, plans, and needs of Commander Central Pacific Force, with administrative and general direction by Commander Service Force. Vessels will be assigned to Squadron Ten in accordance with need, availability, policy, and directives of higher command. It is anticipated that Commander Central Pacific will designate this unit or certain vessels of it as a task group or groups to function as, when, and where it may be ordered.

The composition of vessels, surface craft, and auxiliary equipment making up or under the operational administration of the Service Squadron will include provisions stores ships or barges, barracks ships, oil tankers, hospital ships, destroyer tenders, hydrographic survey ships, net cargo ships, net tenders, repair ships, pontoon assembly ships, submarine chasers, motor torpedo boats, picket boats, rearming boats, buoy boats, harbor tugs, salvage tugs, self-propelled lighters, ammunition barges, salvage barges, garbage barges, repair barges, floating drydocks, degaussing vessels, floating cranes, salvage vessels, net gate barges, and any other types considered necessary and ordered to the Squadron.

Fleet combatant vessels which Squadron Ten will service will include battleships, cruisers, light, heavy, and anti-aircraft, carriers of the fleet, cruiser and escort types, destroyers, destroyer escorts, mine sweepers, LST's, LCI's, and miscellaneous smaller craft. Attack transports, attack cargo, and similar vessels of the assault forces are considered to fall in this classification.

To estimate the vessels, equipment, and personnel closely to meet such requirements there seemed to be no formula; certainly there was not sufficient experience for guidance. It seemed best therefore to make the estimates, and considered guesses, generous. The vessels, the administrative staff of officers, and the enlisted personnel needed were estimated and submitted to various offices for discussion, opinion, advice, and approval. It was fully recognized that this was a new sort of organization which must be flexible and therefore subject to considerable change. However, no one estimated by what could be called even a close guess the amounts the changes would eventually be to handle fleet logistics. For example, in discussing the matter with Commander Destroyers Pacific, his staff estimated that 4 destroyer tenders were needed, but CinCPac staff could only see a maximum of 3, with 2 as a starter. The squadron was not in service a month before it had 3, a month later a fourth, and in May 1945, 9. Three repair ships were estimated as needed, but only 2 were at first assigned, though the third, a new one, was promised if, when commissioned, there seemed to be no more important assignment. That was not much of an estimate when we find that the squadron in May 1945 had 17 of all types, not counting repair barges and salvage and rescue vessels.

Service Squadron Eight

Service Squadron Eight, already mentioned as one of the administrative subdivisions of the Service Force, with its headquarters at Pearl, was of vital importance. Notwithstanding all that has been or still may be said

of the work of Service Squadron Ten, that squadron was to a considerable degree an outpost of Eight. Without the efficient backing of Eight, Ten could never have served the fleet as it did. In the reorganization of August 1942 the duties of Eight were set forth by CinCPac.

(a) The general functions of Service Squadron Eight are the supply, transportation, and distribution of fuel oil, Diesel oil, lubricating oils, gasolines, provisions, general stores, and ammunition to the fleet and bases.

(b) All Service Force oilers, provision ships, stores issue ships, and ammunition ships are assigned to Service Squadron Eight. Chartered tankers and chartered provision ships are also assigned to this squadron, and, at Pearl Harbor, self-propelled barges and small craft are included for the delivery to ships of fuels, provisions, and stores.

(c) Commander Service Squadron Eight is directly responsible for the administration and operation of the Squadron to best meet the logistic requirements of the fleet and bases and to comply with directives of the Commander Service Force.

(d) Requests by ships at Pearl Harbor for fuels, provisions, stores, and water will be made direct to Commander Service Squadron Eight, except where otherwise directed by current instructions.

At the end of March 1943, when Captain (later Commodore) A. H. Gray became Commander Service Squadron Eight, the unit had 44 vessels, with the promise that 18 fuel-oil and gasoline tankers were to report within the near future. Of the 44 commissioned and in service, 4 were ammunition ships, 6 carried provisions, 3 were small general-cargo vessels, 1 was a general stores issue, 3 were hospital transports of the evacuation type, and the remaining 27 fleet tankers. A year later, shortly after Ten had started operations at Majuro, Squadron Eight had a total of no less than 430 vessels assigned to it, though of that number 121 were operated by SoPac and other commands. These ships included everything from ammunition carriers and oilers to small craft, water and garbage barges, and lighters.

Squadron Eight was organized and functioned on the basis of the old-time squadron. At the top was Commander Service Squadron Eight, supported by a chief staff officer who had various sections to carry out all normal squadron functions: Operations, communications, material (maintenance), and supply. This latter was divided further into four divisions to handle fuel, provisions, general stores, and freight. The flag secretary also acted as personnel officer who had mail and files under him. The operations and communications sections were not wholly self-sufficient as they relied on Service Force operations and communications for such basic functions as writing operation orders and handling incoming and outgoing radio traffic. Routine and surprise inspections of

Eight's vessels were carried out under the operations officer, whenever the locations and missions of the ships made this practical.

The first time in the Central Pacific that large numbers of fleet units remained away from permanent bases for long periods was during the Gilberts campaign. Up to this time oilers had fueled units at sea to increase their steaming radius on strikes by task forces or groups. But now, with this operation, the time at sea was to be until the assignment or mission was completed, which of course was for an indeterminable period.

Fuel was still the major item transferred at sea. To assist in this, the Chief of Staff of ComServRon 8, Captain E. E. Paré, went forward as a task-unit commander. Ships were spotted in groups of 3 at prescribed points, and 28 fleet oilers shuttled back and forth between these points and Pearl Harbor. In addition to petroleum products they carried a limited amount of provisions and other stores which were transferred to the ships being oiled, both being in motion. Such transfers met with enthusiastic support, especially from the smaller ships, and this success again showed the potentialities of transfers at sea on a much larger scale. Discussion arose as to the advisability of making tankers general-issue ships to a greater extent; but it was concluded that while they should continue to make issues of provisions and general and other stores to as great an extent as possible, their primary mission of fueling should not be sacrificed or delayed in any way.

During the Gilberts operation, fueling at sea was done at predetermined fueling rendezvous which changed daily to avoid confusion and unnecessary radio traffic and to minimize the possibility of submarine attack. For the Marshalls operation, however, the areas around Kwajalein were too small to make this procedure seem practical because of other atolls and enemy-held bases. On the other hand, areas to the eastward of the Marshalls (which could have been used as we used those to the eastward, and later to the westward, of the Gilberts) were too far away from Kwajalein. At the insistent recommendation of Admiral Spruance the atoll of Majuro was taken at the commencement of the operation. This was due first to the necessity of getting a base secure from submarine attack for fueling, repairs, etc., and second to the desirability of building additional airfields to protect shipping moving to and from Kwajalein, since the Joint Chiefs of Staff had directed Admiral Nimitz to send the fleet south after the capture of Kwajalein to support Admiral Halsey's operations. As originally planned this would have left Kwajalein ringed with Japanese bases which had their air pipeline back to

Japan intact, and that without the necessity of their fleet support. The change in plans to take Eniwetok cut the pipeline and eliminated a possible build-up of Japanese air strength in the Marshalls. In addition, the orders for our fleet to go south were canceled after a few small units had left for their destination.

The result was that after fueling en route at certain rendezvous as had been done throughout the Gilberts operation those vessels did their subsequent fueling at Majuro, and to a limited extent within the atoll of Kwajalein.

Prior to 1944 much of the fuel had been transported from the west coast to Pearl Harbor, other bases, and to the fleet, in Navy oilers. Even though tankers of large capacity were reporting every month, the demands on them increased so rapidly that from the Marshall campaign onward the fleet oilers were confined to acting primarily as distribution vessels direct to the fleet ships. The long haul from southern California, and the longer one from the Caribbean through the Panama Canal, was made almost entirely by an endless chain of large commercial tankers, which discharged to the fleet oilers in such anchorages as Majuro, Eniwetok, and Ulithi.

While ammunition ships were assigned to Squadron Eight for administrative control and maintenance, as a practical matter their operation and schedules were under CinCPac gunnery officer who arranged for their loading at west coast depots and coordinated their movements to meet the combatant ships between strikes or at strategic points in the Western Pacific. The need for ammunition of all types became so great that AE-class (cargo capacity 6,000 to 7,000 tons) ships were not available in sufficient numbers, so ten 17-knot Victory ships were commissioned in the Navy and assigned as additional ammunition carriers. As the war drew toward a close, several AK-class cargo ships, with capacity of 4,000 to 5,000 tons in general, were being especially fitted for transferring ammunition at sea. They were intended to serve chiefly with Squadron Six close to the Third or the Fifth Fleet, though they were assigned to the administrative and maintenance control of Squadron Eight.

Special Type Ships Useful

Some of the vessels controlled by Squadron Ten for operations but assigned to Eight for administrative control were types entirely new in design and purpose. Outstanding for the work they performed were 13

Large concrete barges, not self-propelled but having substantial Diesel-electric power aboard for refrigeration (some had 3 holds so equipped), cooking, lighting, and minor power requirements; 366 feet long, they had crews of about 55 men and 3 officers. These barges permitted the stowage and issue of large quantities of dry provisions, general stores, clothing, small stores, ship's service items, and a substantial amount of medical requisites. On several of the barges there were large bakeries and butcher shops as well as refrigerated storage designed especially to permit small craft and patrol vessels to receive as good a diet and as many so-called luxuries as were furnished on the larger self-contained combat ships. More than 7,000 items were carried. Many of the barges served an average of 600 ships in a typical month. One barge was lost in a typhoon off Saipan, but the remaining 12 served ably until the end of the war, giving Squadron Ten much needed storage space afloat, and releasing a number of self-propelled cargo ships that would either have had to be assigned as station ships or have been materially delayed on each trip by making issues to the fleet.

Not only did the concrete issue barges receive many cargoes packed and sent direct to them, but they were able to take remnants from ships leaving the forward area. The remnants might otherwise have been returned to the west coast for lack of space or facilities to put them on the beach at some new or remote base. The disadvantage of the barges was their need of powerful towing vessels when a major move was undertaken; but in a critical period of the war they furnished facilities and services which otherwise could not have been provided. In addition to the 13 for provisions and supplies, there were others of similar hull design for the bulk storage of fuel oil and gasoline, each holding up to 66,000 barrels.

Another especially designed type was the distilling ship. Water became a major problem in the middle of the largest of all oceans. There was little or no fresh water on many atolls while the demands for it on islands with some supply were too great for the local sources. Another major factor in water requirement was the fact that hundreds of small vessels were not equipped with their own distilling apparatus or found their tank capacity insufficient when at sea for extended periods. To supply water, several new tankers of the oiler and gasoline tanker types were employed for more than a year solely in transporting pure water from supply points at Oahu, Guam, and Manus to anchorages where the fleet was temporarily based, such as Eniwetok or Ulithi. In the comparatively short Iwo Jima operation 22,000,000 gallons of water were

supplied to the participating vessels. Toward the end of hostilities special distilling ships were operating. The first two were converted Liberty ships, with distilling capacity of 120,000 gallons a day and storage for 5,040,000 gallons. Larger ships were completed just as the war ended.

A third type of more or less special equipment was a barge which sometimes was unmanned, sometimes carried six to 12 men. These barges varied from 125-ton and 250-ton open lighters to 2,000-ton steel craft, of which there were approximately 70, with large superstructure and a deep hold. This barge fleet developed from a small number of lighters, scows, and barges used by the Navy in 1941 and employed for garbage, scrap, local supplies, and minor repairs at various navy yards and stateside bases. With the outbreak of war the building program was stepped up drastically, and many old barges were purchased from commercial companies. The first ones were towed to the South Pacific by tankers and merchant ships for the most part, as seagoing tugs were needed for more urgent work. The tows stopped en route at Bora Bora in the Society Islands, at Tongatabu in the Tonga group, Tutuila and Upolu in Samoa. Some were lost in storms or as a result of broken tow-lines. Later in the war many pontoon barges were assembled from standardized units or cells held together by prefitted steel beams, angles, rods, etc., nicknamed "jewelry." Some were linked together to form piers. Some barges had "seamule" power units attached and became self-propelled for harbor work. Useful lighters and barges for shipside discharge were made by linking up units of 10 cells long by 4 wide, or larger. Where deep water and good harbors existed, larger and more substantial barges were needed, and the pontoon units were mostly an expedient makeshift. The largest groups were of 500-ton capacity steel barges, 110 feet long; 40 wooden barges, commercially designed and built, 194 feet long, of ship hull model, with a capacity of 1,300 tons in 6 deep holds; and the previously mentioned 2,000-ton steel units. These were excellent for storage, but came to the Pacific with no cranes, booms, or handling gear. Traveling caterpillar cranes on the reinforced top deck, or swing booms, were improvised and installed, but valuable time was lost in making such installations and the best of them were never quite satisfactory. Barges in the forward area without efficient handling gear were of only limited value.

Supplies moved across the broad reaches of the Pacific largely in Squadron Eight ships and barges, or in ships under its control. Then they passed to operational control of Squadron Ten in the forward area anchorages recently set up or taken from the enemy. In spite of the

{ broad functions originally assigned to Squadron Eight and the manner in which the squadron had expanded in number of ships, logistic planning and the complexity of the war increased even faster. The first change in Squadron Eight's internal organization came in July 1944 when, at the request of the Army-Navy Petroleum Board in Washington, a separate Area Petroleum Office was established within Eight, its supply officer, Captain C. F. House, also becoming area petroleum officer for the Pacific Ocean Areas as well as remaining fleet fuel officer. By December the magnitude of this office was such as to warrant its separation from Squadron Eight because much of its work concerned high-octane gasoline used primarily by the Army, and it was desirable to have the Army Air Force represented in the Area Petroleum Office. Ultimately, Army staffed about one third of it. This change in oil logistics removed from Squadron Eight the responsibility for several hundred merchant tankers and much of the future planning, but all fleet oilers remained within Eight, as did local fuel distribution at Pearl Harbor and throughout the Hawaiian and so-called "Line Islands."

Next to fuel, and probably parallel with it in importance, was the responsibility for provisioning the fleet. For the first 2 years of the war all ships carrying fresh, frozen, and dry provisions were ships within Eight. Early in 1944, when the logistic requirements grew faster than the squadron, War Shipping Administration vessels were allocated to carry provisions, being placed under the operational control of Eight. This was essential for coordination of their schedules with those of the squadron refrigerator and issue ships. Before the war and until the campaign in the Central Pacific was stepped up late in 1943 and early in 1944, provision ships had carried mixed cargoes of refrigerated and dry provisions for a balanced issue to ships needing foodstuffs. As the fleet demands increased there was a scarcity of refrigerated ships, so it was necessary for each to carry the absolute maximum of frozen and chilled items. This cut down their space for dry provisions. The only solution was to employ additional cargo ships, with little or no refrigerated space, to carry dry provisions, planning their schedules so that they would be at the same anchorage or bases as the refrigerated ships in order to make balanced issues to large numbers of combat vessels. Each dry-provision Liberty ship carried approximately 5,300 tons or 420,000 cubic feet of bulk provisions, clothing, ship's service supplies, and medical items.

With the establishment of the Force Supply Office, the head of which was also fleet supply officer, more and more of the earlier duties of Squadron Eight were being absorbed by it. The magnitude of the war

carried the supply problem beyond the scope of any one squadron. Coordination of supplies among many activities, not only within the Navy but with the Army and Marine Corps, was essential. The fleet supply officer serving on the staff of CinCPac as well as ComServPac was the logical person in whom such authority for coordination should rest. He was concerned only with supply. The scheduling, planning, and operating of many ships, and their administration, remained in Squadron Eight. There was some duplication and overlapping, but on the whole, through close contact and mutual understanding of the over-all objective, efficient joint schedules were worked out.

As the fleet remained indefinitely away from port (meaning Pearl, principally) following the Marshalls campaign, a great need for special freight deliveries grew up. Ships needed spare parts and specialized equipment not available in the general stores but required by individual ships and specifically ordered by them. At the outset this freight was handled by sending materials to forward bases for future delivery to consignee vessels, via Squadron Eight ships, but meetings and schedules did not always work out as planned. Frequently consignee and carrying vessels neither met nor found a third agency available to make delivery.

The magnitude of the freight handling and the failure of combat ships to return to ports where freight awaited them developed a most unsatisfactory situation. This led to the institution of a special freight service and the eventual assignment in January 1945 of eight medium-size cargo vessels to Squadron Eight to move fleet freight from points of origin to the forward area, and also to move it within the forward area to destinations where final delivery could be made. When congestion at such major bases as Guam and Samar made it unwise or impossible to set freight on the beach, a system of floating storage barges under Squadron Ten was established. This had the advantage of keeping fleet freight mobile and avoiding the danger of setting it on the beach to be forgotten or mixed with base freight, besides lessening requirements for construction of facilities ashore to be later abandoned. In the closing months of the war the transportation section of the Fleet Supply Office took over the responsibility of controlling fleet freight at Pearl Harbor and from the west coast, retaining this and the broader aspects of the supply problem as part of its logistic function.

When the war suddenly ended, Squadron Eight was of a size never contemplated when it was created and commissioned 4 years before. In July 1945 the commissioned ships under its administrative command, and often partially or wholly under its operational control, numbered

365, ranging through every type from big troop-carrying cargo ships down to barges. Besides the 365, 36 of which were still to report, there were 388 barges (92 still to report), noncommissioned but all of them "in service" craft. The growth of the squadron also is indicated by its personnel: 5,000 men in March 1943; more than 65,000 in August 1945. To all these ships and men must be added the merchant vessels, allocated by the War Shipping Administration for transportation of dry provisions, whose schedules had to be coordinated carefully with those of Navy ships in Eight in loading at such ports as San Francisco, Oakland, San Pedro, and Seattle, and in arriving at half a dozen major bases and anchorages in the Western Pacific. On many of these vessels there were Squadron Eight storekeepers and an issuing supply officer.

It is stating only the obvious to say that naval ships cannot fight properly without adequate ammunition, and that speed cannot be made without fuel. For these necessities ships are entirely dependent upon the supply lines. The function of Squadron Eight in the Service Force was to schedule, load, and transport logistic support vital to the forward areas, where it could be distributed to the fleet by the mobile Service Squadron or by the shore bases concerned. In performing this function Squadron Eight was perhaps the most important factor in the whole supply line. It carried out its duties unflinching, under many difficulties and shortages of all sorts, including shortages of vessels and men. There never was a raid, attack, or full-scale operation which was delayed or handicapped by any failure of Service Squadron Eight, probably the only supply train in the history of warfare with such a record. Thus it can be seen why Service Squadron Ten was so dependent upon Service Squadron Eight, why it was in a sense a distributing outpost of Eight.

CHAPTER XI

Early Composition and Organization of Service Squadron Ten

Ordnance Logistics—Administration of Ordnance Spare Parts and Fleet Ammunition

HOW MANY VESSELS of different types would be required in Squadron Ten to perform outpost duties was a difficult question. It was known, let us say, how much fuel a ship held. It could be figured how much she would burn under given conditions—but no one could tell what those conditions would be. So a high estimate—or what was then considered very high—was made of all conditions governing fuel, ammunition, stores, and maintenance. This included estimated possible losses due to enemy action, an appropriate added factor of safety since the basic estimates were little better than intelligent guesswork. The first assumed requirements of Service Squadron Ten were 20,000 tons of dry storage, 3,500 tons of ammunition storage in 7 covered barges, 495,000 barrels of black fuel oil, 55,000 gallons of aviation gasoline, and 10,000 barrels of Diesel oil. Estimated floating equipment was:

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| 1 barracks vessel (to quarter 60 officers and 1,000 men) | 1 AH hospital ship |
| 2 AR large repair ships | 4 AT ocean-going tugs |
| 4 YR repair barges | 4 YT harbor tugs |
| 1 AFD small floating drydock (1,000-ton lift) | 4 ATR rescue tugs |
| 1 ARD medium floating drydock (3,000-ton lift) | 2 ARS salvage ships |
| 1 ABSD large floating drydock 80,000-ton lift) | 1 salvage barge (to be stocked with beaching gear, pumps, diving gear, underwater cutting gear, etc.) |
| 3 AD large destroyer tenders | 1 AK pontoon assembling ship, with unit set up on board to turn out pontoon lighters (one per day) |
| 1 AGS survey ship | 1 AKN net cargo ship |

2 YN net tenders	1 twenty-ton lifting capacity crane
2 AN net layers	2 YW water barges
1 ten-ton crane on pontoon barge	6 SC patrol ships
1 YNG pontoon barge gate vessel	12 PT
10 one-hundred-ton self-propelled pontoon barges (all pontoon craft to be made by AK above)	10 picket boats
4 YG pontoon garbage barges	50 LCP and LCM boats
	1 YSD degaussing barge
	6 YMS mine sweepers

Distillation of fresh water was already seen as a problem, a problem which lasted until the end of the war, 19 months later. It was desired to have enough oil and ammunition stowage space in old, slow tankers and barges so that the fast oilers and ammunition carriers would not be delayed in their turn-around runs for new supplies. Underwater repairs could not be attempted until floating drydocks arrived, but the repair ships and destroyer tenders would meantime attempt all possible repairs above the water line and divers would do what they could below.

The requirements of personnel and daily creature comforts were not overlooked. From the first it was intended to operate a disbursing office for small craft, boats, and barges; to carry and issue clothing and small stores, with all types of general stores; to develop and supervise recreational and swimming areas on beaches as near as possible to fleet anchorages; to have one or more hospital ships in the area as circumstances required; and to give attention to the sick and wounded at all times. Knowing that local harbor conditions would vary considerably from place to place, the squadron assumed responsibility for laying out and marking definite anchorages and moorings; setting out nets, even to the point of individual ship protection if warranted; for patrolling harbors and entrances, and sweeping for mines if necessary. To provide the fleet with local intership transportation and lighter service was a job in itself when all facilities were afloat. No ships other than transports any longer carried boats, and there were no wharves or piers for supplies, repairs, and other desiderata. It meant water transportation for official business, freight, stores, ammunition, recreation—everything.

When the number of boats listed as needed was noted, there were anguish, doubt, denial, and incredulity. Even when it was shown that in peacetime, boats carried by the carriers, battleships, heavy cruisers, and destroyers of the Fifth Fleet totaled 592, and the total of all types asked for by Squadron Ten was less than 100, there was still reluctance to concede them. Even after the figures were admitted to be correct it was never possible to get all the boats there should have been.

Service Squadron Ten was commissioned at Pearl Harbor 15 January

1944, at which time there were formally assigned to it one destroyer tender, one large repair ship, one survey ship, two ocean tugs, one harbor tug, and seven YF freight or ammunition barges of 500 tons each. It was not much, but it could be expanded by ordering vessels to it for operational control, which was done. The organization was a simple, straight-line one which easily permitted expansion and flexibility.

Ordnance Logistics

For the first 2½ years of the war the Fleet Gunnery Officer of CinCPac staff was the controlling agent for ammunition and ordnance material. With the increasing tempo of 1944 these duties left him insufficient time for the practical matters of gunnery officer and combat readiness, so in June 1944 an ordnance section was formed in the logistic division of CinCPoa. Thenceforward most of Squadron Ten's ammunition and ordnance materials were obtained through this section, whose activity, cooperation, and efficiency made for great improvement and more ease of distribution by Ten. Captain T. B. Hill, chief of section; Captain E. M. Eller, executive assistant; and Commanders M. A. Peterson and S. M. Archer were vigilant and active, did not confine themselves to the office, and were all over the Pacific helping, coordinating, listening to troubles, and furnishing great assistance in personnel, vessels, and materials and with improvement in loading and stowage at continental points of shipment. The principal function of this ordnance section was to supply (1) naval ordnance spare parts, (2) ammunition for naval ships and aircraft, (3) aircraft ammunition for the B-29's, and (4) ground ammunition. Fleet logistics are directly concerned only with the first and second of these.

Theoretically the ordnance section was a policy organization for all ordnance logistics in the Pacific. Sometimes, however, it did more than develop policy—it implemented it. Where an adequate subordinate organization existed, such as the ordnance section of Commander Service Force Staff, much of the work was delegated. Usually its policy organization did not provide detailed plans. For naval ammunition, however, it did. Its responsibility was to have sufficient ammunition at the right place at the right time. The development of outlying dumps, the increase of the auxiliary fleet, the floating storage in advanced anchorages, and the under-way resupply were all factors contributing to the operations of the fleet, away from naval bases for indefinite periods.

The preceding page is a general discussion of ordnance logistics. Let us examine in some detail (1) Ordnance Spare Parts, and (2) Fleet Ammunition.

Ordnance Spare Parts

During the early stages of the war, distribution of ordnance spare parts was accomplished by established fleet bases and through distribution to forces afloat by requisition from continental depots. Stocking spare parts in advanced areas and in the fleet afloat had not been general practice. As war in the Pacific progressed farther and farther from established bases it became apparent that a better, speedier method of distribution was essential.

The first step was to increase the spare parts on repair ships and tenders of all classes. Commander Service Force Pacific shouldered most of the responsibility for making this a workable scheme. As the South Pacific campaign increased in intensity, and the ships assigned to that area—with insufficient tenders—extended their time away from Pearl Harbor, the need for more land-based stocks of critical ordnance spares at advanced bases became apparent. The base at Espiritu Santo was stocked by its naval supply depot. The inventory was in accordance with allowance lists compiled by the Bureau of Ordnance. At the same time, its naval supply depot tried to anticipate critical and fast-used items.

Difficulties were encountered. Development had been so rapid that the continental agencies had no definite experience of the quantities of items constituting a balanced inventory. Consequently many sets of parts arrived with excesses, or infrequently used parts and shortages of commonly used ones. Peacetime experience was of little help in determining what parts would be in demand under war conditions. There was also, during the early part of the war, an actual shortage. The manufacture of spares was generally in competition with the procurement of complete assemblies for new vessels being rushed toward completion. Gradually improvement came, and while not the perfect answer, the ordnance-spare-parts facilities at Espiritu were a great help.

Prior to the Central Pacific campaign the functional components of advanced bases as established by the Chief of Naval Operations proved very good. Each component afforded a previously estimated number of men and amount of equipment for a given quantity of ordnance material. It was not perfect, but its wastes and shortcomings were more than offset by the faster planning it permitted, the uniform understanding of its size, quantities, and requirements for shipping space and land

facilities at destinations. With the beginning of the Central Pacific campaign, however, the limited land areas of the atolls did not permit establishment of large shore facilities. Moreover, our planners began to realize that any activity which could function afloat had the advantage of quick advance by reason of its mobility, something no shore-fixed facility could give.

Accordingly, the CinCPoa ordnance section decided that the major source of ordnance spare parts should be the stocking of ships under Commander Service Squadron Ten, with responsibility for its success upon that officer under Commander Service Force Pacific. Fleet units were to be replenished and repaired while in advanced anchorages. By spring of 1944 it became evident that a larger supply of heavy ordnance spares was needed in the forward area. Recommendations for the stocking of the unclassified concrete vessel *Corundum* were made and approval obtained. The craft was towed forward to Service Squadron Ten at Eniwetok in the summer of 1944. She carried complete mount assemblies as well as sets of spare parts similar to those stocked by repair ships and the various tenders. She could supply ships up to and including light cruisers. The scheme was new, but it worked time and again, avoiding the sending of a ship thousands of miles to a navy yard, or doing without the replacement.

In January 1945 an ordnance parts depot was established as an annex to the Naval Supply Depot at Guam. Its responsibility was to stock all parts for guns that could be installed from tenders or by the Guam facilities. This Guam depot profited by all the earlier mistakes of its prototype at Espiritu and by the experience gained in the interval between the two. It was consequently better as well as bigger.

All key points in the Pacific from which the fleet operated were covered by facilities for ordnance-spare-parts distribution before the war ended. Fleet anchorages such as Ulithi and Leyte had the floating storage of Service Squadron Ten with the small critical items which could be installed by tenders. The base at Guam was well stocked with all items, not only to supply its land-based facilities but the needs of the tenders and other floating units, whenever time did not permit the latter to await delivery from the United States. "A large amount of credit was due to Service Force and its subordinate Service Squadron Ten for providing complete and efficient organization for distribution of all ordnance spare parts whether they came from afloat or ashore. The work of Service Squadron Ten in installing these spares was of the highest quality." (From a historical report of CinCPoa ordnance section.)

Fleet Ammunition

The need for fleet ammunition in large quantities during the early stages of the war did not develop and never became a matter of large-scale expenditure, with a corresponding quick replenishment on a gigantic scale, until after we started the Central Pacific drive. The ammunition depots at Noumea and Espiritu have already been indicated. These, with the large Naval Ammunition Depot at Oahu, supplied most of the fleet needs until this drive began. These depots were supplied by shipments from the west coast, mostly made in naval ammunition ships which at first did very little direct supplying to the ships of the fleet.

With the Central Pacific drive came unusually heavy shore bombardments by ships' guns and unusually heavy bombing by carrier planes. It was soon apparent that shore-based ammunition storage was inadequate. A supply flexible enough to meet the changing requirements of the fleet had to be developed. Therefore, to keep pace with the operations, most of it had to come from ammunition ships at the fleet anchorages. To Commander Service Squadron Ten was given responsibility for the forward area operation of the vessels and the distribution of the ammunition.

All fleet ammunition was shipped by specific request. Ordering was usually by dispatch from the ordnance section of logistic division of CinCPoa through CinCPac to Bureau of Ordnance and Commander Western Sea Frontier for action, with information copies to Commander Service Squadron Ten and type commanders. The Bureau of Ordnance provided the ammunition to be embarked, the sailing date, and destination. Commander Western Sea Frontier provided loading lists showing actual departure loading. The ships went to Commander Service Squadron Ten, who made issues and reloaded vessels as required. Weekly inventories were submitted to CinCPac by him for each ship under his operational control, showing the changes which had taken place in the original departure loading, thus giving a current inventory for all ammunition ships.

As the war progressed the need for floating supply increased. Ten Victory ships were converted, refitted for ammunition handling, and given a capacity of 7,000 tons each. These 10 and the Navy AE's were all Navy-manned and they formed the backbone of the ammunition fleet. Many War Shipping Administration (WSA) vessels were later employed for ammunition shipping; so, too, were LST's, the latter particularly for assault supplies. At the end of the war more than 50 percent

of the ammunition was being carried by WSA ships. Some type loading was developed, and whenever conditions of time, availability, etc., permitted it was found to have advantages. Two of these were the bombardment loading and the fast-carrier-group loading. The former provided a supply chiefly for the old battleships, cruisers, destroyers, and vessels engaged principally in bombardment of enemy shore positions. The fast-carrier-type loading provided ammunition for fast carriers, new battleships, cruisers, and destroyers making up the fast carrier task force, and consisted of bombs and antiaircraft and aircraft ammunition. A carrier-escort-support-ship-type load was also tried, but not to any extent.

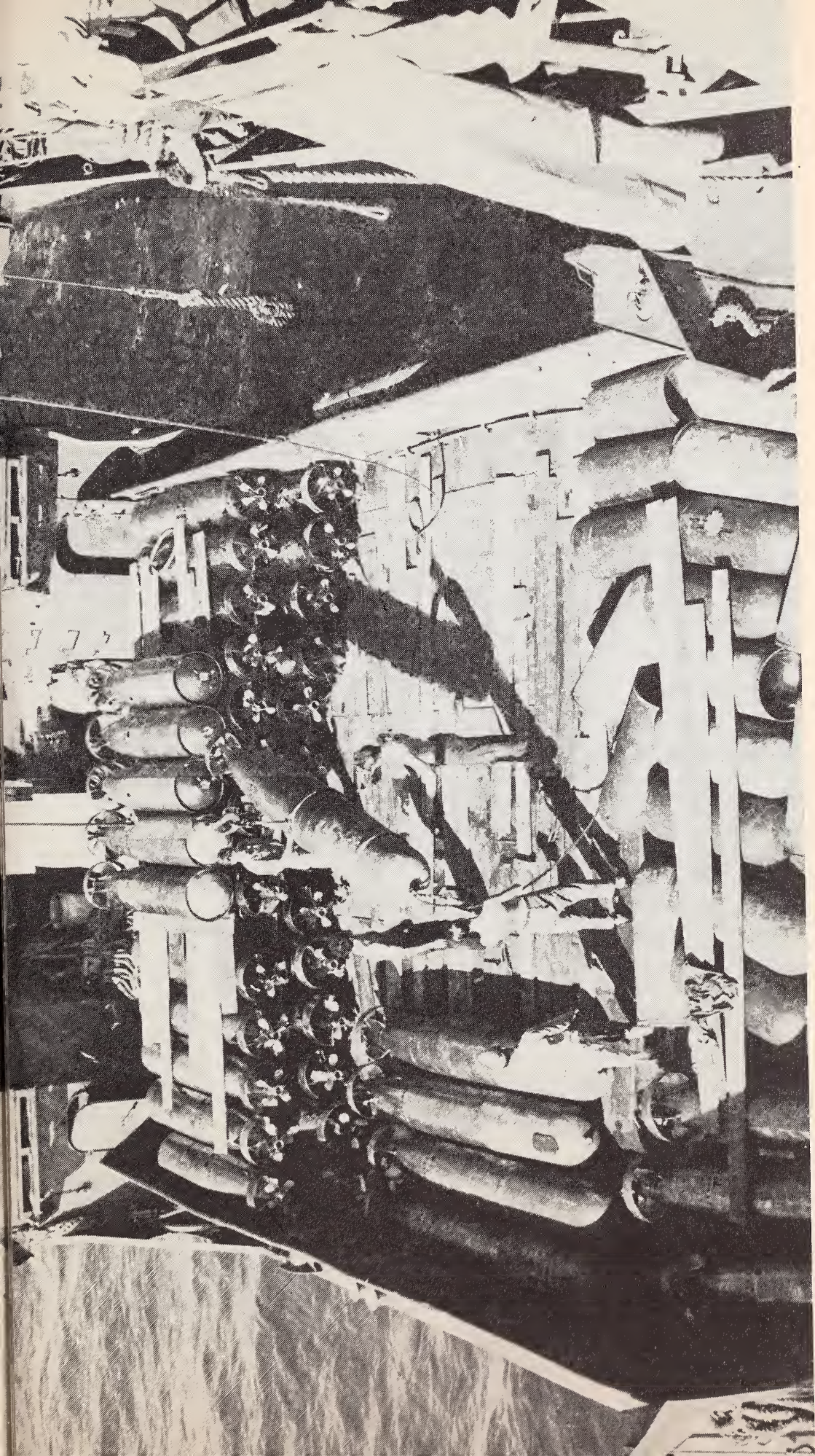
The principal source of distribution for combatant ships was Service Squadron Ten, a movable and flexible supply. As our forces progressed across the Pacific, Ten moved, and with it moved the ammunition carriers. Many of them constantly underwent stowage rearrangement to meet current expenditures more readily. Stock levels were determined on the basis of rounds per gun. All action reports were received by CinCPac and analyzed by his ordnance section. Expenditures were tabulated and formed the basis for determining requirements for future operations. Allowances were made for changes in ships to be employed.

The fleet could always be supplied at sizable anchorages. Long experiments with transfer of ammunition under way at sea were conducted, and with certain structural and rigging changes encouraging results were obtained. This led to the assignment in Service Squadron Six of certain fleet ammunition ships especially rigged for such transfers.

With the successful completion of the Marianas campaign, the Naval Ammunition Depot on Guam and the Naval Magazine at Saipan were developed. They were to be of 30,000 tons and 10,000 tons capacity, respectively. Their secondary function was to make fleet issues. While shipping was available, Squadron Ten was the chief source of fleet supply, the shore storage to provide a reserve for the possibility that Squadron Ten might be unable to meet the demand. It was also a reserve upon which Ten could draw to fill temporary shortages caused by unusual consumption, losses, or spoiling. The stock to be maintained at each naval shore establishment was determined by the ordnance section of CinCPac, so there was a complete tie-in with the stock afloat.

Some over-all understanding of the scope of the ammunition supply may be grasped if one understands that the average shipload contained about 75 items, weighed about 6,500 tons, and cost about 6 million dollars to produce. A replenishment for the fleet at the May 1945 size

would have meant 180,000 tons. When the Japanese surrendered there were 50 ammunition ships under Service Squadron Ten control. The total ammunition on hand in Ten was 230,000 tons. Ashore in Guam and Saipan there were 50,000 tons more, and in the Naval Ammunition Depot at Oahu another 80,000 tons. War is expensive.



Torpedoes being hoisted aboard Lexington.

CHAPTER XII

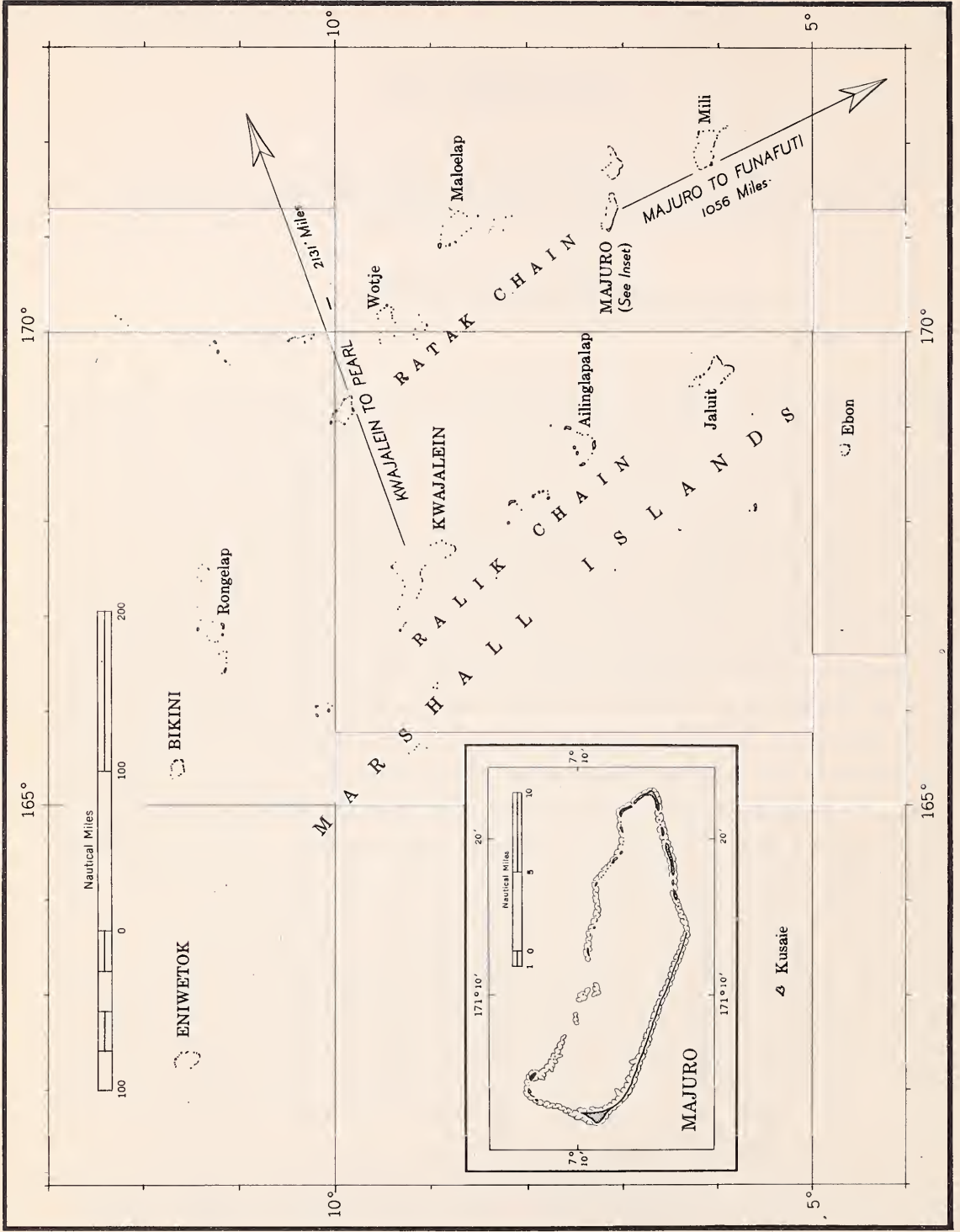
The Marshall Islands Campaign

The Truk Strike

FOR THE "FLINTLOCK," or Marshall Islands campaign the ships involved were those of the amphibious force with the attack, support, and garrison groups; those of the fast carrier striking groups, and a few assigned to the defense forces, a total of some 359 vessels of all types for combat work, except submarines. The principal part of the forces involved based at Pearl. About half the amphibious-force vessels came from San Diego and were replenished in the Hawaiian Islands en route to the Marshalls. The large transports were at Lahaina Roads, Maui, and the tractor groups (landing ships (tank) and landing craft (infantry), etc.) at Nawiliwili, Kauai. For the smaller craft (submarine chasers, mine sweepers, landing craft, tank, and mine layers) a 12-hour period was allowed for taking fuel from landing ships (tank) at sea while en route. At Lahaina Roads, fuel was supplied by the fleet oilers *Tallulah*, *Millicoma*, *Caliente*, *Chikaskia*, *Kaskaskia*, and *Neosho*, some of which had sailed from San Diego with the Northern Attack Force. At Nawiliwili, fueling of small craft was done from the landing ships (tank), which had such an enormous fuel supply, that it involved them in no shortage. Again while en route the transports and others needing it were fueled between the Hawaiian Islands and the Marshalls, the transports and larger ships taking fuel from the accompanying fleet oilers and the smaller Diesel-engine craft from the landing ships (tank). Food, ammunition, and stores, with such repairs as were necessary, were attended to at the last point of departure.

The battleships, the large carrier *Bunker Hill*, and the smaller carrier *Monterey*, Cruiser Division Five, and a few smaller vessels were at Funafuti. The rest of the carrier force based at Pearl, whence it sortied with service completed in all departments.

Pearl was 2,500 miles from Kwajalein Atoll, the main point of attack.



Marshall Islands.

The resistance expected might delay capture for a longer period than was anticipated, and there was also no telling but that the Japanese main fleet might give battle. Therefore, "fill with everything," was the order; and, on top of that, replenishing of fuel en route, adequate supply of fuel, ammunition, and provisions in the area for further replenishment subsequent to D-day. These services were stated in Spruance's logistic annex. Seventeen fleet oilers were used, before and after D-day. Of that number, three task groups of three each—*Caliente*, *Pecos*, and *Tallulah*; *Ashtabula*, *Lackawanna*, and *Saugatuck*; *Cimarron*, *Kaskaskia*, and *Platte*—were at sea in designated areas to care for the oiling after D-day, with eight extra tankers shuttling back and forth between Funafuti and these areas. The eight were the *Millicoma*, *Neosho*, *Suamico*, *Neshanic*, *Chikaskia*, *Neches*, *Tappahannock*, and *Sabine*. In addition there was a Liberty tanker at each of the two objectives, each with 50,000 barrels of fuel; and at Tarawa one slow tanker and a supply of Diesel oil in gasoline barges. At Funafuti 300,000 barrels in commercial tankers was available for reloading fleet oilers on 26 January, 200,000 in commercial tankers at the same place on 2 February, and 300,000 on 5 February. Each of the fleet oilers carried approximately 15,000 barrels of Diesel oil and 200,000 gallons of aviation gasoline. On the basis of estimated consumption it was planned to have from two to three loaded commercial tankers available until the operation was concluded.

What the operation might produce in fuel requirement was unknown, and the amounts scheduled were at best only estimates. The fuel paragraph of the operations plan begins with the words "Conserve fuel. The success of Flintlock requires large fuel supplies. The availability of fleet oilers is limited. In establishing the speed to maintain the required advance, and in prescribing the engineering condition to be employed, the conservation of fuel as well as the military situation will be considered." Only with fuel was there real concern at this stage of the war. It was finally clear that our fuel consumption was and would continue to be in excess of all earlier ideas, and that we were not yet quite fully geared to handle it under too continuous full-power steaming. Therefore the word of caution.

The other logistics concerned food. This would be distributed from one provision supply ship, fleet-issue loaded, available at Funafuti on 10 February, and a commercial solid load of refrigerated and frozen items in the United Fruit Company's *Antigua* on 25 February. These two were ordered to Majuro when it was decided early in February to use that atoll for the fleet anchorage.

Ammunition was available in barges at Tarawa and Funafuti for 5-inch and smaller guns. The ammunition ships *Rainier*, *Mauna Loa*, and *Lassen* had the supply for all other types of guns, large and small, and generally in sufficient quantities. The *Sangay* carried aircraft ammunition and bombs. All these ships were scheduled to be in Tarawa 1 February, and were diverted or ordered to Majuro.

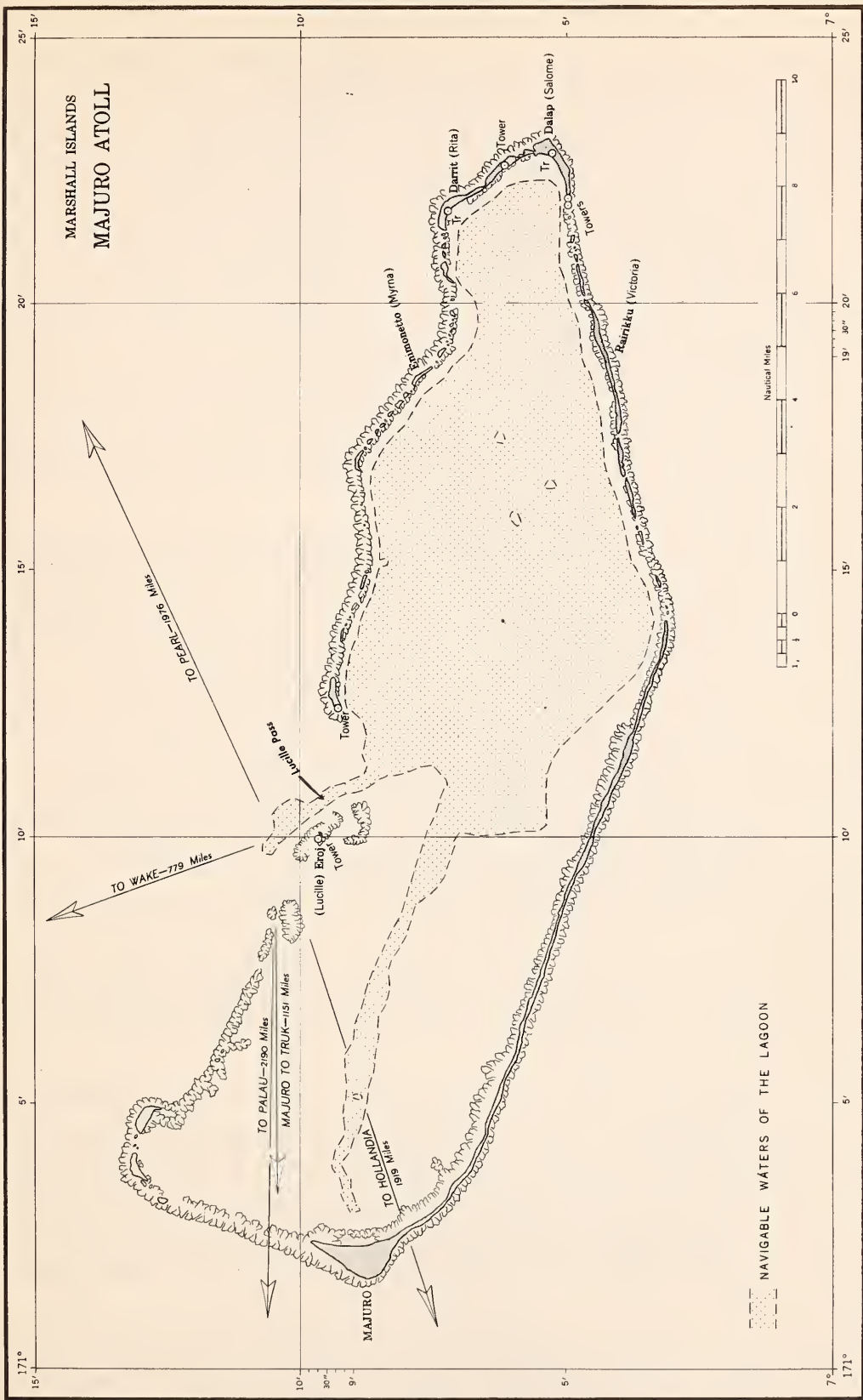
The replacement of pilots and planes for the combat carriers would be from CVE's. There were also about 45 fighter planes available in the Ellice Islands.

Emergency repair facilities in Funafuti consisted of some of Captain Scull's squadron: Two destroyer tenders, two repair ships, one battle-damage-repair ship, one internal-combustion-engine repair ship, one floating drydock of 3,000 tons capacity, and one repair barge. These were 1,200 miles from Kwajalein, near which the damage was most likely to be inflicted. Pearl was 2,500 miles away, so the repair picture was not very bright. The answer was quickly found by the task-force commander himself: Use Majuro for the main fleet, with Service Squadron Ten to furnish services there, and Kwajalein with Service Squadron Four at that point to service cargo vessels, escorts, and small groups operating in that area. When the time came, the orders were issued accordingly.

Service Squadron Ten at Majuro

With the securing of Kwajalein and Majuro, Admiral Spruance took the Fast Carrier Force into the latter place on 4 February 1944, after giving Kwajalein a trial of a few days. Service Squadron Ten was ordered there with instructions to service the fleet immediately. Fortunately the squadron commander was in Majuro with the garrison group of transports he had temporarily commanded during the illness of the assigned commander, so he was able to get into immediate personal touch with Admiral Spruance and get preliminary and makeshift operations under way pending arrival of the squadron staff and the supporting vessels.

The battleship *Washington*, damaged in a night collision with the *Indiana*, was used as a temporary administrative center for the squadron while the protruding metal of her bow was being removed and bulkheads shored preparatory to her return to a navy yard. A number of officers were temporarily assigned to help with communications and operations, and the servicing of the fleet started. It was pretty ragged and hectic. There were not boats enough, nor tugs enough. When boats



Majuro Atoll.

or tugs were available, there was often delay because of lack of knowledge of the anchorage and berths. Even when the position of a ship was given, as in such and such a berth, there was often no chart available by which the servicing craft could locate it. At night it was even worse.

All the boats of the transports present were commandeered, and these formed the beginning of Squadron Ten's fleet boat pool. This at its beginning included 50 boats—always a few were broken down—with an organization of 3 officers and 150 men. Commander Service Force at Pearl was urged to send boats by every possible vessel. This was done throughout the war by using tankers, cargo vessels, and any other craft which could carry them. Boats were available in the rear areas, but the problem was to find transportation means to get them to the squadron in sufficient numbers to make up for losses, and for the growing requirements of the constantly increasing fleet.

In this first servicing the ammunition was replenished by the ammunition carriers previously mentioned as diverted from Tarawa. There was shortage in a few items, some of which was made up by cannibalizing ships returning to Pearl for repair. The senior captain of the ammunition ships present was made temporary head of the "ammo" department, and the job was done, though not without confusion. Moving such ships about a crowded anchorage, especially in wartime, can be hazardous. Nevertheless, it was done. About the time the captain in charge got the hang of things and had some definite ideas of the berthing, his ship would sail, and the next senior captain would take over and have to start from scratch learning what had to be done, what was needed, and which came next.

The repairs made, except those by ship's company, were very meager as only the repair ship *Vestal* and the battle-damage-repair ship *Phaon* were available. They were fully occupied getting the *Washington* and *Indiana* ready to leave.

Food and fueling went better. While there was not enough fresh and frozen food available to meet the demand, and the cargo of the provision supply ship *Bridge* was quickly exhausted, no one went hungry. More fresh and frozen foods were due on 10 and 25 February. There was sufficient fuel in a sufficient number of oilers so it could be handled in the time available, though oiler crews got very little of their badly needed rest.

Meanwhile the *Washington* sailed, and the administration of Squadron Ten had to move to a temporary set-up on a tanker, with a landing ship (tank) alongside to furnish the quarters. This was for 4 days only.

Harbor communication facilities on these were poor, and this was a setback for a few days. However, most of the heaviest servicing had been accomplished, and with the arrival of Ten's flagship, the destroyer tender *Prairie*, on 13 February with the members of the staff from Pearl, a real start was made. Spruance was off for the first Truk strike, and Commander Service Squadron Ten had promised him that when he returned he would get logistic services with more system, order, and greater dispatch. The promise was fulfilled.

On 12 February Spruance sortied for Truk, which was a part of "Operation Catchpole," the capture of Eniwetok, taking with him Admiral Mitscher's entire carrier force, consisting of 6 battleships, 5 large and 4 small carriers, 5 heavy cruisers, 4 cruisers, and 28 destroyers. To fuel this force a task unit of 5 fleet oilers, the *Cimarron*, *Kaskaskia*, *Guadalupe*, *Platte*, and *Sabine*, escorted by 2 cruisers, 1 destroyer and 2 destroyer escorts, was sent from Majuro on 11 February. The first fueling, for the run-in, took place 14 February approximately 640 miles northeast of Truk. After this the oilers put into Kwajalein and refilled from commercial tankers there. After the raid the next fueling rendezvous was about 500 miles northeast of Truk on 19 February. Then the whole oiler group left for Majuro.

After the fueling on 19 February Admiral Mitscher with reorganized task groups made the raid and photographic reconnaissance of 21-22 February on the Marianas, topping off his destroyers from heavy ships before the run-in, at a point about 430 miles north of the previous fueling from the fleet oilers on the 19th. After the raid, retiring eastward he again fueled his destroyers from heavy ships on 24 February and proceeded to Majuro.

The only battle damage received in these raids was to the carrier *Intrepid* at Truk, caused by an aerial torpedo. She was able to proceed under her own power, steering by propellers only, to Kwajalein, and thence to a navy yard. Truk, as naval men knew, was the pivotal base for the Japanese mandated islands, and the enemy's principal Central Pacific base for operations as well as a key supply point and staging base for units bound to the South and Central Pacific. It was generally thought to be a Gibraltar, though Admiral F. C. Sherman, in his book "Combat Command," considered it overrated. When the news was broadcast that our task force was striking it, sinking ships and shooting down planes, not only the Navy Department and others at home were thrilled, but also Service Squadron Ten, waiting at Majuro. Thrilled and relieved was the squadron commander who alone knew where the strike was to be

and had thought of many disagreeable things which could happen during the attack.

Meanwhile the Service Squadron Ten flagship *Prairie*, Captain O. A. Kneeland, had reached Majuro with the staff. It consisted of only 16 officers at that time, and of those the supply officer was in San Diego fitting out and loading the first six of the 3,000-ton capacity concrete barges which later proved so useful. The starting organization of Ten immediately had the duties of port director thrust upon its operations department. The survey ship *Bowditch*, Captain J. H. Seyfried, made a complete survey of the anchorage, producing charts with numbered berths and establishing better navigational aids. A splendid job was done very rapidly and charts were turned out by the hundred so that all ships, tugs, barges, and boats could have them.

As fast as he could, Vice Admiral Calhoun, Commander Service Force, sent forward the service craft to Squadron Ten. The floating dry-dock *ARD-13*, Lieutenant Commander W. L. Travis, the high-speed transport *APD-16*, the repair ship *Ajax*, Captain J. L. Brown, 2 tugs, 2 yard oilers, a *YP* refrigerator, and six 500-ton ammunition barges were the early arrivals. Then came the destroyer tender *Markab*, Captain L. B. Farrell, repair ship *Hector*, Captain J. W. Long, and the *Argonne*, Captain H. A. Houser, with others following later.

The staff was called together, the work pointed out, the methods just used to replenish the fleet, with their good and bad features, and the tasks to come discussed in detail. Finally came the adoption of a motto by the squadron: "If we've got it, you can have it." This was meant to be literally true. It did not mean "if we have it to spare." More than once the squadron gave of its own in living up to its motto. Several guns were dismounted from Squadron Ten ships to be remounted as replacements of battle-damaged pieces on the combatant vessels of the striking groups. During the Marianas campaign every pair of socks in the storerooms of Ten's ships was sent to the fighting units. For some 3 weeks or more the messes of Ten, including the squadron commander's own, ate some sort of "colored putty" for butter. All the real butter had gone to the fast carrier groups. The staff was instructed that if something unheard of was requested, the answer was to be "We'll get it for you as soon as possible." With the full realization that its work was just beginning, and would grow in degree and broaden in scope to points beyond anything visualized at the moment, the staff began preparing for Spruance's return from Truk.

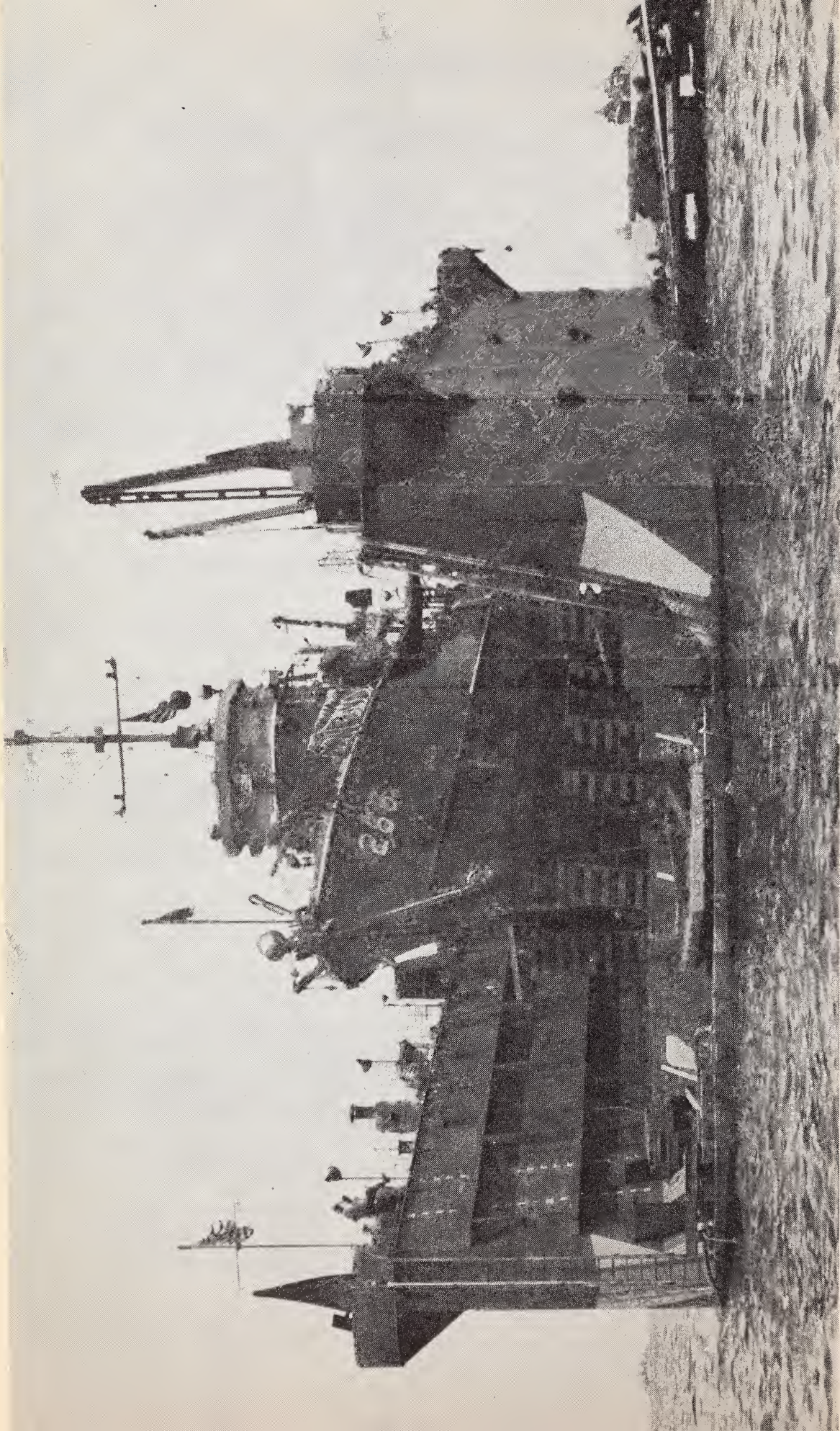
The cargo ship *Vega* arrived with a load of pontoons and fittings so

stowed that, as they were unloaded, pontoon barges could be constructed by the ship, with her special detail of Seabees trained for this purpose. Twenty barges were completed and put into service by Squadron Ten in 21 consecutive days—before the shore-based barge-construction unit had completed a single one. Most of the barges were propelled by large outboard engines. These twelve 100-ton cargo, six 50-ton cargo, and two 10-ton crane barges were all put to very hard service. Not only did they carry ammunition and stores of all kinds, but they were used as drydocks for boats, as camels (buffers) between ships, to ferry planes and liberty parties, and one even as a light-ship. The crews of these barges built cabins of dunnage lumber and pieces of tarpaulin or scraps of canvas on the sterns and practically lived in them, scrounging their meals wherever they could during those early days when everyone was overworked, underfed, and underslept, and often miles away from the regular berthing place when there was any time for a shore relaxation.

While the fleet was on the Truk strike, the staff of Squadron Ten prepared an information bulletin giving a schedule of fueling, provisioning, and ammunitioning. It gave destroyer assignments alongside tenders, anchorage berths, and special berths for ships firing antiaircraft target practice at sleeves or drones. It told where and how to make contact with any of the departments of Ten when it was necessary to deal with something not mentioned in the bulletin; and it named the recreation beaches and the forbidden islands. Thereafter on entering the anchorage, ships were met by patrol vessels and supplied with bulletins and anchorage charts, the latter continuously revised and kept up to date.

A floating fleet post office was established on *LST-119* until one could be established by the Island Commander, Captain Vernon Grant. Two coastal transports were used for distribution of mail and for ferrying of personnel among the ships.

Arrivals of *ARD-13*, the first floating drydock to be sent into the Central Pacific drive, and the smaller *AFD-16* were events of considerable importance at Majuro. The ARD had an 85-percent green crew which had never operated the dock and had never been to sea, so a period of intensified training in phraseology, station duties, and some seamanship was carried out. Eight days after her arrival the first vessel, a destroyer, was efficiently docked. *AFD-16*, which had lost its commanding officer by illness, was put under the same command as *ARD-13* (Lieutenant Commander Travis) for operation and was located beside *ARD-13*. This proved fortunate, for by operating them as a team the



Small floating drydock.

efficiency of both docks increased. The record of *ARD-13* from this time to the end of the war was splendid and illustrated one of the many phases of winning.

High-speed mine sweepers, for towing, and sea-sled targets were procured from Pearl, and target practice arrangements were made for the ships of the fleet. Planes for towing sleeves were obtained and three firing positions established for that practice.

A fleet motion-picture exchange was established on board the *Prairie*. While this does not sound very important compared to the serious matters of sinking ships, killing, destroying enemy installations, and the vexing problems of fuel, food, ammunition, etc., that had to be solved, it was nevertheless a vital factor in keeping up morale. The men were spending long periods aboard ship, with very infrequent mail and very limited opportunities for diversion and recreation. Though the situation did not always permit of showing movies, even an infrequent display contributed materially.

With the return of the fleet from the Truk-Marianas strikes, Squadron Ten went to work servicing it. It was far from perfection, but there was some system and a general knowledge, on the part of those both giving and receiving the services, of the when and how of it. Admiral Spruance was pleased, and while he saw the work was imperfect he realized it would improve as more experience, study, and equipment were applied. He was so well satisfied that he said he saw no reason for the Fast Carrier Force going to Pearl any more. It never again returned there during the war. Individual vessels were sent back for repairs from time to time, but the force as such remained in the advanced areas and received its servicing from Squadron Ten as it repeatedly struck and advanced, to the consternation and confounding of the enemy.

The first 3 weeks of March were spent in consolidating gains. This gave the fleet opportunity for considerable overhaul and target practice, and time to harass Squadron Ten for things wanted but not yet available. In many ways this was advantageous because it revealed shortcomings at a period when there was time to start something remedial. Several vessels were added to the squadron about this time, including old merchant-marine tankers. The *Gargoyle* was commissioned by the squadron commander as the *Arethusa*, the *Osmond* as the *Quiros*, the *Standard Arrow* as the *Signal*, and the *Polonaise* as the *Manileno*. Several others came later.

Late in February the food situation did not seem quite so good as it should have been. The squadron commander indicated this in a letter

to Commander Service Force dated 28 February 1944, giving his estimate of minimum space requirements for 10 days' provisions for 150,000 men as:

<i>Type of provisions</i>	<i>Ratio of issue</i>	<i>Pounds</i>	<i>Long tons</i>	<i>Cubic feet</i>
Dry	62%	5,360,850	2,393	155,555
Chilled	24½%	2,118,400	946	84,140
Frozen.	13½%	1,167,300	521	44,285

At the time, the *Prairie* was the only storage at Majuro. Her capacity was 67,934 cubic feet, or only about one-fourth of the total. However, some refrigerator barges, steel and concrete, had been promised. These would make up the total required, and it was mainly to hasten their arrival that the letter was sent. The figure of 150,000 men used as a basis for the estimate was exceeded in a very short time by the rapid growth of the fleet in the advanced areas. More space was, of course, necessary, and was forthcoming.

Late spring of 1944 saw the first of the "crockery" ships come into Majuro. They were the *Trefoil* and the *Quartz*, large concrete barges with power plants for refrigeration, lighting, and windlass, but not for motive power. They had a capacity of 3,000 tons of general naval stores, including food, clothing, canteen, tools, materials (not including heavy metal), and boatswain's stores. Later barges included ordnance items, electronics parts, and Diesel-engine spares. These barges were extremely useful, since they came at a time when there was a shortage of hulls, but they were so fragile that a bump by a good-sized boat would crack a side. One was lost on a reef in a storm. A steel hull would have been salvaged.

Service Squadron Four, Funafuti to Kwajalein

On 23-24 February 1944, after the capture of Kwajalein and Majuro Atolls, tows were dispatched from Funafuti to Kwajalein using the Diesel-engine repair ship *Luzon*, two fleet tugs, a rescue tug, three ocean tugs of old type, two commercial tugs, and the Navy oiler *Sepulga*. These vessels hauled an assortment of 500-ton barges, yard oil craft, pontoon cranes, pontoon barges, and small harbor-type tugs. In the excitement and fascination of strikes and other actual combat operations the importance of such an uninspiring movement as this might easily be overlooked. These were not merely barges as such. These were



The concrete stores barge Quartz, one of the many of this type construction.

some of the storehouses, yard cranes, workshops, and facilities which rendered the services that enabled the combat ships to make the strikes. The distance to Kwajalein was more than 1,200 miles and the speed of advance was slow—about 4 knots—but this vital equipment had to get through to be used against the enemy. It did.

After the tows reached Kwajalein, Squadron Four was short-lived. On 17 March 1944 it was absorbed into the new Squadron Ten. Captain Scull became Chief of Staff to Rear Admiral Hoover, Commander Forward Area, Central Pacific, and Captain S. B. Ogden in the *Cascade* became representative "A" of Commander Service Squadron Ten in command of the Kwajalein and Roi detachment. Squadron Four had been very much worth while. Commander Service Force Pacific stated: "Compared to the size and accomplishments of Squadron Ten and its various detachments as the war progressed to the Western Pacific, the scope of Squadron Four's operations was small, and its assigned equipment seemed limited indeed, but many capable officers received practical experience while serving therein and went on to responsible duties in Squadron Ten and other commands."

Though only a few large vessels and not many destroyers, smaller ships, and aircraft were serviced at Funafuti, that location was the scene of logistic support of naval forces from floating equipment only. No shoreside facilities such as cranes, workshops, and storehouses, generally associated with navy yards or bases, were present there. Scull relied solely upon his mobile units, and later this type of servicing was rendered to all classes of naval vessels, with more appropriate supporting equipment and in locations as yet not visualized.

CHAPTER XIII

Multiple Missions

The Palau and Hollandia Strikes—Marcus and Wake Raids—Submarines Base at Majuro—Growth of Service Squadron Ten at Majuro

“DESECRATE ONE”: *Carrier Task Force Attacks on the Western Carolines, 30 March–1 April 1944*

AFTER OUR TRUK STRIKE the enemy withdrew ships from that base, and units of his fleet began to use Palau as a base of operations. It was therefore decided to neutralize the enemy positions because they threatened our Hollandia and New Guinea operations, planned for April, and menaced our newly acquired bases in the Admiralties and at Emirau Island. The attack on Palau and the smaller raids on nearby Yap, Ulithi, and Woleai, were intended primarily to destroy naval and merchant shipping and air forces concentrated at those points, and to mine entrance channels to prevent their further use.

In this operation Admiral Spruance employed Carrier Task Force 58 and a Support Group (50.15). The carrier force included 6 battleships, 5 large and 6 small carriers, 10 heavy and 5 light cruisers, and 48 destroyers. In support were 3 heavy cruisers, 4 escort carriers, 12 destroyers, and 4 oilers, the *Platte*, *Sabine*, *Kaskaskia*, and *Guadalupe*. Before the sortie the major portion of the striking force based at Majuro, where logistic support was furnished by Squadron Ten. On departure, 22 March, Task Group 58.9 was added. It consisted of units which were to join other task groups of the force upon rendezvous. (These latter groups had sailed from Majuro earlier in the month to the South Pacific, and had been operating as part of Task Force 36 in support of the occupation of Emirau Island.) Rendezvous was effected 26 March with those

vessels and 2 accompanying oiler groups which had left Espiritu 22 March. The oilers were the *Tappahannock*, *Neches*, *Suamico*, *Ashtabula*, *Kankakee*, *Escambia*, and *Atascosa*. The *Cacapon* and *Chikaskia* joined at the rendezvous. The 4-oiler support group did not fuel any of the battleships or carriers at this time. Instead oil was taken from the 9-oiler group. After fueling, the large group of oilers sailed to Espiritu. At this time, 4 escort carriers, which had been sent from Pearl, joined the support group.

Two days later, 28 March, after fueling from the support group, the task force, divided into three task groups, proceeded toward the points for launching the initial air attacks against Palau. Admiral Spruance directed the fuel be conserved to the extent permitted by military necessity. Cruisers and destroyers whose fuel ran low because of unforeseen events were to proceed to Seeadler Harbor, Manus; damaged ships were to go there also. However, as fuel was adequate and damage to our ships was negligible, no diversion was necessary.

Six additional fleet oilers composing Task Unit 50.17.1 left Majuro 29 March to make rendezvous with Task Force 58. These were the *Saranac*, *Neosho*, *Lackawanna*, *Neshanic*, *Caliente*, and *Tallulah*. They returned to port 5 April without supplying any oil because the four oilers of the Support Group and the topping off of cruisers and destroyers by the larger vessels of the Task Force provided enough.

By 6:30 a. m. 30 March, Task Force 58 had reached a point 90 miles south of the Palau Islands and was ready to launch the first strike. Operations against Palau continued on the 30th and 31st. On the 31st, Task Group 58.1 conducted air strikes on Yap and Ulithi. On the next day the entire force assembled and attacked Woleai by air. These strikes completed, the three groups fueled from the support group on the 2d, returned to Majuro 6 April, and prepared for the Hollandia operation, called "Desecrate Two," which was scheduled for the 22d. Meanwhile four escort carriers and destroyer screen were detached 4 April from the support group to proceed to Espiritu Santo. The others of the group returned to Majuro.

"DESECRATE TWO": *Capture and Occupation of Hollandia*
21-24 April 1944

The seizure of the coast of New Guinea, near Aitape and Hollandia, was undertaken by Task Force 77 of the Southwest Pacific forces under Rear

Admiral D. E. Barbey, with 215 ships of all types except submarines, covered by more than 104 vessels of Rear Admiral Mitscher's Fast Carrier Task Force 58. Logistics for Task Force 77 consisted chiefly in making supplies available for the ground occupation force. Service Force, Seventh Fleet, provided the necessary supplies for vessels and landing craft in the forward areas. All ships were supplied to capacity with fresh, frozen, and dry provisions. Service force supply ships stationed at 3 different points furnished replenishment, and in addition the tenders *Rigel* and *Amycus* at Buna, and the *Dobbin* at Oro Bay, carried dry foods.

All ships carried an authorized allowance of ammunition. Resupply was to be had from ammunition ships at Cape Cretin, Sudest, at Oro Bay, and at the Naval Supply Depot, Milne Bay. Fuel was available at designated-spots, including Seadler Harbor, Admiralty Islands, and from Seventh Fleet Service Force tankers at Goodenough Island. Fresh water was furnished at five points, but ships were warned that they must be prepared to issue potable water to troops and small landing craft. Ship repairs were available through repair vessels at Seadler and Dreger Harbors, Oro Bay, and Buna.

Three separate landings were made at Tanahmerah and Humboldt Bays and Aitape. Salvage tugs accompanied each echelon to the three beaches, and remained until D-plus-2 day. One stayed at Humboldt Bay afterwards; the other two returned to Cape Cretin. Every precaution was taken for complete medical services, with surgical teams and equipment on designated ships of the attacking force. In addition, naval casualties could be evacuated to a hospital ship at Cape Cretin or to shore facilities there. Medical supplies were available at Milne Bay.

After receiving logistic services from Squadron Ten, Task Force 58, divided into 3 groups for tactical purposes and accompanied by a support group of 12 oilers and 5 destroyers, sailed from Majuro 3 April to cover the landing operations in the Hollandia area. The support group sailed the day previous and fueled the force on the 19th and 20th in latitude 1°00' N., longitude 146°00' E., afterwards going to Seadler Harbor, where it was joined by 3 fleet oilers, the *Saranac*, *Tallulah*, and *Saugatuck*, which had gone there direct from Majuro. On the 21st the task force arrived at the launching point, some 100 miles north of Hollandia.

On 22 April three empty oilers, the *Guadalupe*, *Platte*, and *Sabine*, with three destroyer escorts, sailed for Pearl Harbor. The oilers *Caliente*, *Cahaba*, *Neosho*, *Monongahela*, *Neshanic*, and *Lackawanna* left the support group, with five escorts, completed their refilling and adjusting of cargoes at Seadler on the 22d, and rejoined the task force on the 23d in

latitude $00^{\circ}25'$ S., longitude $146^{\circ}00'$ E. In the interim, during the absence of the support group at Seeadler, carriers and battleships of the carrier task groups topped off their own destroyers. Only 1 hour was allowed for each destroyer. Further refueling was accomplished after the return of the support group: heavy and light cruisers and destroyers to 95-percent capacity, carriers and battleships to 80-percent. Ammunition was available in the ammunition ship *Lassen*, at Seeadler, and several tugs were available for towing damaged ships. Replacement planes and pilots were ready on the escort carriers *Barnes* and *Petroff Bay* at Seeadler on 25 April, east longitude date.

The carrier strikes were made, and met surprisingly little opposition. Not one of our ships suffered damage. There was very little beachhead resistance, and Barbey's amphibious vessels suffered practically no enemy damage. Operations were virtually complete on the 27th, with landings at three points and with several important air strips in Allied hands. On this date, vessels of the support group returned to Seeadler and thence dispersed to Majuro and Pearl. Task Force 58 continued to Truk, where an air attack on shore installations was carried out on 29–30 April.

Carrier Air Attack on Marcus and Wake Islands 19–23 May 1944

This operation, carried out by only Task Group 58.6 under Rear Admiral A. E. Montgomery, had the dual purpose of destroying aircraft, shore installations, and surface craft at Marcus and Wake, and the training of new air groups on the carriers. The group fueling unit sortied from Majuro 14 May with 2 oilers and 3 destroyer escorts. The task group left on the 15th, composed of 2 large carriers, 1 small carrier, 3 heavy and 2 light cruisers, and 12 destroyers. The group and the oilers met 17 May in latitude $18^{\circ}35'$ N., longitude 158° E., about 420 miles SSE of Marcus Island, for fueling. Next afternoon the fueling unit left the task group to await the next fueling operation. Originally the plan had called for the retirement of the oilers to Eniwetok, but the task-unit commander, Commander F. A. Hardesty, decided that this was impracticable, since it would mean entry at daylight on 20 May and departure about noon of the same day to be certain of effecting the second fueling as scheduled. Therefore the unit headed for a point somewhat east of Eniwetok. After the first fueling, a task unit (58.6.4) consisting of a small carrier, a light cruiser, and 4 destroyers proceeded to the north and west of Marcus in search of enemy picket boats.

Strikes on Marcus were begun 19 May, and the operations report states that because of unfavorable weather and excessive use of fuel, some of the strikes set for 20 May had to be canceled. (The reference to fuel shortage is not clear, for the tankers had more than two-thirds of their cargoes left after fueling the group. The large carriers and heavy cruisers had sufficient; if the destroyers were short, they could have been supplied by the large ships.) Sixty-nine of our planes were damaged by anti-aircraft fire. On the 21st, Task Unit 58.6.4 rejoined the group and reported sinking one sampan and exploding a mine.

At daylight on 22 May the fueling unit met the task group to refuel the destroyers. Commander Hardesty in the oiler *Schuylkill* reported in his war diary of that date that "jitters" resulted when two destroyers refused to take the towline. He did not explain who had the jitters. Though in this instance he recommended using a towline, generally in fueling it was usual to employ only a distance line, the ship or ships keeping position on the guide. The fueling completed, the unit returned to Majuro while the task group proceeded with its attack on Wake on the 23d. Both reached Majuro 5 May.

Submarines Base at Majuro

On 15 March 1944, the submarine tender *Sperry*, flagship of Submarine Squadron Ten, arrived at Majuro to begin operations from that base. Myrna (code name for one islet), was assigned to a recreation area and development work started at once. The *Sperry* remained until September, when she was relieved by the tender *Howard W. Gilmore*, and after a brief overhaul at Pearl proceeded to Guam, which became the next advance control Pacific base for submarines. On 3 May 1944, the tender *Bushnell*, flagship of Submarine Squadron 14, arrived and took berth off Myrna Island. This doubled the submarine activity basing at Majuro. During the summer, after the main body of Service Squadron Ten had gone forward, these two tenders rendered assistance and services to the small craft doing patrol and escort duty out of Majuro. These two, and a floating drydock, left when Ten moved to Eniwetok in June 1944 and remained at Majuro until late in January 1945, when the Myrna Island establishment was closed and turned over to the atoll commander. The tenders went to Pearl, and the *Bushnell*, soon after, to Midway.

While at Majuro the submarine squadrons were supplied with fuel, provisions, and other smaller services through Squadron Ten, which also

supplied some torpedo stowage. The atoll commander furnished Seabees to set up the camp on Myrna Island, though a great deal of work was done by working parties from the tenders. Later a permanent camp unit for maintenance and operation was sent out from Pearl.

Supplying of the fuel—mostly Diesel oil—was not difficult, as all tankers had Diesel tanks, and during this period their supply exceeded the demand. Food, however, was somewhat more of a problem, particularly fresh and frozen. The latter was not in sufficient quantity to meet the desires of the surface units, yet the submarines claimed the right to a higher percentage than did any of the other services, basing the claim on the arduousness of their duty. It posed a difficult problem for Commander Service Squadron Ten. As a former submariner himself, he was inclined to favor the claim. Yet to do so would bring a storm of protest, especially from the carriers, who were prone to claim theirs was the most arduous service. The general result was that for a time the carriers and submarines got the lion's share of available fresh and frozen foods while other units went short, making it up with canned and dry provisions.

On the basis of 2,760 men the minimum food requirement for every 10 days was about $2,760 \times 5.75 \times 10$, or 158,700 pounds. However, the logistic requirements for a single squadron of 12 submarines and 1 tender, as given by Commander Submarine Force Pacific Fleet, at that time were: (a) Diesel fuel oil, 16,000 barrels; (b) gasoline, 4,500 gallons; (c) lubricating oils, 300 barrels each of Nos. 9250 and 9370; (d) spare parts, miscellaneous, $2\frac{1}{4}$ tons by air, $2\frac{1}{4}$ tons by surface; (e) torpedoes, complete, 150; (f) ammunition, 130 rounds total of 3-inch, 4-inch, and 5-inch, with small amounts of 20- and 40-mm. and .50-caliber; (g) food, 137 tons for tender, 59 tons special for submarines, of boned meats, frozen vegetables, etc.; (h) sulphuric acid, 8 carboys.

It is not clear how the figures for item (g) were reached. The 59 tons for submarines, each with an average of 80 men and their officers, works out at about 4.57 pounds per man; the tender is figured at about 7.5 pounds per man. One or the other figure must be wrong. There seem to be no data available now to show what the actual issues were; suffice to say that all were fed, and not badly, either.

Growth of Service Squadron Ten at Majuro

During its 4 months at Majuro, Service Squadron Ten, or ServRon Ten, as it was called in shortened form, was the principal—and fast becoming

the only—source of supply to the ships in the Central Pacific. Their number increased daily, as did that of ServRon Ten. Floating craft of every nature depended on Ten for maintenance, repair, ammunition, food, fuel, stores, mail, recreation facilities, pilots, harbor control, port director, target practice, personnel, medical supplies, and the disposition of disciplinary cases too troublesome for the combatant ships to handle.

To make the administration of both ServRon Ten and its representative at Kwajalein truly effective, more yeomen, signalmen, and messengers were badly needed. Men were flowing in by the hundreds for assignment, and the clerical personnel necessary for their proper distribution was inadequate. Moreover, it was realized that the activities of the squadron would constantly increase as the forward area, Central Pacific, expanded; so in compiling the requested complement, effort was made to anticipate increased demands for at least a few weeks in advance.

More gunner's mates were needed, not only to supervise the handling, loading, and unloading of ammunition, but also to maintain a security watch over ammunition stowed on covered lighters (YF's). It was therefore believed that 2 gunner's mates and 1 gunner's mate striker should be assigned to each ammunition lighter, plus one chief gunner's mate for every 3 lighters. Under operational control of ServRon Ten were 13 ammunition lighters, which had come without any personnel whatever. Besides these men, more coxswains, seamen, motor machinist's mates, and firemen were asked for to provide crews, plus relief crews, for 25 self-propelled pontoon barges operated by ServRon Ten at Majuro and Kwajalein anchorages, and 20 LCV's and LCM's at Kwajalein. Relief crews were necessary because during fleet provisioning operations, barges and boats worked right around the clock.

The storekeepers requested allowed for the provisioning of a large number of fleet units simultaneously in a short period, as had been required in the past; the handling of large amounts of small cargo for fleet units in forward areas where neither stowage nor handling facilities existed; a pay office expected to handle more than 5,000 accounts; and the compliance with current directives requiring that all ships returning to Pearl or the United States from combat areas should transfer all stores prior to departure except those required for the return trip.

It was the additional men wanted for the boat pool, however, that staggered some at headquarters, though when analyzed there was nothing astonishing about the figures. The minimum at the time to man the boats would have been 269 men. That did not include anyone for pool administration, repair work, or relief crews, of which latter there should

have been a complete shift to meet military requirements of working the whole 24 hours, which was often the case. Besides, there was the expected doubling of the boats in the pool which would have to have crews. Actually, the boats more than tripled in number during the next year.

At this time—June 1944—only 4 months since the first puny detachment made its start, ServRon Ten had 4 destroyer tenders; 6 repair ships; 3 repair-shop barges; 6 drydocks; 13 ammunition barges; 15 storage barges for freight, spare parts, ground tackle, radio, medical, torpedo, marine stores, etc.; 23 oil and gasoline storage barges; 15 old, or Liberty ship tankers for storage and local services; 6 large concrete supply barges; 11 water barges; 5 YP cold storage vessels; and 15 tugs (7 sea-going, 8 local use), besides a number of special craft such as degaussing, net-laying, sludge removal, fuse removal, sea mules, target-practice equipment, and crane barges. More of every type were being sent as they became available.

Everything a navy yard or naval base usually did was requested at one time or another, and relatively unimportant things were demanded often at times of extreme activity when the squadron's facilities were hard put to supply the necessary and the important. Nevertheless the squadron accepted the duty of meeting all demands if possible without passing judgment. In fact, one officer of the supply department said he thought everything had been asked for but silk hats and evening dress. The squadron commander replied that if more than one request for silk hats should be received, it would be his duty to get something started along that line. So it was, with such a condition of material, such an attitude of mind, that ServRon Ten undertook the Eniwetok phase of fleet logistics.

CHAPTER XIV

“Operation Forager,” the Marianas Campaign

Floating Logistic Facilities—Servicing the Staging Amphibious Forces—Replenishment of Fast Carriers

ON 12 MAY 1944, Admiral R. A. Spruance, commanding the Fifth Fleet, as Commander Central Pacific Task Forces, issued his operation plan for the capture, occupation, and defense of Saipan, Tinian, and Guam; the development of airfields on these islands; and the gaining of control of the remaining Marianas in order to operate long-range aircraft against Japan, secure control of the Central Pacific, and isolate and neutralize the central Carolines. This operation was named “Forager.” D-day, 15 June, was when initial landings were made on Saipan; W-day was the date for the Guam landings, and J-day for Tinian.

With 14 battleships, old and new, 25 carriers and carrier escorts, 26 cruisers, and 144 destroyers, the major task forces and groups were commanded by Vice Admirals Turner and Mitscher, Rear Admirals Hill, Conolly, Blandy, Clark, Montgomery, Reeves, Harrill, and Hoover, the expeditionary troops by Lieutenant General H. M. Smith, USMC, and the shore-based air force for the forward area by Major General Hale of the Army. Every type ship except submarine was represented in the huge fleet, which numbered 634 vessels, but did not include those vessels assigned to Commodore W. R. Carter, Commander Service Squadron Ten; to Captain Leon Fiske, Commander Service Squadron Twelve; and the ships allocated to Rear Admiral Hoover as Commander Forward Area. In general it may be said that more than 600 vessels, 2,000 aircraft, and an estimated 300,000 Navy, Marine, and Army personnel participated.

The Logistic Support

Fleet anchorages with facilities provided by repair ships, tenders, and other auxiliaries existed at Eniwetok, Kwajalein, and Majuro atolls, and at Seeadler Harbor in the Admiralties. Admiral Spruance based his Marianas operations on the general operation plan of Admiral Nimitz as Commander in Chief Pacific, and ordered that logistic services for all forces in the Marshalls be rendered under the direction of Commander Forward Area, employing the facilities of ServRon Ten, and that the commander of that squadron, or his representative, would administer the services provided at Eniwetok, Roi anchorage, Kwajalein, and Majuro.

Some of the basic requirements of Admiral Nimitz's plan were that logistic support of fleet units be provided by himself through Commander Service Force Pacific, Commander Aircraft Pacific, and Commander South Pacific. Fleet tankers as a rule were to load to half capacity cargoes of Diesel oil and aviation gasoline, fuel oil to maximum draft, and with standard stock of drummed lubricants and compressed gases.

Before the operation, all combatant and auxiliary ships were to procure stores of ammunition, fuel, and lubricants to authorized capacity; dry provisions for 120 days for ship's company and for 60 days for embarked troops; maximum capacity of fresh provisions, general stores, clothing, and ship's stores stock and medical stores, each for 120 days. Fresh and dry provisions were available in provisions stores ships, cargo vessels, and barges at Majuro, Eniwetok, Roi, and Kwajalein for forces basing on and staging through those ports. Provisions stores ships were scheduled to supply forces staging through the Marshalls area during the 10-day period just prior to D-day, 15 June. After D-day the stores ships would be found at Eniwetok, with limited supplies available also at Majuro and Kwajalein.

South Pacific Area Support. Forces and units of Fifth Fleet assembling in South Pacific areas for from 35 to 10 days before D-day in the Marianas were to be supplied provisions by Commander South Pacific in the quantities prescribed above. Ships withdrawing from the Marianas to the South Pacific were to be resupplied by Commander South Pacific 30 to 60 days after D-day. Approximately 147 vessels of different types were thus supplied. Large ships were ordered to give provisions to smaller ones as opportunity permitted. The fleet commander cautioned that rationing of provisions, particularly fresh and frozen, would probably be necessary and small vessels would be given preference in the

issues. Ships returning to supply points such as Pearl and Espiritu, were to transfer provisions, in excess of their needs for the return voyage, to other ships and shore activities, as might be practicable.

Ammunition. The ammunition carriers *Mauna Loa*, *Lassen*, *Rainier*, *Sangay*, *Shasta*, and *Mazama* supplied ammunition at Eniwetok after 15 June. Loaded barges were also available there, and 8-inch and smaller sizes and depth charges in assault shipping at the objectives as ordered by Vice Admiral Turner, Commander Joint Expeditionary Force.

Fuel (General). Vice Admiral Calhoun, Commander Service Force Pacific, was required to divert allocated commercial tankers as might be necessary to deliver approximately 1,400,000 barrels of fuel oil during each 2-week period commencing 1 June 1944. Delivery was to be distributed among such advanced bases in Central or South Pacific as the commander of the Fifth Fleet prescribed. Commodore A. H. Gray, Commander Service Squadron Eight, handled the details of the Pearl and west-coast end of this fuel business, and did a fine job with barely sufficient ships.

Fueling at Sea. For fueling at sea, fleet oiler task units composed of fleet oilers and escorts, and aircraft replacement task units composed of an escort carrier and an escort, were organized by Commander Service Force, who also assigned an officer with staff to direct and coordinate the operations of oiler and replacement task units while at sea. He was designated Commander Task Group 50.17, and embarked in a destroyer from which he directed operations to meet the fueling requirements of Mitscher's Fast Carrier Task Force 58 at sea. The oiler task group commander, Captain E. E. Paré, in addition to exercising tactical command from his flagship, the destroyer *John D. Henley*, took care of the consolidation of the cargoes of fleet oilers, sending back to Eniwetok for reloading such oilers as had been emptied or had been reduced to less than 20,000 barrels of black cargo oil. He also sent the group escort carrier units to Eniwetok for replacement aircraft, which had been placed there for that purpose.

Fueling Areas. Fueling areas were large rectangles 75 miles long and 25 miles wide. Eleven were prescribed for the Marianas operation, each designated the abbreviated name of some well-known oil company. Areas and dates were assigned to Vice Admiral Mitscher's Task Force 58 through D-plus-6 day, after which Mitscher informed Commander Fifth Fleet and Commander Task Group 50.17 of his further requirements. To Turner's Northern Attack Force, Task Force 52, and Conolly's Southern Attack Force, Task Force 53, areas and dates were assigned. In addition,

the large ships of Task Forces 52 and 53 fueled small ships as necessary en route to assembly points in the Marshalls, and again en route to their objectives. Facilities for port fueling in the Marshalls were furnished by Commander ServRon Ten.

Eight task units, 16.7.1 to 16.7.8, inclusive (the number 16 was a service-force designation), each composed of three oilers, with at least 2 DE's as escorts, and sometimes one destroyer and two destroyer escorts, were organized to fuel the fleet in the areas assigned.

Fuel at Bases. With minor exceptions, the forces of Vice Admiral Turner, Commander Task Force 52, and Rear Admiral Blandy, Commander Task Group 51.1, Joint Expeditionary Force Reserve, conducted their rehearsal exercises in the Hawaiian area, leaving there the last of May. The Southern Attack Force under Rear Admiral Conolly, also with minor exceptions, conducted its rehearsals in the South Pacific 22-31 May and sailed for the Marshalls. All ships had been required to fuel to capacity before departure, but more fuel was needed at staging points Eniwetok, Kwajalein, and Roi, where all three forces assembled and refueled before departing 9-12 June for their objectives. The Fast Carrier Groups 58.1-2-3 and -4 had been at Majuro early in June and left fully serviced for their strikes. The general plan of operations for these groups after D-day was to maintain three task groups in the Marianas area while one was withdrawn to Eniwetok for replenishment of fuel, provisions, aircraft, ammunition, and bombs.

Commander Service Squadron Ten (Carter) or his representative provided fueling facilities for forces staging through the Marshalls. Until 15 June commercial tankers were routed to Majuro, whence they were further diverted. After that date such tankers arriving in the Marshalls were routed to Eniwetok. Two Liberty tankers were available there, and three or more slow station tankers were to be there by 20 June. Admiral Spruance had stressed in his operation plan the importance of fuel, since our forces were destined to penetrate far into enemy territory, at greater distance from our bases than ever before.

General Stores. These were available from ServRon Ten in cargo ships, and in the concrete barge *Trefoil* at Majuro. After 20 June, cargo ships had them at Eniwetok.

Aircraft Replacement. Replacement aircraft were available in escort carriers, and in the vicinity of the objectives already described in *fueling at sea*. The unclassified ship *Fortune* carried aeronautical spare parts and was scheduled to be at Majuro until about 15 June, and aviation spares in limited quantities were in the South Pacific for emergency issue.

Salvage. Six fleet ocean tugs with fire-fighting personnel and equipment were on hand for towing and fire fighting, and two salvage vessels accompanied the Joint Expeditionary Force to the objectives, while two more were assigned to Service Squadron Twelve for salvage and for clearing wrecks from harbors.

Emergency Repairs. One repair ship for landing craft, the *Egeria*, accompanied Defense Group One; another, the *Agenor*, accompanied Tractor Group Three, which was so-called because it landed troops in amphibious boats equipped with tractor treads enabling them to trundle over reefs, as well as water, to dry ground. Repair ships and destroyer tenders were also in the Marshalls for emergency and battle-damage repairs by ServRon Ten.

Medical. Four hospital ships, the *Relief*, *Solace*, *Bountiful*, and *Samaritan*, were on hand for the campaign. One transport for the wounded, the *Rixey*, was attached to TransDiv 24 (temporary) and another, the *Tryon*, reported to Commander Task Force 51 of the Joint Expeditionary Force about D-plus-30 day. Medical supplies were carried in general stores issue ships, and a limited number of seaplanes of Rescue Squadron One were on call for evacuation of casualties to the Marshalls.

Service Squadron Ten Facilities

To support the fleet at the inception of the Marianas campaign, Commodore W. R. Carter, Commander Service Squadron Ten, had a varied and considerable amount of equipment, with more promised. He had in his main body 3 destroyer tenders (one his flagship), 3 repair ships, 1 internal-combustion-engine repair ship, 5 movable floating drydocks (3 of 1,000 tons capacity, 2 of 3,000 tons), 4 ocean tugs, 3 rescue tugs, 1 limited-repair-facilities ship, 1 survey vessel, 1 barracks personnel ship, 1 high-speed mine sweeper, and 1 degaussing vessel. Other floating resources included 15 oil-storage tankers, 21 fuel-oil and gasoline barges, 11 water barges, 1 salvage vessel, 3 repair, 3 freight, and 13 ammunition barges. The hotel barge *Sea Hag*; 2 dry provisions and Army stores issue ships; 6 concrete storage barges; 6 general barges for boat pool, mooring gear, and miscellaneous freight; 8 harbor tugs, big and little; 1 sludge-removal barge; and 6 sea-sled targets made up the contingent of 120 units afloat. This logistic force reveals the development of the war, the magnitude of the current operation, and the meticulous detailed planning essential for its success.

At Kwajalein, ServRon Ten's representative was Captain S. B. Ogden, who had been designated as such 17 March. He and his staff had had some experience at Funafuti, and some with small units at Kwajalein since March, but nothing comparable to the size of the job in prospect. The time allowed for services was short, so some concern was felt. There need not have been. Captain Ogden fulfilled every obligation completely, as he also did on every subsequent job.

Commodore Carter, commanding ServRon Ten, was at Majuro for administration of logistics until 3 June, when he and most of his staff left for Eniwetok in the *Prairie*. Before this, as fast as they could be spared from the logistic work for the fast carrier force, convoys of service units had been sent to Eniwetok, Roi, and Kwajalein to serve the Joint Expeditionary Force staging through to the Marianas. The safety of these convoys, except for the fast group comprising the *Prairie* and some of the faster tenders, was a matter of deep concern. If losses were suffered they would have to be borne, as no types in excess were available in the Central Pacific to furnish replacements. Even if these had been available at Pearl there would not have been time enough to bring them forward. However, each group got through safely without the loss of a single unit.

Thereafter, logistic services continued through August for such of the forces as departed from Eniwetok for the objectives. At Majuro, Kwajalein, and Eniwetok, with facilities still quite limited, ServRon Ten serviced the vessels of all the Central Pacific Forces in this campaign, both before and after D-day. This support included emergency battle-damage repairs as well as routine minor repairing, maintenance, and replacements for all types of vessels; handling of all types of ammunition and ordnance requirements; furnishing provisions, material, and other necessary supplies; storage and distribution of fuel and fresh water; and rendering services in connection with personnel. Commander Service Squadron Ten acted in the capacity of Senior Officer Present Afloat (Administrative) while based at Majuro, and continued as such on arrival at Eniwetok. Until the establishment of a port director ashore, at Majuro on 29 May 1944, ServRon Ten rendered all the services of that office, which included organizing and routing convoys, arranging escorts, pilotage, and assignment of anchorages.

Besides services for naval forces, Commander Service Squadron Ten was also required to maintain at specified levels supplies for land-based forces, of types B+C rations; maintenance supplies for Army, Navy, and Marine personnel; fuel and lubricants in 10-day supply for all

vehicles, power plants, distillers, and army kitchen ranges; medical supplies and motor and small-boat maintenance; ammunition, bombs, and pyrotechnics for aircraft; ammunition for antiaircraft weapons and ammunition for all other. While the foregoing is not fleet logistics, it has a bearing since it constituted an extra burden on the squadron already overburdened with work for the fleet.

*Some Service Units and the Part They Played
With the Fleet in the Marianas*

Choosing the oiler *Guadalupe*, Captain H. A. Anderson, as an example, the support she gave Admiral Spruance's forces between 17 May and 13 July was noteworthy. Arriving at Majuro 17 May, she reported to ServRon Ten for duty in Task Group 50.17, under Captain E. E. Paré in the *John D. Henley*. The fuel section of Ten, under Lieutenant Commander C. T. Munson, coordinated the fueling operations of tankers while in the harbor. On 20 May the *Guadalupe* fueled the four cruisers *Santa Fe* (2,910 bbls.), *Mobile* (3,700 bbls.), *San Juan* (2,460 bbls.), and *Oakland* (2,390 bbls.). On the 27th she gave the *Alabama* 6,450 barrels of fuel and 4,091 gallons of aviation gasoline. Later that day she gave the *New Jersey* 7,772 barrels of fuel oil and 2,454 gallons of aviation gasoline. On the 31st she pumped 8,292 barrels of fuel oil and 819 gallons of gasoline into the *North Carolina*, and 7,918 barrels of fuel into the *Washington*.

In preparation for fueling-at-sea operations it now became necessary for the *Guadalupe* to go alongside the commercial tanker *Berote* to refill. The record 1 June shows that she took aboard 51,691 barrels from the *Berote*, and gave another fleet tanker, the *Marias*, 5,832 barrels of Diesel oil. On 4 June the *Guadalupe* took 7,812 barrels of Diesel oil from the merchant tanker *Saconnet*. The former ship, with the *Platte* and *Caliente*, formed Task Unit 16.7.4 for at-sea operations in support of the Fifth Fleet. The group was ready for sea 6 June, with the *Guadalupe* carrying 90,139 barrels of fuel oil, 7,840 barrels of Diesel fuel, and 391,202 gallons of aviation gasoline.

Three days later in a fueling area she issued oil to the light carriers *Monterey* and *Cabot* and the destroyers *Hickok*, *Hunt*, *Owen*, *Patterson*, and *Bagley*. The first of these ships came alongside at 6:25 a. m. By 12:45 p. m. all had cleared, a total of 12,883 barrels of fuel and 14,729 gallons of gasoline having been issued. The next day she fueled three ships of

the screen, and on the 11th the heavy cruisers *Boston*, *Baltimore*, and *Canberra*, the anti-aircraft cruisers *San Juan* and *Oakland*, and the destroyer *Conner* with a total of 36,168 barrels of black oil. All ships were clear that afternoon by 3:25.

On D-plus-1 day, 16 June, the *Guadalupe* fueled the battleships *Washington* and *New Jersey* and the destroyers *Stephen Potter* and *Miller* with a total of 39,444 barrels of fuel, 743 barrels of Diesel oil, and 818 gallons of aviation gasoline. The tanker now had to replenish her cargo, and in company with other empties, the *Cimarron* and *Nesbanic*, withdrew from the fueling area, reaching Eniwetok 19 June. Between the 20th and 21st the *Elk* and *Gemsbok*, station tankers under operational control of ServRon Ten at Eniwetok, gave her a total of 102,453 barrels, and 22 June the *Signal* delivered 3,937 barrels, part of which the *Guadalupe* needed for her own bunkers. She was again ready for sea with 92,879 barrels of fuel, 5,230 barrels of Diesel oil, and 375,657 gallons of aviation gas for issue.

On 25 June the *Guadalupe* arrived in a fueling area west of Saipan in the Marianas where, 3 days later, she helped fuel Cruiser Division Six and Destroyer Squadron Forty-five. From 29 June to 10 July she operated in assigned fueling areas with her task unit, 16.7.4, one of the oiler units of Task Group 50.17 under Captain Paré. Leaving the areas on the 10th, she reached Eniwetok 13 July.

That is the record of one oiler backing up the fleet before and after the assault on Saipan. The *Guadalupe* was one of the 24 oilers in the 8 fueling-at-sea groups in this operation and shares with the other oilers involved the approbation of the writer and others who know of the splendid service rendered in delivering oil and gasoline—the life blood of any operation—besides carrying personnel, mail, movies, aviation spare parts, some ammunition, some food, and other items. This service was in areas close to the target but far enough back to miss the glamor and excitement of the actual combat phases. Some, but not this writer, might overlook or take for granted the substantial contribution made by these ships to the success of the different campaigns.

The Escort Carrier: Aircraft Replacement

The escort carrier played an important role in the preliminary stages of many operations by delivering aircraft, engines, and aviation gear to the fleet at anchorages and to atoll commands. Also, during the progress of

the operations themselves, the CVE, cruising with fueling units in assigned areas, catapulted replacement planes to the "flat tops" of the fast carrier forces. An example of the aircraft replacement phase of logistic support is shown in the work of the *Copabee*, Captain D. Harris.

On 17 April, 2 months before D-day for the Marianas, the *Copabee* left Pearl with 86 aircraft, 390 passengers, and 196 cases of equipment. On the 23d she unloaded her planes at the Majuro air station for further transfer to the fleet, or for use as combat air patrols. Reloading, she took aboard 23 damaged planes, 2 aircraft engines, and 312 passengers, leaving on the 26th for Pearl. Back at Majuro again 12 May, she unloaded 58 planes, 20 of which she catapulted, and 7 cases of airplane parts. The next day she was underway once more for Pearl, where she loaded 61 planes: 25 fighters, 15 torpedo, 20 bombers (SB2C), and 1 SBD bomber.

On 3 June she left Pearl to operate as Task Unit 16.7.10, as part of Task Group 50.17, the oiler group previously mentioned. On the eve of D-day, 14 June, she launched planes to carriers as follows: 4 fighters and 1 torpedo to the *Cowpens*; 1 fighter, 1 torpedo, 3 SB2C bombers to the *Hornet*; 4 fighters to the light carrier *Bataan*; 5 fighters, 5 torpedo, and 7 SB2C bombers to the *Yorktown*; 4 fighters, 2 torpedo, and 2 Avenger pilots to the light carrier *Belleau Wood*. From units of the fast carrier groups the *Copabee* received "flyable duds," aircraft not usable in combat operations. On 16 June she reported to Commander Task Group 58.2, Rear Admiral Montgomery, and launched planes; for the *Wasp*, 3 torpedo bombers and 1 SB2C; for the *Lexington*, 1 torpedo bomber; for the *Bunker Hill*, 4 dive bombers and 2 Avenger pilots; for the *Enterprise*, 1 torpedo bomber and 1 TBM pilot.

On 17 June the busy *Copabee* was en route from the Marianas to Eniwetok, where she replenished her supply of aircraft by loading 63 planes, leaving 22 June for operations near the Marianas again. On 26 June she reported to Task Group 58.4 and launched aircraft for the *Langley*, *Cowpens*, and *Essex*. On 6 July she dispatched 3 torpedo planes to Isley Field on Saipan, and the same day launched 26 fighters, 7 torpedo, and 10 SB2C bombers, distributed among the *Wasp*, *Cabot*, *Bataan*, *Monterey*, *Yorktown*, and *Hornet*. Anchoring in Garapan Harbor, Saipan, on 7 July, she loaded Japanese aircraft, engines, and aviation gear before leaving for the United States by way of Eniwetok and Pearl.

These details illustrate a new type of logistic support: Replenishment of carrier aircraft at sea. While fueling at sea was practiced by our Navy before the war, and during the war skillfully improved until it became

almost routine, the carrier replacement by the CVE idea was entirely new and peculiar to operations in the Pacific. Combat or operational losses of pilots and aircraft did not necessarily require the fighting carrier to retire from the combat zone. The carrier captain need only call upon the replenishment carrier to supply his needs on the spot. This procedure, among others, accounted in part for our ability to keep the Japanese off balance.

The Stores Ship: Dry Provisions and Canteen Stores

During the preparatory period for the Marianas campaign, the Navy cargo ship *Azimech*, Lieutenant Commander E. P. Gaither, arrived at Majuro Atoll 18 May and during the last 5 days of that month discharged 192 tons of canteen stores to 51 ships. After discharging 35 more tons, this time to 21 ships, she left for Eniwetok, arrived there 6 June, and operating under orders from Commander Service Squadron Ten remained there until 9 July. During June she issued 2,223 tons of dry provisions to 142 ships and 174 tons of canteen stores to 171 ships and units. The *Azimech* had four 50-foot mechanized landing boats and two 36-footers of her own, and these handled 70 percent of the above tonnage to the various large ships served. Submarine chasers, motor mine sweepers, and other small craft came alongside. The *Azimech* set stores on their own decks. At her first anchorage at Eniwetok Atoll she experienced considerable difficulty with boats alongside because of rough water.

None of the Pacific atolls had sufficient land mass to break the full force of the wind, though they afforded some protection from the long ocean swells. As anchorages they were large enough to accommodate hundreds of ships, but were often very rough for small-boat work and for mooring one ship to another. Because of this condition the *Azimech* had to move to another berth in the northern part of the lagoon where more favorable unloading conditions prevailed. During the period 1 to 9 July she issued 3,055 tons of dry provisions to 117 ships, and 311 tons of canteen stores to 54.

On the eve of her departure for Pearl for another cargo of provisions, she was ordered to transfer her 4 LCM's and 2 LCVP's, complete with boat crews, for duty in Squadron Ten's boat pool. Four LCVP's, beyond economical repair, were placed on her for return to Pearl Harbor. These boat transfers were typical of cannibalizing, born of necessity. Boats were

among the scarcest items in the Central Pacific. The LCM and LCVP types especially were never quite plentiful enough for the best support of Operation Forager. As the growing fleet, with consequent logistic support, moved westward, the need of more and more boats mounted. The combat ships had none—too hazardous to carry, and the space was needed for anti-aircraft guns, directors, radar, etc. Therefore, boats had to be provided by the service-squadron pools. The demand was great, persistent, and seldom fully met. In short, the boat situation was one of the most trying problems that plagued the service squadron commander; it continued to do so all the way across the Pacific. The solution, "just get more boats," when spoken sounded easy but the problem was never fully solved.

Fresh-and-Frozen-Provisions Ship

The *Bridge*, Commander R. E. Stevens, brought refrigerated provisions to Majuro 27 April 1944. At noon of 4 May she began provisioning Task Force 58, Mitscher's Fast Carrier Force, and kept at it until 10:10 a. m., 7 May. The same day she left for Pearl for replenishment, and after about 3 days there loading was back at Majuro 31 May.

Commander Service Squadron Ten ordered her to Eniwetok, where she was busy 7-9 June—1 week before D-day—giving her cargo of fresh and frozen provisions to units of Admiral Turner's force. She then left Eniwetok for Pearl. There Lieutenant Commander T. M. Saul relieved Commander Stevens, and on 14-15 July the ship was again busy discharging at Eniwetok.

Besides the *Bridge* and vessels of her type, the tenders *Prairie*, *Markab*, and *Cascade*, the concrete barge *Quartz*, the refrigerator barge *YF-412*, the *YP 239*, and *YP's 282-287* provided fresh and frozen provisions to some extent during the Marianas campaign, though they had to load their stocks from provisions stores ships before they could supply other vessels.

The Repair Ship: Repairs During Marianas Operation

For an idea of the extent of repairs necessary for units of the fleet just before and after the initial assault on the Marianas, the activities of the repair ship *Ajax*, Commander J. L. Brown, may be taken as typical. On

5 March 1944, she reported to the logistic support group of Squadron Ten at Majuro. During the rest of the month she repaired 74 different fleet units ranging from big carriers and fast battleships down through LST's and YMS's including some work on merchant ships and jobs for two shore activities on Majuro Island.

Nearing the time for the assault, with more ships assembling, the work load increased. In April the *Ajax* serviced 96 ships and in May 103, of various types. In June she cared for 157 ships, among them 7 fast battleships and 3 old ones, 1 large and 1 small carrier, 3 heavy cruisers, 10 light cruisers, 45 destroyers, 19 destroyer escorts, 2 ammunition ships, 4 oilers, 2 stores ships, 2 merchant vessels, mincraft, fleet tugs, YMS's, SC's, and station and yard craft. She also did some work for the Naval Air Base, Majuro.

Part of the ship repair work in June was done at Eniwetok, where the *Ajax* arrived on the 19th with the ammunition ship *Shasta*. During July the Eniwetok load increased to 173 fleet units. As that month marked the completion of the Saipan conquest, and the landings on Guam and Tinian, repairs by the *Ajax* during August fell off to 120 units, and further in September. During the latter month the ship was quarantined and moved to Kwajalein because of an epidemic of dysentery on board.

Three other repair ships and three repair barges were likewise busy with fleet work during the same period.

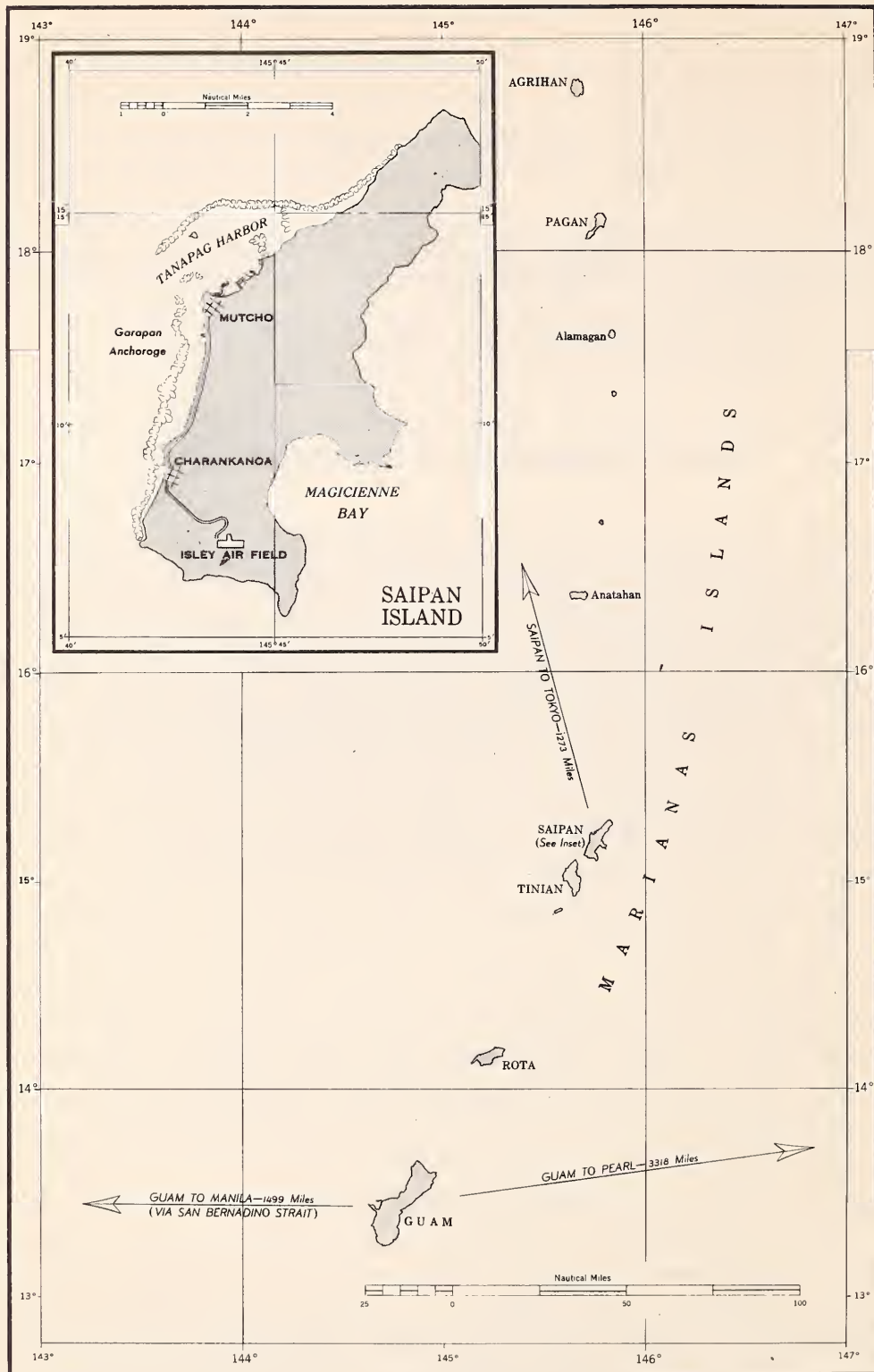
CHAPTER XV

“Forager” Logistics in General and Ammunition in Particular

Service Squadron Ten at Eniwetok

ONE OF THE AMMUNITION SHIPS supporting the fleet in the Marianas was the *Rainier*, Commander F. S. Conner. She loaded her ammunition at the Naval Ammunition Depot, Port Chicago, California, early in May 1944, and on the 17th sailed for Majuro. She carried 6,242 tons, in holds, for issue, but no deck cargo. Reaching Majuro 31 May she reported to Squadron Ten for instructions and prepared all holds to issue cargo. From 1 to 5 June, 10 days before the Saipan assault, she made issues to seven fast battleships, five large carriers and four small carriers, two heavy cruisers, one light cruiser, antiaircraft cruisers and certain destroyers, all of Admiral Mitscher's fast carrier striking force, Task Force 58. They took approximately 1,600 tons, about one-fourth of her cargo. She received 6 tons of rejected ammunition from the same force.

On 6 June these fast carriers put to sea to make strikes on Saipan, Tinian, Guam, Rota, and Pagan, to maintain sea and air control in the Marianas area on D-day, and to make such other strikes as opportunity presented. After they left, the *Rainier* received more rejected ammunition, some ammunition for further transfer, 12 tons of empty containers, made issues to Service Squadron Ten, and secured for sea. On the 11th, in company with two other ammunition carriers, the *Mazama* and the *Mauna Loa*, she left Majuro for Eniwetok, arriving there 2 days later. There she made issues to various ships, and 13 July she got under way for Saipan. From the 16th until the end of the month she transferred ammunition at Garapan anchorage there to battleships and cruisers of Task Force 52, the Northern Attack Force of Vice Admiral Turner, and to some carriers of Task Force 58, the *Wasp*, *Franklin*, *Yorktown*, and *Hornet*. By 2 August she was under way for Pearl, stopping at Eniwetok



Marianas Islands.

to transfer some ammunition to the *Lassen*. In the 2 months of June and July the *Rainier* had handled a total of 9,410 tons of ammunition and empty containers: 3,564 tons in June, 5,846 in July.

The *Lassen* reached Majuro 6 April 1944, and that date Lieutenant Commander F. B. McCall, head of the ammunition department of Service Squadron Ten, went on board and established the administrative office of Commander Service Squadron Ten for ammunition affairs. Lieutenant Commander McCall coordinated the activities of ammunition ships with a staff of only two lieutenants (junior grade). The ammunition department of Squadron Ten later grew to be a much larger section handled by a captain, but in the early days at Majuro and Eniwetok the burden fell upon McCall's shoulders. After the sortie of task groups or some large force he would return to the squadron flagship almost, but not quite, exhausted by his duties of send, hurry, load, unload details, and almost never-ending questions of where, how, and when. He was practically indestructible, and the success of the rearming operations was due principally to his energy and devotion to duty.

Ammunition Expenditure and Resupply

The original plan called for a limited replenishment at the objective from assault shipping; i. e., transports, cargo vessels, landing ships (tank), and landing ships (dock). It consisted of one bombardment allowance of 5-inch antiaircraft common for all fire-support destroyers, a similar bombardment allowance of 8-inch and 6-inch high-capacity for all cruisers, and a limited resupply of depth charges, rockets, and 40-mm. The rest of the ammunition replenishment was planned for Eniwetok, and reserves were assembled there in ammunition ships, barges, and cargo ships. Admiral Turner stated that it was his intention to return fire-support ships to Eniwetok in relays as ammunition became necessary.

Shortly after D-day it became apparent that certain types, particularly 6-inch HC, 5-inch AAC, and star shells would soon be exhausted. Neither time nor the number of ships available permitted of keeping up with the expenditure by sending fighting craft to Eniwetok. Since the *Mazama*, Commander P. V. R. Harris, was heavily loaded with the types most needed, she was ordered to Saipan, thereby easing a very critical situation. Thereafter ammunition ships were ordered to forward areas as needed.

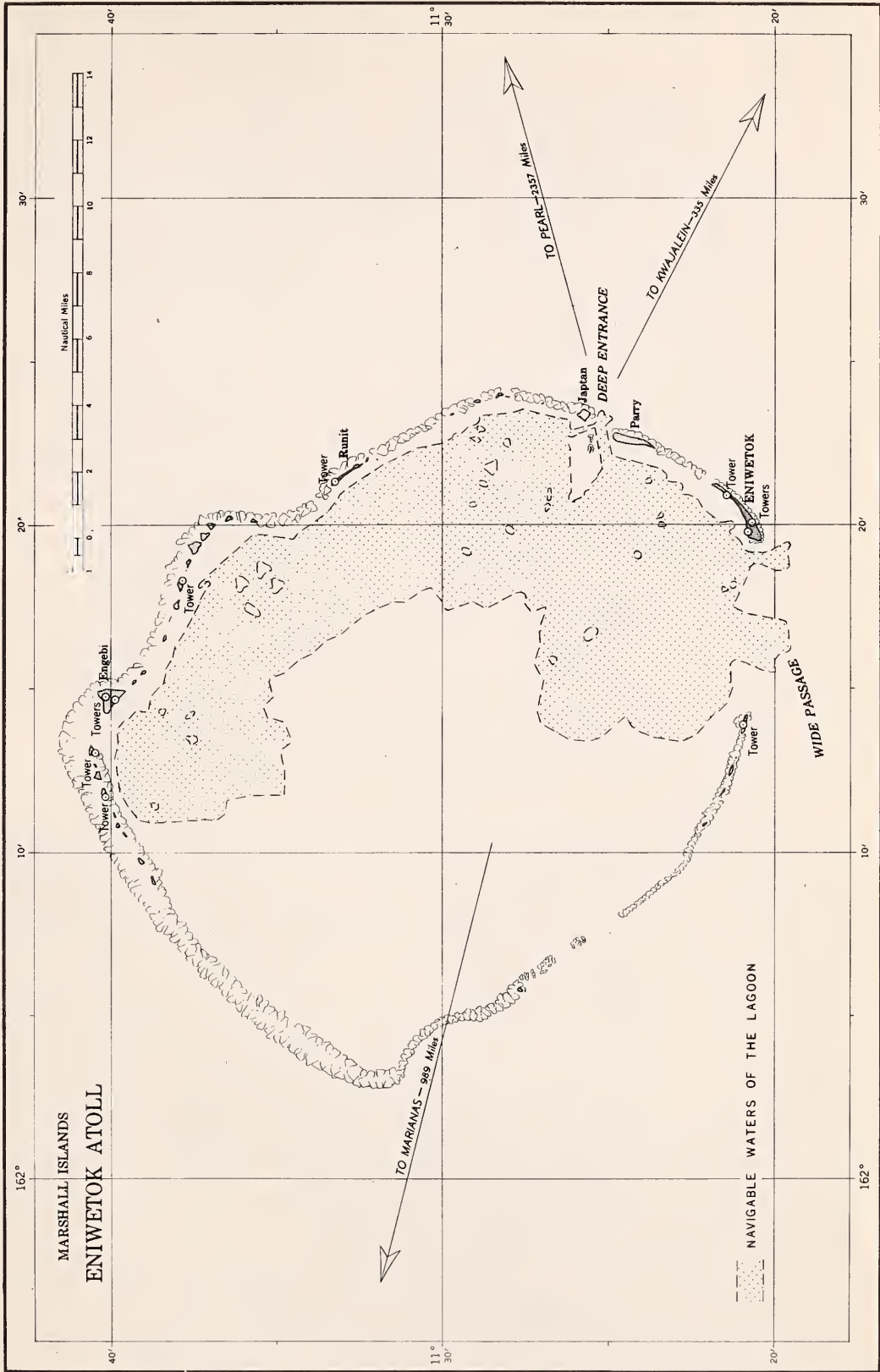
The ship's war diary for 21-22 June, while she was in support of fleet

units still heavily attacking Saipan, supplied the following information:

“The island (Saipan) could be seen silhouetted against the light of flares.—The weather was clear and as daylight approached various phases of the fighting on the island were clearly apparent. . . . (our) planes were seen to be bombing and, at certain points, were subjected to enemy antiaircraft fire. The MAZAMA entered the transport area, reported for duty to Commander Task Force 51 (VADM Turner) and was assigned a berth (#40) in Garapan Anchorage. This berth had a depth of from 50–65 fathoms with a rock bottom. The contour of the bottom was a narrow ledge shelving steeply on each side. Immediately upon arrival, the USS LOUISVILLE (CA-28) came alongside and as soon as practicable ammunition issues commenced. Heavy swells from eastward caused dangerous rolling and unstable conditions for cargo operations. The destroyer MELVIN (DD-680) came alongside. She rolled 10 or 15 degrees, bent the splinter shield on the midships 40-mm. mount and shoved off without taking ammunition. Various LCT’s came alongside, and with better luck took ammunition. By 2125 the LOUISVILLE cleared the MAZAMA. All booms and holds were secured for the night. In spite of difficulties, 107 tons of ammunition were issued (21 June) by the MAZAMA. A little after midnight upon receipt of flash “red” warning the MAZAMA prepared to get under way and hove short. An hour later flash “white.” At sunrise cargo operation was resumed with LCT’s alongside. The MAZAMA had dragged her anchor and had to shift berth. Intermittent bombardment of Saipan by naval ships and aircraft continued. Issue to heavy ships was not feasible due to heavy swells; transfer of ammunition now was confined to LCT’s and LCVP’s. Just before midnight another flash “red” and preparations again made for getting under way. All vessels were ordered by CTF 51 to make smoke. For the 22d of June, 185 tons of ammunition were issued.”

From 21 June to 7 July, when she sailed for Eniwetok, the *Mazama*’s diary shows almost daily red alarms, preparations for and actually getting under way in darkness, and damage sustained from vessels alongside. (There were a few good days.) Alarms were generally accompanied by orders for all ships to make smoke. On the night of 27 June between 8 and 10:15 o’clock the ship got under way twice and reanchored each time. These are the conditions under which she worked, the hindrances, the interruptions to loading during the day and the alerts at night, all during periods of naval bombardment and the threats of enemy air attacks. During the 15 days the *Mazama* was engaged in unloading, she discharged 3,448 tons of ammunition, approximately 230 tons a day, the largest issue being 400 tons.

At Eniwetok the ship replenished her cargo from the *Rutland Victory* and returned 27 July to Saipan, where for the rest of the month she issued through landing craft (mechanized), lighters, and barges to large carriers anchored nearby, using working parties from the receiving vessels to do so. Carrier bomb replenishment was the vital work at this time, and deliveries to the carriers *Lexington*, *Bunker Hill*, and *San*



Eniwetok Atoll.

Jacinto were completed 1 August when the work had to stop as the weather had become progressively worse. On 2 August both the *Hornet* and the *Mazama* shifted anchorages twice to find a better location for loading. Finally the *Hornet* got under way to make a lee for the LCM's, and the *Mazama* steamed across the wind to unload bombs to the landing craft while in motion. Some success resulted, and two LCM loads of 50 bombs each were given the *Hornet*. In spite of set-backs by weather and sea, the ship received Admiral Spruance's compliments in the visual message: "CTF 58 appreciates the excellent rebombing work by *Mazama*, your boats and crews. Thanks." Great credit is due the officers and men of all ammunition ships in handling their dangerous cargoes under difficulties in support of fleet operations. Those were the boys who "passed the ammunition."

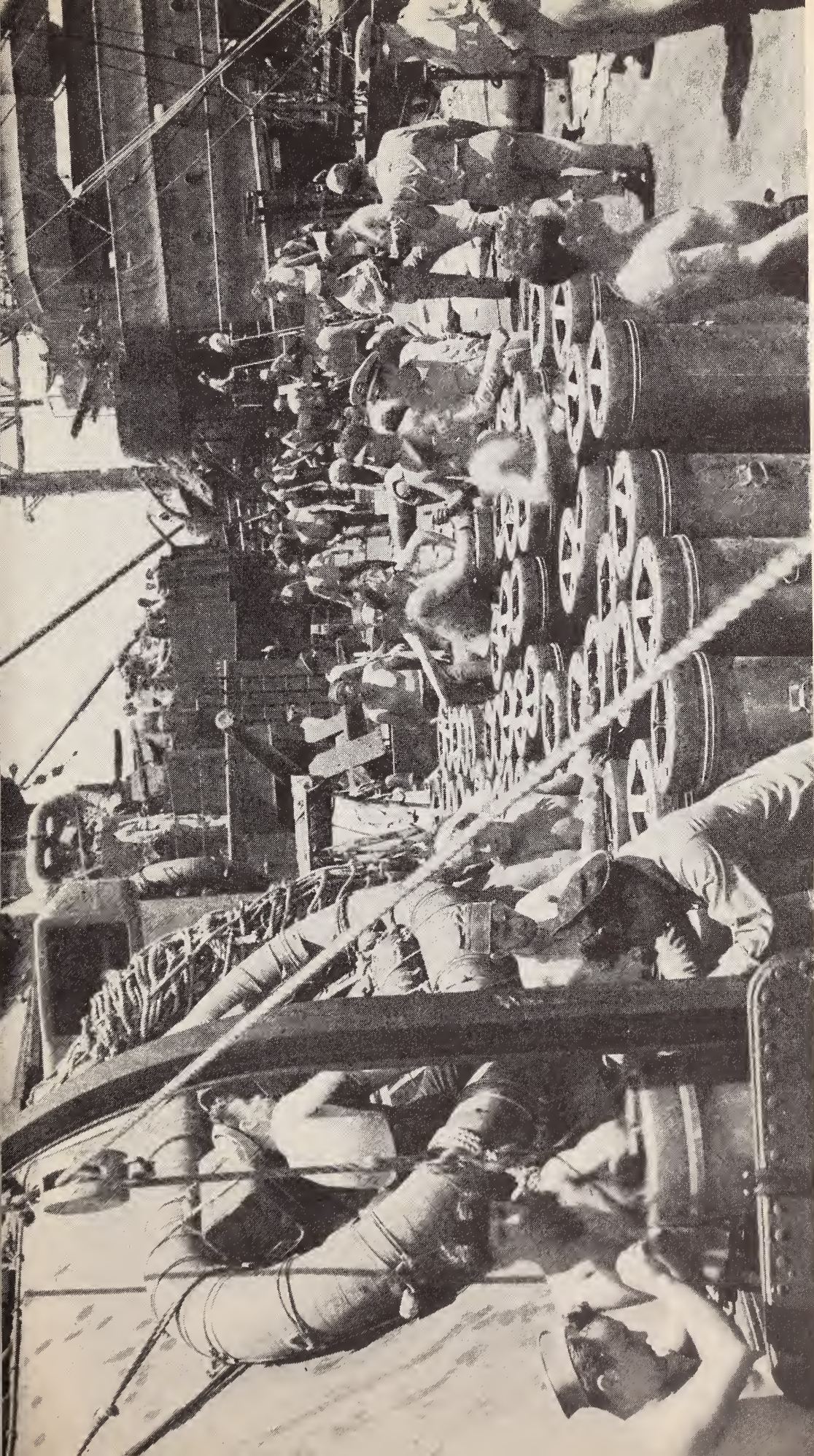
Rebombing of the carriers presented an unusual problem. On one occasion every ship in the roadstead was stripped of bombs for the carriers of Task Force 58. Emergency shipments ordered from Eniwetok (those ships which returned to Eniwetok were resupplied there) enabled the carriers to remain effective, though the bombs supplied were not always those desired. Replenishment at the objective reached unexpected magnitude. The total ammunition transferred at the objective from ammunition or cargo ships was:

(a) 16-, 14-, 8-, 6-inch, and various calibers of 5-inch, besides rockets, 14,629 tons;

(b) Bombs of various sizes from 2,000 pounds to 100 pounds, plus .50-caliber ammunition, 2,523 tons.

(A grand total of 17,152 tons, of which 10,960 were fired against Saipan.)

Several practical problems incidental to the replenishment program were solved with the ways and means at hand. Empty shell casings and containers were loaded into discharged vessels, partially unloaded ammunition craft, and temporarily even into harbor craft. Working parties, such as Commodore Carter's Seabees, specialist stevedores at Eniwetok, and others obtained from headquarters ships and transports, helped greatly. Supervision of inexperienced merchant-ship ammunition carriers was solved by temporary assignment of staff officers to duty aboard. Shortage of equipment such as fenders, camels, and lines was partly met by borrowing, though the scarcity of manila rope made substitutions necessary, while in the case of fenders, damaged aircraft and vehicle tires were frequently used, and other types of wooden fenders improvised.



Ammunition ship Sbasta loading 14-inch powder and shells onto the New Mexico.



New Mexico sending 14-inch H. C. shells to the magazines.

Those officers and men who labored at the task of supervising or actually handling ammunition cargoes may take pride in their contribution to the combined effort. No better proof could be asked than an extract from a captured Japanese message sent from enemy headquarters on Saipan: "The practical experience of the defense forces on Saipan in this battle lasting over half a month lay in the power of the enemy naval bombardment. If there were just no naval gunfire, we feel we could fight it out with the enemy in a decisive battle."

Admiral Conolly, commanding Task Force 53, reported the effect of naval gunfire in the capture of Guam in these words: "The assault troops of both the Third Division and the First Brigade landed with very little interference or opposition from enemy troops, and with sporadic mortar fire as the only enemy gunfire to hinder them. This fact was due in large part to the intense naval gunfire placed upon the landing beaches and adjacent areas just before the Marines first set foot on the beach. Coastal defense guns, heavy and light AA guns, dual-purpose guns, and all types of defensive installations were rendered impotent prior to the landing of the troops. Most of the houses and other structures on the west coast of the island were completely razed by deliberate destructive fire, which prevented their use by enemy troops. It is believed that not one fixed gun was left in commission on the west coast that was of greater size than a machine gun." Those who had "passed the ammunition" had not labored in vain.

Fog oil and smoke pots are associated logistic items in connection with ammunition. Admiral Turner stated that smoke operations in the transport areas were the major factor in effective defense against air attack which, though repeated and often, was obviously blind bombing. Unsuccessful attempts were also made to drop torpedoes. The screen (fog) produced was not always perfect, but was sufficient to prevent the enemy from selecting specific targets, even in very bright moonlight, and pressing home the attack. The only damage suffered in the transport area during smoke coverage was incurred when the cargo vessel *Mercury*, Lieutenant Commander N. D. Salmon, was hit by a torpedo before it struck the water. The torpedo did some damage as a missile, but did not explode. The enemy pilot was so confused by the smoke screen that, after releasing the torpedo, he crashed his plane into one of the *Mercury's* cargo booms and was destroyed. It is doubtful that he saw the ship.

About 24 June, 9 days after D-day, it became apparent that additional smoke mixture would be required at Saipan if air attacks continued. Shipments, including some by air, were requested from Squadron Ten

at Eniwetok, and recommendations made that a supply of 30,000 gallons of fog oil, 3,000 pots, and 3,000 floats be established there. Later these amounts were doubled. Fortunately shipments arrived during critical moments. Eniwetok sent altogether 65,000 gallons of fog oil and 4,100 pots and floats.

From 5 to 15 minutes was required, depending upon the wind speed, to develop a good screen over the anchorage. From 15 June, D-day, to 7 July smoke was used on 12 occasions, in periods ranging from 29 minutes to 234, and a total length of 18 hours and 27 minutes. Based on an average of 30 ships using smoke generators (Besler type) and 30 others using pots or floats in small boats, the estimated average expenditure each hour of smoking was 3,000 gallons of fog oil and 600 pots or floats. On the foregoing basis the estimated total expenditure at Saipan was 57,000 gallons of fog oil and 11,400 pots or floats.

Hospital Ships in the Marianas Assault

On 15 June, D-day, the *Solace*, Commander E. B. Peterson, left Eniwetok and arrived in Charan Kanoa anchorage, Saipan, 18 June, while the shore and adjacent hill were under heavy bombardment by dive bombers, naval shellfire, and field artillery fire from a captured beachhead. Twenty-five minutes after she anchored, the *Solace* began embarking patients from ships and shore units, and casualties from front-line operations, a total for the day, all battle casualties, of 442. Next day, the bombardment continuing, she received 259 more. On 20 June, the following day, the senior medical officer reported to the captain that all beds were filled, that patients were overflowing into the crew's quarters, and that with 584 cases on board full capacity for caring for the wounded had been reached. Men who died of their wounds had been transferred to the medical officer of the shore party for interment. The *Solace* put to sea and on the 26th moored alongside Point Cruz dock, Guadalcanal Island. Here she transferred her patients to U. S. Army ambulances, 505 naval casualties for Fleet Hospital 108, 73 Army cases to the Evacuation Officer, Surgeon's Office, Service Command, for further treatment and disposition.

On the way from Saipan to Guadalcanal the *Solace* crossed the equator on 24 June, and Captain Peterson thoughtfully held a Neptune party for the patients. The "royal" party visited each ward and issued a "Crossing the Line" certificate to each patient, a merry touch indicative of a happy ship that lightened the suffering of the wounded men. Three days later,

the 27th, she turned about, and on arrival at Garapan anchorage commenced taking aboard wounded from the front lines. Although on 3 July heavy swells and bad weather made handling of patients difficult, she nevertheless took 264 aboard and by afternoon of the 5th had received 562. Again she sailed for the Solomons, anchoring this time in Sunlight Channel, Russell Islands, on the 11th. There 376 patients went to Fleet Hospital 110, 182 to the Army 222d Station Hospital. Sailing for Eniwetok, she fueled and went to Guam, arriving 24 July. Lying to in Agana Bay, she began taking casualties aboard while the shore was under bombardment by surface forces supported by air bombing and strafing. One day several small-caliber shells, believed to be from enemy mortars on shore, fell close aboard, so she moved about 500 yards farther to seaward. During her 3-day stay she did not anchor but lay to the entire time. By the 26th she had reached her capacity with 585 cases aboard. She sailed immediately, and 30 July began discharging her patients at Kwajalein.

Other hospital ships also were doing splendid work, among them the *Samaritan*, Commander J. C. Sever, and the *Bountiful*, Commander G. L. Burns. The latter arrived D-plus-3 day and evacuated 515 casualties. On D-plus-8 day the *Relief* and the *Samaritan* evacuated 1,355 men and returned to the objective for more.

On her second call at Saipan the *Relief* on 15 July evacuated 685 casualties, of which 284 were wounded Japanese. The ship's working plan required that Marines and soldiers wounded in battle be embarked first. When such loading was completed, remaining available space was filled with Japanese prisoners, all of whom received the same professional treatment as men of our own forces. A prisoner who died was buried at sea, with an appropriate religious service.

In the *Prairie's* sick bay there were two Japanese patients, 7-year-old children, who had lived on Saipan. They had learned to trust and had become fond of one particular hospital corpsman. When the children had to be sent back to Saipan, the separation of these "friendly" enemies was a touching scene. On the destroyer tender *Prairie*, as well as on the hospital ships, the humanities prevailed.

Medical Report of Admiral Turner, Commander Task Force Fifty-one

On D-day, 15 June, 19 attack transports, 5 transports, 6 cargo vessels (attack), and 3 landing ships (tank) were available at Saipan for evacua-

tion of casualties. The three LST's, specially equipped, handled 1,549 casualties and 27 surgical operations were performed aboard. On D-day between 10:40 a. m. and 3 p. m. 711 casualties had been received aboard the transports. Two LST's, commencing at the same time, received 200 casualties in less than 2 hours, and the third LST was filled soon after, necessitating transfer of further casualties to the transports. The *Solace* and *Bountiful*, arriving on D-plus-3 day, evacuating 1,099 wounded, helped to relieve the overload on the medical facilities of the attack transports. Saipan had a total of 16,525 killed, wounded, and missing; Tinian 1,829; and Guam 7,266; the wounded being respectively 13,099, 1,515, and 5,722.

Air evacuation from Isely Air Field was established on D-plus-9 day, and 860 casualties were sent to the Marshalls by this means during the remainder of the operation. Experience showed, Admiral Turner stated, that a flight surgeon, with adequate medical attendants at the objective to supervise air evacuation, was necessary.

As a whole, medical supplies were adequate. The greatest shortage was that of litters, though there was a short interval early in the operation when penicillin was not available. The 100 ampules obtained by the flagship *Rocky Mount* from hospitals at the start of operations were used up prior to resupply by air. Then a fairly new drug, penicillin had not been made available to ships through routine channels before their departure for the objective. A shortage of tetanus antitoxin, due to faulty distribution, was felt by the landing forces early in the operation.

*Report of Logistics by Vice Admiral Turner,
Commander Task Force Fifty-one*

Admiral Turner, in his report on the capture of the Marianas, brings out clearly the vital nature of the problem of supply. He wrote, in part: "At the outset of the operation it was apparent that one of the most serious problems to be solved was that of logistics. The operation called for a long trip to the objective, followed by an extended stay at points a thousand miles from the nearest resupply allocation. Furthermore, amphibious landing operations now require the employment of hundreds of small craft . . . almost all of which have limited endurance in matters of fuel, water, and provisions. Likewise, the arrival of non-self-sustaining merchant ships containing garrison units, increases the amount of supplies required."

Logistics at the Staging Areas. "In order to enable the many small craft in the task force to complete the long trip from the Hawaiian area to the objective and to insure that all ships were supplied to capacity with necessary logistic items for the stay at the objective, all ships were fueled, watered, and provisioned at one of the three staging points, Eniwetok, Roi, and Kwajalein, in accordance with a schedule set up in the operation plan. The dates of arrival of various task units at the staging areas were staggered slightly to relieve the congestion and expedite servicing.

"It was expected that all craft smaller than LST's would require fuel and that they, plus the LST's, would require water and provisions at the staging areas. In addition, it was considered advisable to top off the larger ships with whatever supplies and water remained at the staging points after the small craft were cared for, in an effort to lengthen the endurance of all vessels at the objective.

"The logistic schedule included in the operation plan divided the ships present at each staging point into logistic groups, whose requirements were to be handled by the senior officer of each," who "was to submit to Service Squadron Ten by air mail, prior to his departure from the Hawaiian area, the order of fueling and watering for the vessels of his group. This arrangement was not entirely satisfactory, however, for two reasons. First, due to the mixture of ships in each logistic group, there was considerable doubt as to which officer was the senior . . . Also, very few groups submitted their logistic schedules in advance to Service Squadron Ten. As a result it became necessary for the Senior Officer Present Afloat, together with the representatives of Service Squadron Ten, to set up an almost entirely new fueling and watering schedule . . . Despite this difficulty, and the large number of ships requiring services, all ships were refueled, watered, and provisioned expeditiously, due to the able assistance of Service Squadron Ten."

Logistics at the Objective: Provisions. It was evident from the beginning of the operation that because of the shortage of provision ships in the Central Pacific there would be no fresh and few frozen and dry provisions for resupply at the objective. Therefore the transports and merchant ships were called upon to give to the limit of their capacity. All ships leaving the area were stripped of all provisions in excess of the amount required to reach ultimate destinations, plus a small reserve. On D-plus-28 day the *Giansar*, Commander G. J. King, a dry-provisions ship, arrived and refilled all ships present with dry provisions. About D-plus-50 day a provisions stores lighter was brought forward with 400

tons of frozen stores, and each craft given a limited amount. Adequate dry stores were thus available, though fresh and frozen provisions and ship's service supplies were sorely missed.

Water Supply at the Objective. As it was realized that no outside sources of water would be available at the objective for many days after the initial landing, arrangements were made to service the smaller, non-self-sustaining craft from transports, LST's, and large combatant ships. Excess water in them was stored in LST's for future use. Despite these efforts, demand began to exceed supply after the larger ships left. Non-self-sustaining merchant ships arriving with troops also lacked water during a period of heavy weather which prevented daily collections of water from the remaining large ships. Admiral Turner stated: "Water ships must be moved to the assault area closely following the assault forces, prepared to supply large amounts of water until water barges can be brought into the area."

Report of Logistics by Rear Admiral Conolly, Commander Task Force Fifty-three (Southern Attack Force)

Logistics in the Staging Area. "Task Force 53 staged for the Marianas operation at Kwajalein and Roi in the Marshall Islands. Replenishment of fuel and provisions by all ships and fresh water for LST's, LCI's, and other small craft was accomplished at the staging points. Logistic services in the staging areas were completely satisfactory and were furnished by ComServRon Ten and his representatives at the ports concerned."

Logistics in the Restaging Area. "Due to the postponement of W-day (Guam) it was necessary that Task Force 53 restage at Eniwetok . . . Restaging involved topping off with fuel, water, provisions, and ammunition, and was accomplished during a period in which existing facilities for servicing the fleet were sorely overtaxed by demands of other task forces of the Fifth Fleet. In spite of these adverse conditions all ships of Task Force 53 departed from Eniwetok logistically prepared to carry out their tasks in the operation. The fullest cooperation during the restaging period was received from ComNavBases, Forward Area, Central Pacific, and ComServRon Ten."

Logistics at the Objective. "With assistance from departing ships, that part of the task force which remained at the objective was logistically self-sufficient except for fuel. Fuel was furnished from tankers which arrived on W-plus-5 day. These tankers located at the objective were

extremely helpful to the accomplishment of successful fire support and screening operations, in that destroyers and other ships could be fueled in the immediate vicinity of their operating areas and without the task force commander losing their services for 10 to 15 hours while they steamed to and from fueling rendezvous 100 or more miles from the objective."

July in Central Pacific. The principal operations in the Central Pacific were completion of the Saipan conquest, near-completion of the occupation of Tinian and Guam, operations of ships and aircraft supporting these actions, and the furnishing of logistic and air support through Marshall Islands bases. During July, Kwajalein, Majuro, and Eniwetok Atolls served for staging support, and for land-based air operations against enemy bases within range. Fleet units were serviced and re-provisioned at all three anchorages. All shipping for the Marianas was staged through Kwajalein and Eniwetok, particularly the latter. In view of this, it is pertinent to examine some of the activities of Squadron Ten at Eniwetok during July 1944 in meeting the needs of the fleet.

Principal Activities of Service Squadron Ten at Eniwetok During July 1944

Commander Service Squadron Ten (Commodore Carter), using the *Prairie* as his flagship and with part of his staff in her, had been at Eniwetok since 5 June. Lack of space in the flagship necessitated placing the disbursing section of the supply department in the repair ship *Ajax* and the fuel section in the oiler *Sepulga*. The following tenders and repair ships were also present: Repair ship *Hector*; destroyer tenders *Piedmont*, *Cascade*, and *Markab*; repair ship landing craft *Egeria*; floating drydocks *ARD-13*, *ARD-15*, mobile floating drydock *AFD-15*, and floating workshop *YR-30*.

During the first half of July there was a daily average of 488 ships at Eniwetok; during the second half, 283. The greatest number came between 7 and 12 July, when more than 520 ships were present. These assemblages were not as great as those which came later at Eniwetok, Ulithi, and in Leyte Gulf. However, the squadron was still fairly young, its organization feeling its way, its facilities still insufficient. The demands of the many ships present extended the squadron's capabilities to the limit. But by dint of long hours, improvisation, and teamwork the challenge was met and necessary services rendered at a critical time.

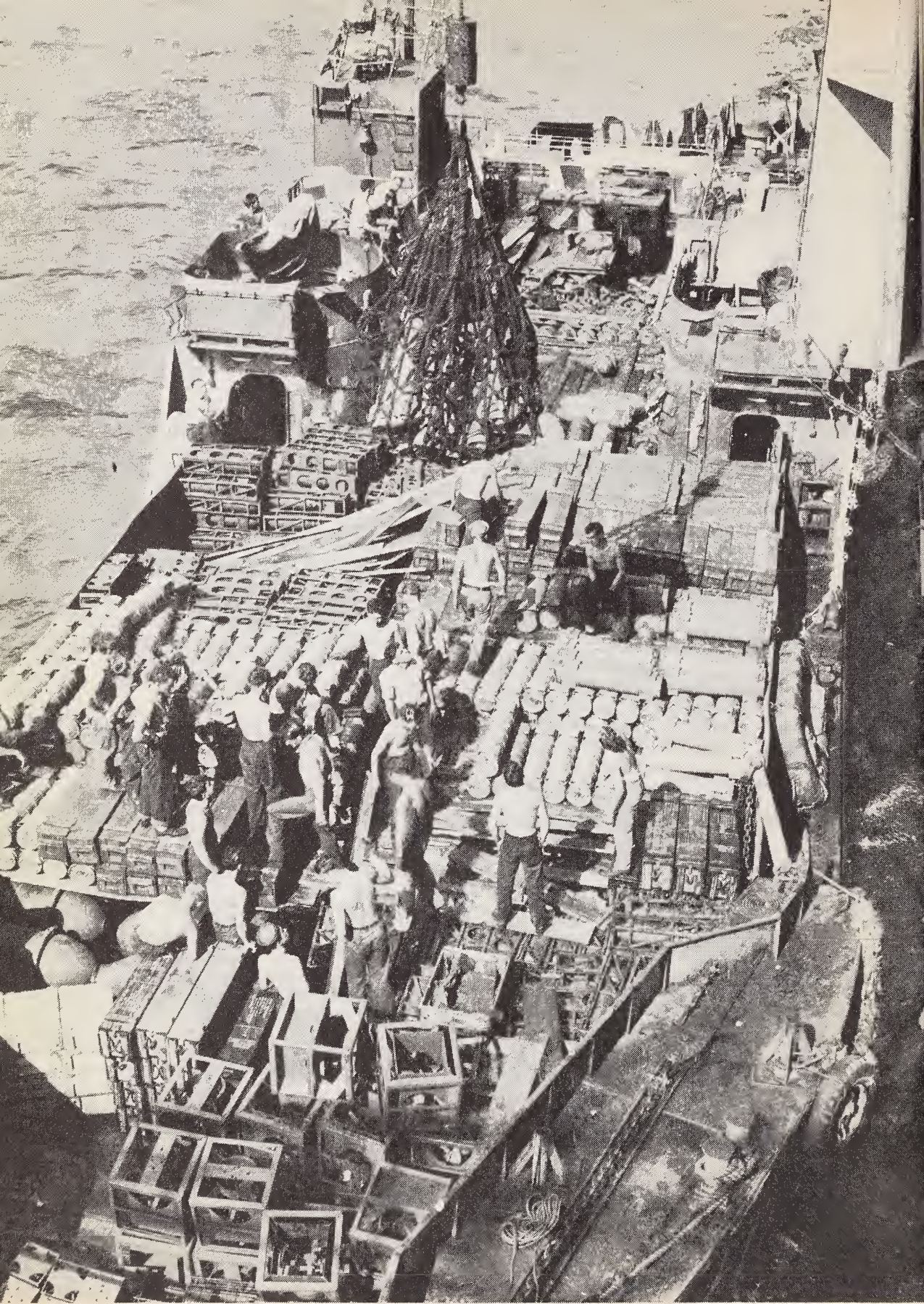


Ships in Eniwetok, Marshall Islands.

This strenuous period exacted its tolls, however, in the health of two staff officers, Commander R. P. Hazelhurst and Captain F. A. Packer, maintenance officer. In mid-May 1944 Commander Hazelhurst relieved Lieutenant Commander G. A. Kelly. Lieutenant Commander R. A. Harrison, Squadron Ten's original supply officer, was away when Commander Hazelhurst arrived, in San Francisco supervising the outfitting of concrete barges. Serving as supply officer at Majuro, Hazelhurst continued at Eniwetok until August, when he was relieved by Captain W. J. Nowinski. His health had become undermined by the arduous duties confronting him in connection with supply work for the fleet.

Captain Packer was the squadron's first maintenance officer, and through all those tough early days at Majuro and Eniwetok until September carried out his duties without a let-up. The variety and scope of the repair and service problems he faced, incident to large fleet concentrations at both anchorages, seemed unlimited. He did splendid work, laboring long hours without thought of the drain upon his health and strength. In September Captain P. D. Gold replaced him as repair officer of Squadron Ten.

The variety and scope of Ten's multifarious duties at Eniwetok during July may be shown by some of the highlights of activities and conditions. Four towing planes were based there for antiaircraft services to the fleet, administered by the squadron gunnery officer. Oilers and water barges went to the northern part of the atoll to oil Tractor Group 53.16. Temporary repairs were made on the after strut of No. 4 main propeller shaft of the *Pennsylvania*. Smoke equipment was loaded on LST's and transports, and 105-mm. ammunition was loaded from Japtan Island and from the *Kit Carson* on *LST-272*. The sonar on the *Porterfield* was repaired and her port propeller changed in one of the floating drydocks, which performed much valuable service throughout the war. Five-inch, .38-caliber ammunition was unloaded from the steamer *Robert C. Carey* to lighters, and 8-inch, .38-caliber ammunition, high capacity, unloaded from the *Narcissa Whitman* to lighters. Two 5-inch, .38-caliber gun barrels were replaced in the battleship *California*. Commander Fifth Fleet called for one dry-provision cargo vessel, one refrigerator barge, and one dry-provision barge to be sent to Saipan. In response to this the *Giansar*, with *YC-1030* and *YF-412* towed by the fleet tug *Lipan*, went there; also two gasoline barges and a tank barge. Ammunition was delivered to Task Group 58.3 (Rear Admiral Reeves) and Task Group 58.4 (Rear Admiral Harrill). Eight-inch ammunition was unloaded from *Narcissa Whitman* and 14-inch from *Rutland Victory* for transfer to *Shasta*.



An LCT alongside the Yorktown.

Here we had the merchant ship bringing out ammunition to forward areas, where naval ammunition carriers replenished their cargoes. Stevedores though insufficient for handling such cargoes, were berthed at Eniwetok on the "*Sea Hag*," a large personnel barge, the forerunner of the APL hotel barge or barracks ship. Squadron Ten also effected temporary underwater repairs to inboard port stern tube bearing on the *North Carolina*, loaded LST's with 5-inch, .38-caliber ammunition for Saipan, and during the first half of July provisioned Carrier Task Groups 58.3 and 58.4; ships of the Southern Attack Force (Task Force 53) and other amphibious vessels. During this period the *Aldebaran* arrived to relieve the shortage of fresh and frozen foods. In all, more than 500 vessels were serviced. To accomplish this the cargo transports *Cheleb* and *Azimech* distributed 700 tons of dry provisions. The *Bridge* was able to supply only 925 tons of fresh foods, which were distributed as evenly as possible among the amphibious forces and the larger vessels in Task Groups 58.3 and 58.4. The tenders did yeoman service in providing for the needs of the destroyers in these groups. All this is only a part of the service rendered from 1 to 15 July 1944.

Sea Flyer Salvage. On 21 July at 2:30 a. m. the *Sea Flyer* grounded on the south side of the east channel entrance to Eniwetok. Salvage operation began at daybreak under Commodore Carter. Tugs took heavy strain on cables, but the ship did not move. Preparations for removing troops and cargo were initiated, and rigging of beaching gear started. Lieutenant R. K. Thurman, commanding the fleet tug *Tawasa*, was designated salvage officer, and continued as such until the ship was refloated 28 July, though Commander Lebbeus Curtis arrived to act as supervisor on the 24th. By this prompt salvage a valuable ship was saved with her cargo, 1,900 tons of which was unloaded before she could be hauled off. A very important lesson was learned by all who witnessed this work; i. e., when grounding on a lee shore, beaching-gear anchors must be put out and strain taken on all before lightening the vessel. The more beaching anchors available, the better. Tugs should take a strain on the towing lines only after their own anchors are down to a generous scope of chain.

Carrier Attack on the Western Carolines: 26-28 July 1944. With plans on foot for large-scale attacks on the Western Carolines in the early fall, Vice Admiral Mitscher executed Operation Snapshot on them, to obtain photographic coverage of the group and make an antishipping sweep. With this was the necessity of destroying enemy aircraft there, to prevent attacks on our forces currently engaged in the large Marianas Operation Forager. Three fast carrier groups were released after covering

the Guam landing on 21 July for this mission: 58.1-2-3. The first and second were low on ammunition, and had to put into Saipan the morning of the 22d. Bombs were loaded that day, and on the 23d the force fueled from oilers of Task Group 50.17 south of Guam in one of the fueling areas of the Marianas operation plan. Task Group 58.1 was directed to attack and photograph Yap, Ulithi, Fais, Ngulu, and Sorol, while the two other groups gave their attention to Palau. Both missions were successful, rendezvous was made on the 29th, refueling accomplished, and the entire force returned to the Marianas area.

Carrier Air Attack on Iwo Jima and the Bonins: 4-5 August 1944. This operation, known as Scavenger, an adjunct of the large scale Marianas campaign, was designed to attack aircraft, shipping, and shore installations in the Iwo Jima, Haha Jima, and Chichi Jima areas. Task Groups 58.1 and 58.3 participated under Rear Admirals J. J. Clark and A. E. Montgomery, with 4 large and 2 light carriers, 8 light cruisers, and 24 destroyers.

On 1 August the two groups anchored at Saipan, on returning from their Western Carolines raid. Bomb loading, scheduled for that night, was prevented by heavy swells. The following day, after proceeding to a point somewhat out of Saipan anchorage, the weather still prevented the loading of a single bomb. The two groups left Saipan that afternoon 2 August, fueled from Task Group 50.17, of 4 oilers and screen, to the west of Tinian and proceeded on a northerly course to the Bonin Islands. The next day three destroyers rejoined, with mail and personnel from Saipan. Several destroyers were topped off from the carriers, but weather conditions were still not favorable.

On the 4th, after receiving reports that a Japanese convoy was heading north from Chichi Jima, Task Unit 58.1.6 was formed, with four cruisers and seven destroyers, and ordered to attack the enemy and bombard Chichi Jima. The same day planes of Task Group 58.1 attacked Chichi Jima, while those of Task Group 58.3 launched their strike against Iwo Jima. Planes from both attacked Chichi and Haha on the 5th. Because of the difficulty at Saipan in loading bombs there was a shortage of the most desirable types for the targets available, as well as shortage of fuzes. The two groups retired the night of the 5th, reached Eniwetok the 9th, and were resupplied and serviced there by Squadron Ten.

The month of August 1944 saw the completion of the Marianas assault operations with the cessation of organized resistance on Tinian and Guam. Commodore Carter, with the main body of Service Squadron

Ten, was still giving principal support to the fleet at Eniwetok. This was due for a change when Halsey relieved Spruance at the beginning of the Western Carolines Operation (Stalemate). It was planned to base the fast carrier force of the fleet, called the Third Fleet while under Halsey, at Seeadler Harbor, Manus Island, Carter sent his Kwajalein commander, Captain S. B. Ogden, to Manus on 21 August. Captain H. A. Houser took over command of the remainder of the detachment left there.

At the end of the month, Carter and the squadron supply officer, Captain W. J. Nowinski, flew to Saipan to arrange establishing a service unit there. At this time the commanding officer of the submarine tender *Holland*, Commander C. Q. Wright, Jr., had been acting as squadron representative at Tanapag Harbor, Saipan. Organizational matters and supply were discussed. Carter at once detached his chief staff officer and operations officer, Captain A. F. Rhoades, ordering him to take charge of Squadron Ten's activities at Saipan, which he did 3 September. Captain E. E. Duvall reported for duty and became the new chief staff officer.

The same day Commodore Carter and Captain Nowinski flew back to Eniwetok, and the former left next day by plane for Pearl Harbor to attend a conference with Vice Admiral Calhoun, Commander Service Force Pacific, concerning the mobile logistic set-up at Seeadler Harbor, and the moving of Service Squadron Ten's facilities from Eniwetok to Ulithi in the Carolines. He returned to find that a stiff blow from the southwest, which lasted intermittently for several days, had done the squadron considerable damage at Eniwetok. The prevailing winds are from the northeast, and the service vessels were anchored in the lee of Runit Island in the northeast area of the lagoon, which is about 15 miles wide. With the shift of the wind to southwest there was no lee, and a fairly good sea was kicked up. Three ammunition barges broke adrift. Available tugs were sent after them, but meantime more craft—three gasoline barges and two high-speed target sleds—broke loose.

Two days later, after recovering the barges, high winds in stiff gusts accompanied by choppy seas from the southwest played more havoc with moorings, of which at this time there was a severe shortage, both in anchoring gear and cordage. This time the damage was heavy: 6 YF's, 2 YO's, 3 small unmanned tugs, and 61 boats (LCVP, LCM, etc.) were blown ashore on Runit Island. Some of the small boats might have been prevented from beaching but for the fact that some of the crewmen were quarantined on the repair ship *Ajax*, which had an epidemic of bacillary

dysentery aboard. All the equipment stranded on the beach was urgently needed for servicing fleet units. A YF loaded with smoke bombs was in special demand, since bombs were wanted at Saipan. Though the wind continued from the wrong direction, salvage efforts finally resulted in recovery of the barge with the smoke bombs. The last barge was not hauled off the beach until 9 September, 3 days after the wind had shifted back to normal northeast. Small boats remained on the beach some time after that. The damage to the LCVP's was particularly severe because of their plywood construction. The efforts of the boat-pool personnel, and of crews of tugs and other small craft, to salvage barges and boats were most praiseworthy. Nevertheless, the damage was considerable to equipment of high value to the squadron.

Certain lessons came from the blow. Among those outstanding were: (1) The importance of maximum shelter for small boats; (2) use of better methods and materials for securing barges and boats in open water, especially in view of the shortage of mooring gear in forward areas, without full equipment of which no barges should be sent forward; (3) regular inspection day and night; (4) indoctrination of crews and boat-pool personnel regarding security; (5) need of mother ships such as LST's (landing ships (tank)) and LSD's (landing ships (dock)); (6) adequate repair units. The first four of these can be summed up in one word, "seamanship," of which there was a shortage throughout the war.

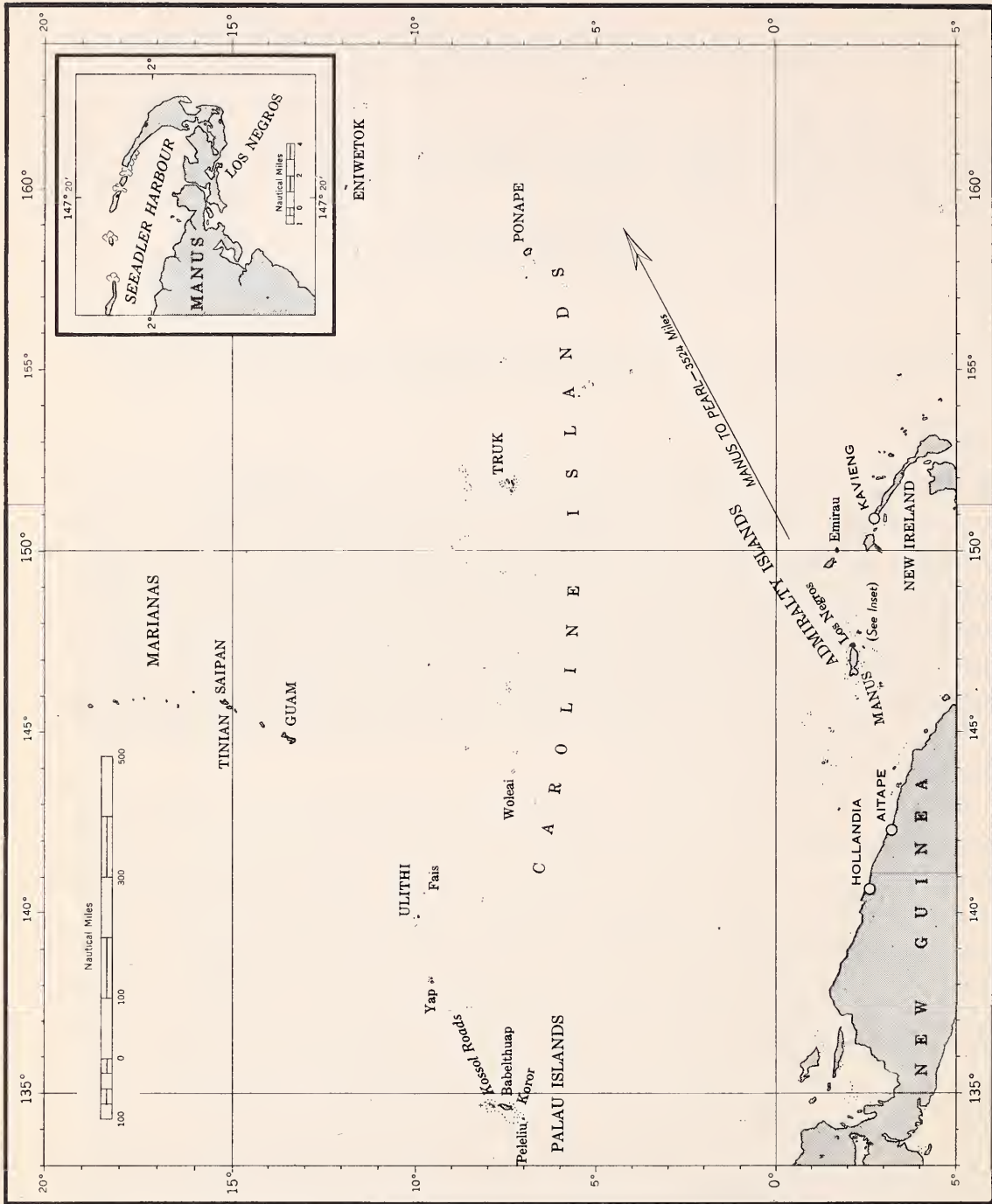
CHAPTER XVI

Stalemate II: The Western Carolines Operation

Preparations at Seeadler Harbor and Eniwetok

IMMEDIATELY FOLLOWING THE CAPTURE of the Marianas, the Western Carolines operation was planned to gain control of the last link dividing our Central from our Southwest Pacific Force, which had been operating independently since 1942. Control of the Western Carolines group would give the Allied forces a direct line of advance westward to the eastern approaches of the Philippines and the Formosa-China coasts. Every major command in the Pacific area participated in the operation, with an estimated force of 800 vessels, 1,600 aircraft, and 250,000 Navy, Marine, and Army personnel.

As early as 29 May 1944, Commander Third Fleet was directed to initiate planning and preparations for seizing the islands in the Palau group. Observers were sent to the Marianas to profit by any lessons that campaign might teach. Admiral Halsey, commanding the Third Fleet, was designated Commander Western Pacific Task Forces and given additional responsibility for emergency support of the Southwest Pacific Forces under Vice Admiral T. C. Kinkaid, employed in the capture of Morotai. Vice Admiral T. S. Wilkinson, commanding the Third Amphibious Force, was named Joint Expeditionary Force Commander (Task Force 31) to conduct landing operations. Major General J. C. Smith, USMC, Commander Third Amphibious Corps, was named Commanding General, Expeditionary Troops (Task Force 36). Vice Admiral Mark A. Mitscher provided air support with his Fast Carrier Task Force 38. Because the seizure of Saipan had proved more difficult and time consuming than had been estimated, and the consequent deployment of forces had been delayed, the original Stalemate order of May 1944 was



Caroline Islands

canceled and a new plan known as Stalemate II was issued on 7 July. By this plan, 15 September 1944 was designated as D-day, when initial landings would be made simultaneously on Peleliu Island in the Palau group by the Central Pacific Forces, and on Morotai Island, 480 miles to the southwest, by the Southwest Pacific Forces.

Seeadler Harbor, Manus. On 30 July 1944, representatives of Central Pacific Forces, headed by Commodore A. G. Quynn, met at Naval Base Manus, Admiralty Islands, with representatives of Commander Seventh Fleet, Commander Southwest Pacific Forces, and Naval Base Manus to discuss logistic support of Third Fleet units using Manus as a base in the Western Carolines operation. As a result, Captain S. B. Ogden was ordered to Manus as Commander Service Squadron Ten representative, bringing with him units necessary to service Third Fleet vessels. He left Kwajalein in the Marshalls on the *Argonne*, Commander T. H. Escott, on 21 August and reached Seeadler Harbor on the 27th to set up his mobile base, using the *Argonne* as his flagship.

Commander Third Fleet's logistic plan for Operation Stalemate II, covering the capture of Peleliu, Ngesebus, Anguar, and Ulithi required that there should be available in Seeadler Harbor one 90,000-ton floating drydock, one 1,000-ton floating drydock, one destroyer tender, one repair ship, two 3,000-ton floating drydocks, and four floating workshops—two for hulls, two for machinery repairs. Besides these, there were added from time to time two destroyer tenders, one repair ship for internal combustion engines, four station tankers, one repair ship, two covered lighters, one water and one fuel oil barge, and two pontoon cranes.

Captain Ogden's responsibility, as Representative "A" of Commander Service Squadron Ten in charge of this Seeadler detachment, was to administer its activities in rendering logistic support. An example was the requirement that 24 oilers be present there for the striking forces, and the further requirement that the Area Petroleum Office of ComServPac effect delivery of 4,150,000 barrels of fuel oil at Manus in equal amounts throughout September. On 20 August 12 oilers left Eniwetok for Seeadler, carrying approximately 1,200,000 barrels of naval special, 84,000 barrels of Diesel oil, and 4,500,000 gallons of aviation gasoline. Commander ServRon Ten at Eniwetok immediately began preparations to send the second contingent of oilers, which left on the 27th and reached Seeadler the 31st. Captain Ogden handled the assignment of the tankers and apportioned delivery of fuel and petroleum products. He similarly administered the supply of fresh and frozen foods, dry provisions, dry stores, ammunition, fresh water, medical

items, fleet freight, aviation supplies, and last but not least, repair facilities.

Following the *Argonne* to Seeadler on 27 August were the unclassified vessels *Silver Cloud*, *Caribou*, *Arethusa*, and *Armadillo*, the water barge *YW-90*, and the ocean tug *Tern* towing the concrete barge *YO-186*. The *Caribou* brought 65,000 barrels of fuel oil, the *Silver Cloud* 85,000 and the *Arethusa* 65,000; the *Armadillo* 24,000 barrels of Diesel oil and 1,770,000 gallons of aviation gasoline. *YW-90* held 280,000 gallons of water, and the concrete *YO-186* 55,000 barrels. The fleet tug *Tawasa* towed in the floating drydock *ARD-19*, while the auxiliary ocean tug *ATA-122* arrived towing the barges *YF-681*, filled with boatswain's stores of manila and wire line, blocks, tackle, mooring gear, etc., and *YF-787* with general stores. Bringing in the drydock also meant bringing her in full, for while being towed from port to port her docking space furnished a wealth of cargo room for all sorts of equipment. On her trip from Eniwetok the *ARD-19* carried the little harbor tug *YTL-208*, 2 pontoon crane barges, 20 LCM's, and 20 LCVP's. Except for the crane barges all these were self-propelled, but none could have made its way across the ocean under its own power. Most of Ogden's detachment was sent down from Kwajalein and Eniwetok. Crane barges, small tugs, and landing craft were vital necessities for supply services within a harbor, and had to go forward. We shall see later how the *ARD*'s continued their usefulness as "moving vans" in the shifting of a service squadron westward.

The Forces. Some idea of the magnitude of Stalemate II may be had by considering the tremendous forces involved, so far the greatest naval-military effort. Besides 14 battleships, new and old, 16 carriers, and 20 escort carriers, 22 cruisers, 136 destroyers, and 31 destroyer escorts, the attacking fleets included every manner and type of amphibious and supporting craft, large and small, to the grand total of 712 vessels. This without counting the various service ships as assigned, or the more than 400 units engaged in Operation Interlude for the capture of Morotai simultaneously with the landings on Peleliu on 15 September.

The land-based forces, designated as Task Force 36, were composed of two parts—the Western Landing Force, or Third Amphibious Corps, and the Eastern Landing Force. The Western included the First Marine and the 81st Infantry Divisions, the Eastern the 7th and 96th Infantry Divisions. The Floating Reserve was the 7th Infantry Division, and the General Reserve was the Fifth Marine Division.

The First Marine Division was loaded in the Guadalcanal-Russells

area, and was joined for final rehearsals late in August by the 81st Infantry Division. The latter had been mounted in Hawaii and moved to Guadalcanal in two convoys, the LST's and slower escorts leaving first, the transports following. The entire assault force sailed to the objective in two convoys on 4 and 8 September. The Eastern Landing Force of XXIVth Corps left Hawaii 15 September for Eniwetok to participate in Phase II, but when that portion of the plan was canceled except for the seizure of Ulithi it was sent on to Manus to prepare for Operation King Two, the Philippines. One regimental combat team of the 81st Infantry Division proved sufficient to secure Ulithi.

In his Operation Plan 14-44, Admiral Halsey prescribed that "all combatant and auxiliary ships will avail themselves of every opportunity to procure stores in advance of this operation to insure departure for operating areas" with ammunition, fuel, and fresh provisions to maximum authorized capacity, dry provisions not to exceed 120 days for ship's company and 60 days for embarked troops, and general stores, clothing, ship's stores stock, and medical stores for 120 days each.

Operational control of support shipping for the operation passed to Commander Third Fleet on the arrival of the vessels at Manus and Eniwetok, and such ships were given Third Fleet Task Group designations. Provision stores ships, general stores issue ships, and cargo ships carrying dry provisions used in support of fleet units, were fleet issue loaded. All fleet tanker were directed to load with half capacity cargoes of Diesel oil and aviation gasoline but with fuel oil to the maximum draft. Large ships were expected to furnish provisions to small ones when necessary. Since it seemed probable that rationing of fresh and frozen provisions would be unavoidable, cruisers, battleships, and carriers were provisioned on the basis of serving at least one complete dry ration every sixth day. The units designated for logistic support of the Third Fleet were the Fleet Oiler and Transport Group (Task Group 30.8) under Captain J. T. Acuff, and the Service Group (Task Group 30.9) under Commodore W. R. Carter of Service Squadron Ten, based principally at Manus and Eniwetok.

August was a busy month at Eniwetok. The provisions stores ship *Arctic* had arrived 30 July and during the first part of August discharged her cargo of 1,600 tons of fresh and frozen provisions. She was the first ship to arrive whose cargo was made up in 5-ton issue units. She returned to Pearl for reloading and reached Manus 20 September, just in time to replenish vessels which had taken part in the initial phase of Stalemate.

On 10 August the provision ship *Aldebaran* reached Eniwetok, dis-

charged 1,670 tons of fresh and frozen provisions and 1,083 tons of dry provisions before sailing back to Pearl and the west coast on the 16th. By 25 September she was back at Manus. Also arriving at Eniwetok 10 August was the cargo ship *Azimech* with a load of 4,591 tons, of which 4,000 were dry provisions. Between 11 and 23 August she issued 3,978 tons of dry provisions to 65 ships; 262 tons of canteen stores to 44 ships; 55 tons of clothing and small stores to 27 ships; and 26 tons of medical supplies to 93 vessels. On 25 August she sailed for San Francisco to reload.

During this same period the *Antigua* reported issuing 1,770 tons of fresh and frozen foods to 55 ships, averaging 322 tons a day. The *Bridge* arrived at Eniwetok 19 August and by the 24th had issued 890 tons of fresh, frozen, and dry provisions, an average of 245 tons a day. She returned to Pearl for reloading and entered Eniwetok again, 21 September. The *Boreas* brought from Pearl 2,770 tons of fresh and frozen provisions, 460 tons of dry provisions, and 100 tons of ship's store stock, clothing, and small stores. Between her arrival 26 August and her departure for Pearl 2 September she unloaded a total of 555 tons of cargo every day. She was back again 10 October with fresh supplies. The Navy cargo ship *Ascella* received a general fleet issue of dry stores at the Naval Supply Depot Oakland and on 15 August anchored at Eniwetok to begin issuing to Task Force 38. She remained until 16 September, then went to Pearl for replenishment.

The administration and distribution of the food by Service Squadron Ten, particularly the fresh and frozen food, posed numerous problems, and called for the greatest mixture of diplomacy, humility, and tough firmness. There never was enough fresh and frozen food to satisfy anyone—not even those who got the most. Often there was a shortage of some item, bringing forth an immediate complaint which had to be dealt with, sometimes by substitution bribery. This was at a time when the squadron commander was having to disperse his staff, already small, to make up detachments at Saipan, Guam, and Seeadler faster than Calhoun could send him replacements.

Commander Service Squadron Ten at Eniwetok reported on 9 September that all fresh and frozen food had been exhausted late in August and no more was expected for general distribution until early October. On that date the commander of a Marine unit requested much-needed fresh vegetables and meat for his forces but had to be content with a supply of emergency B rations for them as they departed for Palau.

The concrete IX's *Silica* and *Carmita* at Eniwetok were used to issue

fresh, frozen, and dry provisions when activity was at its height. A resupply, however, did come into Eniwetok before Carter expected it. On 25 September when the amphibious forces of the XXIVth Corps, intended for Phase 2 of Stalemate II, came in for replenishment, the *Bridge*, *Antigua*, and *Cheleb* were on hand. The *Bridge* issued 885 tons of fresh and frozen provisions and 570 tons of dry provisions to 121 ships in 2 days, the *Antigua* 994 tons of fresh and frozen provisions to 110 ships during the same period, and the *Cheleb* 450 tons of dry provisions to 96 ships of the Amphibious Task Force 31.

General Stores. Several general stores issue ships were available at Eniwetok during replenishment of the Third Fleet preceding Stalemate. The *Talita* issued stores from 24 July to 15 August, when she left for reloading at Noumea and Espiritu Santo, returning to Eniwetok 24 September. The *Luna* brought in general stores 21 August, discharged, and sailed 6 September to reload at Noumea and Espiritu, whence she proceeded to Manus and later in October to Ulithi. The concrete IX's *Trefoil* and *Quartz* were used to issue general stores at Eniwetok, maintaining continuous supplies at the anchorage while one or more of the general issue ships retired to their source of supply for refilling.

The *Castor* reached Manus 18 September, remaining there until 17 October supplying general stores to ships returning for replenishment. Then she went to Ulithi. The *Volans* and *Antares* furnished general stores to Third Fleet ships staging through the South Pacific area in August. The former went to Manus 5 October and thence to Ulithi 24 October, but the *Antares* remained in the Guadalcanal-Tulagi area to resupply ships withdrawing from Palau after D-day. General stores for the Southwest Pacific operations were available from both shore points and several general stores ships. The *Pollux* was one such ship which, during August and September, put in at bases in the Southwest Pacific area.

Aviation Spare Parts. The Aviation Supply Depot at Manus Shore Base was one of the principal sources of aviation spare parts. The other was the *Fortune*, which arrived at Seadler Harbor from Kwajalein 17 September and remained until 2 October to supply carriers and other vessels returning from combat. Spare parts were also to be had at the Aviation Supply Depots at Roi, Espiritu Santo, and Guadalcanal.

Repair and Maintenance

Our pace against the enemy was rapidly increasing. Ships which had participated in the Marianas had to be speedily overhauled and replen-

ished. A great number went to Eniwetok, where Service Squadron Ten was in readiness. Others proceeded to bases in the South Pacific—Tulagi, Guadalcanal, or Espiritu Santo—while additional ones were serviced at Manus, Saipan, Guam, Kwajalein, and Pearl. Still others, especially landing craft, needing some work, came from new construction at home.

The Stalemate operation plan provided that all major bases in the South and Central Pacific areas would be used during and subsequent to the operation. At Espiritu Santo was the *ABSD-1*, the 90,000-ton floating drydock for repairing battleships and large carriers. After the collision between the *Tennessee* and *California* en route to Espiritu on 23 August, the latter entered the dock for repairs. The *Tennessee*, less seriously damaged, moored in Second Channel with the repair ship *Aristaeus* alongside for assistance. As facilities were already taxed by a heavy repair schedule, workmen were brought in from other South Pacific bases, so that the *Tennessee* was made ready in a week, the *California* within 2 weeks. The 18,000-ton floating drydock *YFD-21* was also at Espiritu for servicing cruisers and escort carriers. Other facilities included the 1,000-ton drydock *AFD-14*, the 3,500-ton *ARD-5*, and three floating workshops—*YR-47*, *YRD(H)-1* for hulls, and *YRD(M)-1* for machinery.

The Mindanao, a repair ship for internal combustion engines, was at Espiritu during August and until 13 September, when she proceeded to Manus for duty with ComServRon Ten. On 28 August the *Briareus* reached Espiritu Santo to assist the disabled *California*, after whose departure she went to Manus, arriving there 26 September. Besides all this, shore facilities were available in the form of a Ship Repair Unit and one for boat repairs. The latter reported intense activity during August, with 24 hours a day being worked on two 12-hour shifts.

In the Tulagi-Purvis Bay region as many as 255 ships were present at once, with ship movements averaging 122 daily during the last week of August. Here were the 3,500-ton floating drydock *ARD-14*, the 1,000-ton dock *AFD-13*, and the floating workshop *YR-46*, augmented later by the destroyer tender *Dixie* and the battle-damage repair ship *Oceanus*, both of which were at Purvis Bay until 10 September. The latter went to Manus 14 September and thence to Kossol, the *Dixie* eventually reaching Ulithi 30 September. The heavy-hull repair ship *Jason* stayed at Tulagi until 11 September and then reported to Squadron Ten at Manus. The repair ship *Prometheus* was anchored at Iron Bottom Bay, Florida Island, during August and early September giving steam, electricity, and fresh water to vessels in port. She also furnished medical, surgical, and dental services to naval and merchant vessels, leaving for

Manus 12 September, remaining there from the 16th to the 25th, when she proceeded to Kossol Passage.

The internal-combustion-engine repair ship *Tutuila* reached Purvis Bay from Eniwetok 8 August and remained there until after the Palau engagement. The *Cebu* was at Guadalcanal in late August, servicing vessels staging in that area, and 10 September arrived at Manus, where she based for several months. The destroyer tender *Whitney*, after being at Espiritu Santo from 10 to 23 August, reached Guadalcanal on the 29th, repaired several vessels of Task Force 32, and left 10 September for Manus. She also furnished dental work for 346 men during August, September, and October.

Shore repair facilities in the Solomons area included a large boat maintenance unit (Turner City), and Landing Craft Repair Units 1 (Carter City) and 2, respectively, at Tulagi-Purvis Bay and Renard Sound. The Tulagi unit reported that in September it repaired 383 ships, including 4 battleships, 1 large carrier, 2 heavy cruisers, 9 destroyers, and 16 destroyer escorts. Turner City repaired literally hundreds of landing craft.

In the Central Pacific area, by far the greatest activity centered about Service Squadron Ten at Eniwetok. On 1 August the ships included four destroyer tenders, four repair ships of different types, one battle-damage repair ship, two 3,500-ton floating drydocks, two others of 1,000 tons each, and one floating workshop. Activity here reached its peak in the middle of the month. On 16 August 401 ships were in the port. This number gradually diminished as large fleet units, especially Task Force 38, were replenished and sent forward. On 1 September 249 ships were in port. During this period all the floating equipment was still at Eniwetok except for the *Tutuila*, which reported 8 August to the Service Force South Pacific at Purvis Bay. Meanwhile the floating dock *ARD-23* had arrived at Eniwetok 7 August. During that month the *Ajax* reported services or repairs to 9 battleships; 1 large carrier, 1 light carrier, and 1 escort carrier; 15 light cruisers and 5 heavy cruisers; 3 destroyers; 26 destroyer escorts; 7 motor mine sweepers; 5 large mine sweepers; and 47 miscellaneous smaller craft. In the midst of this servicing of ships for Stalemate an epidemic of dysentery broke out on board, grew steadily worse, and it was feared the whole anchorage might be infected. Consequently the *Ajax* was sent to Kwajalein to stay until her quarantine could be lifted. One hundred ninety-five of a crew of approximately 1,100 were affected and 2 deaths reported. The ship returned to Eniwetok 21 October and went back into full service at Ulithi in November.

The *Prairie* performed tender service for destroyers at Eniwetok, and

in addition overhauled the main engine and auxiliaries of the barracks ship *Orvetta* while moored alongside during the entire month of September. The work, and alterations for office space, was completed 3 October, preparatory to moving to Ulithi.

Until 5 September the destroyer tender *Piedmont* was busy at Eniwetok, then sailed for Seeadler Harbor to become part of Task Group 30.9.

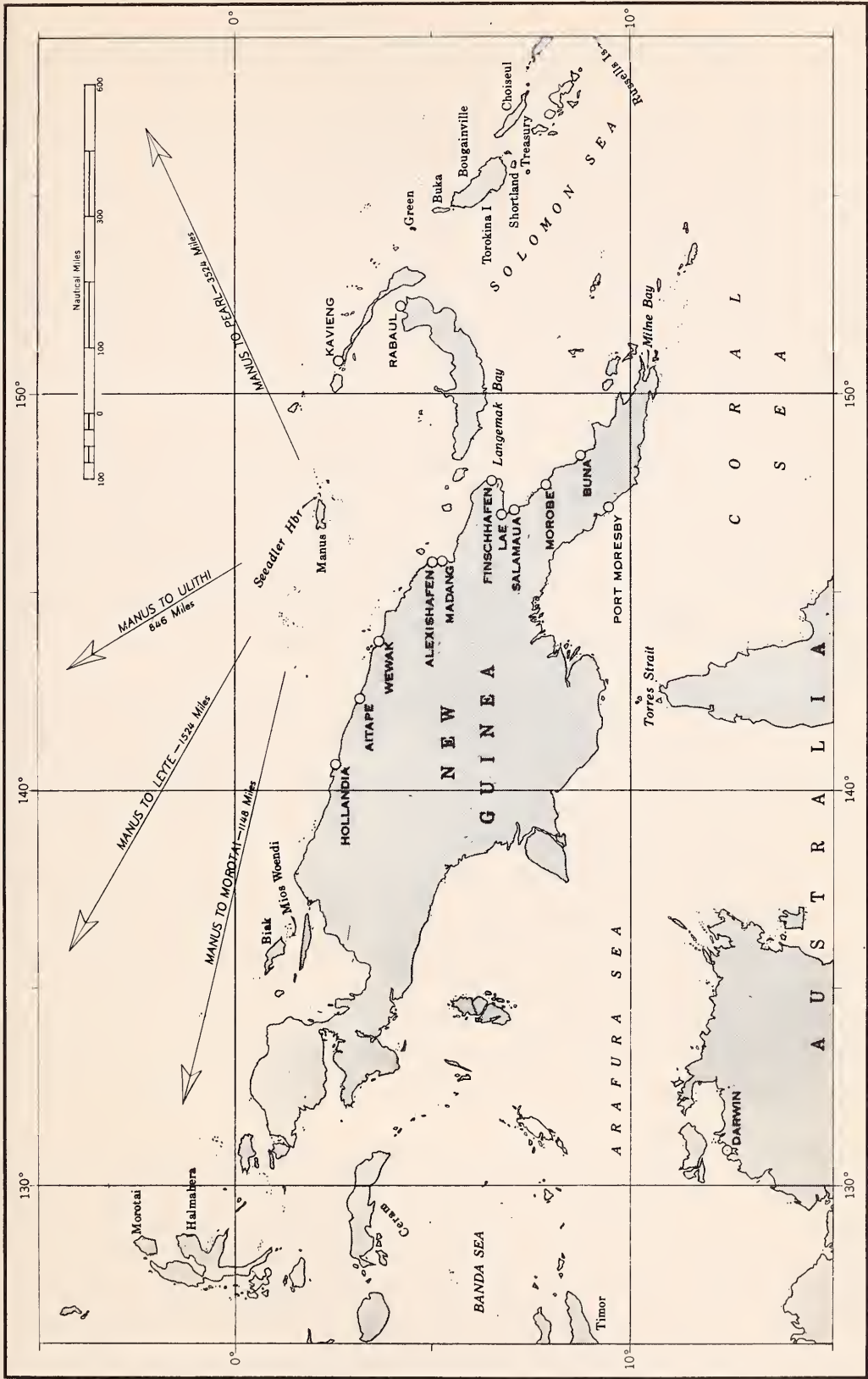
Limited repair facilities for Stalemate forces were available at Kwajalein from Squadron Ten. Several 1,000-ton floating drydocks were used chiefly for repairs to small craft.

At Kwajalein, Captain H. A. Houser assumed Ogden's duties, using the *Luzon*, a gasoline- and Diesel-engine repair ship, as flagship. She stayed at Kwajalein until 2 September effecting repairs, assisting in the maintenance work done by the 1,000-ton floating drydock *AFD-17*, and delivering fuel, water, and stores. On the 4th she arrived at Eniwetok and thence proceeded to Guam, where Captain Houser became ComServRon Ten representative. Lieutenant J. B. Koeller, in the *Gazelle*, assumed Houser's duties at Kwajalein. Other repair services in the Central Pacific were available at Guam, Saipan, Tarawa, and Majuro, but were somewhat more limited than those described.

Southwest Pacific forces participating in the Morotai landings had access to the fleet anchorage at Seeadler Harbor, Manus, where a large ship-repair shore base capable of hull and engine work on all classes had recently been put into operation at the naval station. A mobile amphibious repair base for maintenance and repair of hulls and engines of landing ships and landing craft was set up in September 1944 as Floating Repair Unit 3. Drydocks, also shared by Third Fleet ships, included one of 90,000 tons, two of 3,500 tons each, one of 1,000 tons, one hull floating workshop, and one machinery floating workshop. On 4 September two more floating drydock-workshops were added to the Manus facilities. In addition, there were the repair services of the destroyer tender *Whitney* and the repair ship *Medusa*.

The port of Sydney, Australia, had facilities for major and minor repairs on all types of naval vessels, Brisbane commercial facilities for general ship repair and docking of medium-size craft, and Cairns equipment for handling ships of destroyer size and smaller, though destroyers could not be drydocked. The repair base at Milne Bay could also handle vessels up to and including destroyers, while Finschhafen had a mobile amphibious repair unit, a PT base, and a 1,000-ton-capacity drydock under Army operational control.

Floating Repair Unit 1 based at Madang-Alexishafen, and was com-



New Guinea (and small part of Australia).

posed of a 3,500-ton drydock, several AFD's of 1,000 tons, and hull and machinery workshops. Repair ships included the *Rigel*, *Midas*, *Culebra Island*, *Achilles*, and *Remus*. At Hollandia there were a destroyer-repair base and Floating Repair Unit 2, with a 3,500-ton drydock, 1,000-ton drydock, and several tenders and repair ships. Woendi had an advanced PT base, with floating equipment of several tenders and tugs. Boat-repair units were at Green Island, New Georgia, Torokina, and Treasury Island.

Before D-day the campaign opened with a diversionary strike against the Volcano and Bonin Islands from 31 August to 2 September by Task Group 38.4 under Rear Admiral R. E. Davison, afterward striking Yap on 6–8 September. Simultaneously Task Groups 38.1–2–3 conducted preliminary bombardment and air attacks against the principal Palau Islands, then turned their attention to Mindanao in the Philippines on 9 and 10 September. Air bases in this area were the closest which could be considered threats to the coming campaign. From Yap, Task Group 38.4 took over further neutralization of Palau targets 10 September, after the three task groups had launched the Mindanao raids. These three groups struck the Visayas—Leyte, Samar, and smaller islands—12 to 14 September.

The Visayas strikes disclosed such Japanese weakness in this area that last-minute changes were made in the 7 July operation plans. Yap was to be bypassed, and Ulithi seized as soon as possible to provide a fleet anchorage. Seizure of the Leyte-Samar area, originally scheduled for 20 December, was moved up to 20 October.

On 13 September Task Group 38.1 was detached to cover the Morotai assault, with D-day only 2 days away. Landings were effected with little or no enemy resistance, so by the afternoon of the 16th the group retired to join the other two. All three rendezvoused on the 18th, proceeded to Luzon, and conducted diversionary strikes on the 21st and 22d. Returning, they struck the Visayas again on the 24th and retired to replenishment bases. Meantime Task Group 38.4 had been covering the Palau area.

Notwithstanding the last-minute changes in operation plans, all land-based forces for Palau got under way on schedule. The leader of the assault forces, the First Marine Division, landed on Peleliu Island 15 September. Despite stiff opposition, the airfield was captured by the second day. On the 17th, operations were initiated against Anguar Island. After it was in hand, landings were made at Ulithi 23 September. Though our naval and gunfire support groups were alerted, only one regimental combat team of the 81st Infantry Division was needed

because the Japanese had previously evacuated the atoll.

Logistic Support in Stalemate II. Stalemate II was the largest operation attempted thus far in the Pacific war. As already indicated, every effort had been made to avoid errors noted in the Marianas operation. Much preliminary planning had to be done, with last-minute changes inevitable, for logistic support of the fleet was becoming increasingly complex, since emphasis was being placed on the mobility of the striking and covering forces whose primary task was to exploit enemy weaknesses and to seek opportunities to engage a major portion of his fleet.

The general concept of the operation provided that combat forces of the Third Fleet should cover the movements of the Joint Expeditionary, or assault, Force. The logistics for these two had to be undertaken independently, though both used Manus and Eniwetok for resupply.

The three major commands which provided logistic support to Stalemate II were Commander Service Force Pacific, Commander Air Force Pacific, and Commander South Pacific Force. General MacArthur, as Commander in Chief of Southwest Pacific, was to furnish limited support if necessary. Actually he had his own "show" to run with the Morotai landings, to which naval support was given by Admiral Kinkaid's Seventh Fleet.

No attempt will be made to describe in detail the amount and variety of supplies issued and services performed within busy Seadler Harbor in support of the fleet, but examples of several units can be given, the parts they played related to give type pictures.

CHAPTER XVII

Logistic Support at Seeadler and at Sea

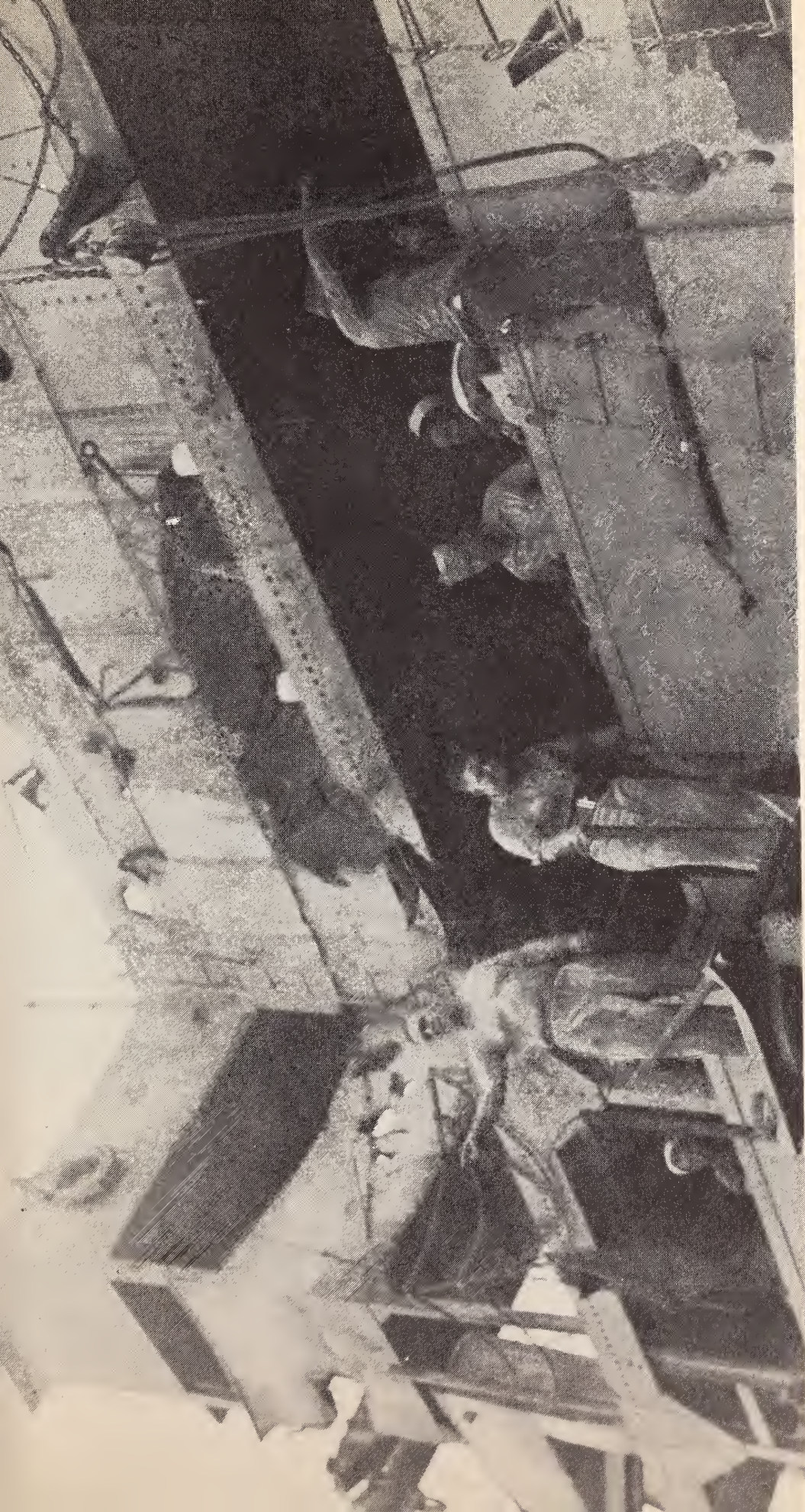
Service Unit at Seeadler—Oilers with the Fast Carrier Group—Ammunition, Smoke, Water, Provisions, Salvage

ON 10 SEPTEMBER 1944 the destroyer tender *Piedmont*, Commander M. D. MacGregor, from Eniwetok, and on the 14th the tender *Sierra*, Captain P. B. Koonce, from Espiritu, reported to Captain Ogden, commanding Task Unit 30.9.1, at Seeadler, issued supplies, and serviced ships alongside and at anchor. On the 15th the repair ship *Prometheus*, Captain C. C. Laws, arrived and did routine repairs for a week before moving on to Kossol Passage. She also furnished medical, surgical, and dental services to both naval and merchant vessels, as did other ships, for where large numbers of ships crowded with human beings are gathered, the occurrence of sickness and injuries was inescapable, and many vessels had no medical department other than a hospital corpsman and a medical kit. On 18 September the *Castor*, a stores issue ship, Captain F. C. Huntoon, arrived and for more than a month issued stores to 143 fleet units.

U. S. S. Jason. In the middle of September the *Jason*, Commander E. F. Beck, came from Purvis Bay, assumed her heavy-hull repair duties at Seeadler, and performed her first major job on the *Millicoma*, which had been in collision but somehow managed to creep into the harbor under her own power. This oiler had taken the blow on her starboard quarter at her steering-engine room and been opened for 40 feet. Her 5-inch and 3-inch gun platforms had been demolished. Torn and twisted metal had to be cut away and bulkheads and decks sealed. By working around the clock the energetic officers and crew of the *Jason* finished the job in 9



Ships in Seeadler Harbor, Manus Island, in the Admiralty Islands.



Argonne damaged by the blowing up of the Mt. Hood.

days, and with her steering-engine room in full commission again the *Millicoma* sailed for Terminal Island, California.

While still at Manus in October, the *Jason* had another collision repair job. This time it was the tanker *Esso Balboa*, of Panamanian registry. The bow of another vessel had penetrated the starboard bow of the tanker to a maximum depth of 30 feet and the shell plating was ripped to about 8 feet below the load water line, while a 40-mm. gun had been torn from its base and the degaussing, light, and power cables cut. Working on a 24-hour basis again, the *Jason* finished the job in 14 days. Fifteen thousand man-hours and 55,000 pounds of steel were put into this job. Such was the "on the spot" efficiency of emergency repairs from floating equipment.

U. S. S. Mindanao. The internal-combustion-engine repair ship, *Mindanao*, Captain G. B. Evans, arrived in Seeadler from Espiritu Santo 18 September, reported to Captain Ogden for duty, and made repairs on destroyers and destroyer escorts, ammunition ships, cargo vessels, mine sweepers, carrier escorts, operations headquarters ship, landing ships (tank), patrol craft, and landing craft (infantry) steadily until 10 November. That day the *Mount Hood*, an ammunition ship, anchored 1,100 yards from Captain Ogden's flagship, the *Argonne*, blew up. The *Mindanao*, only 350 yards away, was badly damaged, besides having 23 killed and 174 wounded. The *Medusa* donated 17 units of blood plasma, came alongside the riddled ship and made structural, electrical, and miscellaneous engineering, radar, and radio repairs. The *Mindanao*, having cared for so many vessels, now had to have treatment herself. It was like having the family doctor confined to the hospital. However, after about a month's "hospitalization" the *Mindanao* was back on duty and resumed her repair services to the fleet. During the last 10 days of December she serviced 20 ships of various types at Manus. Captain Ogden's flagship, the *Argonne*, also suffered from the disintegrating explosion, with personnel casualties, a 12-inch searchlight destroyed, 5 transmitting antennas broken away, and steam, fresh-water, and salt-water lines ruptured.

U. S. S. Lassen. The ammunition carrier *Lassen*, Commander J. E. Wade, reached Seeadler 10 September to make issues to ships needing them; 5-inch .38-caliber flashless and nonflashless, 20- and 40-mm. ammunition, 100-, 200-, 1,000-, and 2,000-pound aircraft bombs, tail vanes, safety clips, arming wires, and tail and nose fuzes were delivered. The *Lassen's* skillful crew, reinforced by 30 men Captain Ogden had sent while she was at Manus, worked expeditiously. At 9:40 a. m. 21

September the light cruiser *Biloxi* came alongside to starboard; at 10:50 a. m. the heavy cruiser *New Orleans* to port. By 2:35 p. m. the *Biloxi* had taken 717 6-inch 47-caliber projectiles, 350 detonating fuzes, and 10 catapult charges. At 4:35 p. m. the *New Orleans* cleared after receiving 1,202 5-inch 25-caliber charges, 100 8-inch 55-caliber projectiles, and 82 catapult charges. It need scarcely be said that the handling of projectiles, powder, and fuzes and detonators requires the utmost care at all times, and especially when the transfer is made between two vessels at anchor. Some of the unsung heroism of the war is to be found in the officers and men of ammunition ships. When working their deadly cargoes to service the fleet, sometimes close to enemy action, they went about their perilous duties without fanfare or boast, and more than once checked imminent disaster by quick and extremely courageous action.

U. S. S. Pamanset. As provided for in Admiral Halsey's operation plan the *Pamanset*, Commander D. J. Houle, was one of those assigned to Task Group 30.8, fleet oiler and transport carrier group under the command of Captain Acuff. She left Manus 1 September, fueled the light cruiser *Reno*, the small carrier *Langley*, and three destroyers at sea. Next day she serviced the light cruiser *Birmingham* and two destroyers, dispensing 23,559 barrels of fuel oil and 15,000 gallons of gasoline. Returning to Seadler Harbor, where the commercial tanker *Fort Bridges* was anchored, she took aboard 26,561 barrels of black oil and on the 12th was at sea again for her fueling rendezvous. On the 15th and 16th she fueled the cruiser *Santa Fe* and five destroyers at sea, delivering 23,386 barrels of oil and 380 barrels of Diesel fuel. Still at sea, she replenished her supply by taking 21,996 barrels of oil and 11,416 gallons of gasoline from the oiler *Kaskaskia*. Making rendezvous with Task Group 38.1 she fueled the carriers *Wasp* and *Hornet*, the cruiser *Boston*, and seven destroyers with 14,435 barrels of fuel and 34,860 gallons of gasoline. Before returning to Seadler she replenished the fleet oiler *Enoree* with fuel oil, Diesel oil, and aviation gasoline.

Again at Seadler 24 September she filled up from the commercial tanker *Bull Run* with 44,788 barrels of fuel. Captain Ogden's station oiler, the *Armadillo*, gave her 1,517 barrels of Diesel oil and 257,292 gallons of gasoline. On the 28th she went alongside the light carrier *Monterey* in the harbor and gave her 8,054 barrels of oil and 28,980 gallons of gasoline. On the 28th she pumped 6,789 barrels of fuel and 22,974 gallons of gasoline into the light carrier *Cowpens*. This gives in some detail the oil picture for one ship for one month, with commercial tanker bringing cargo out from the United States and station tanker at

the fleet anchorage operating under a service squadron unit, each ship carrying out separate functions to support current operations.

U. S. S. Arctic. At Manus from 20 to 30 September the *Arctic*, Lieutenant Commander C. R. Frasier, issued dry and small quantities of fresh and frozen foods to ships present, and in October provided officers, winchmen, hatch tenders, and supply personnel to make fleet issues of fresh and frozen provisions from the *S. S. Bluejacket*. The introduction of this large merchant reefer ship was of great significance for future logistic support of fleet operations, as she was the first of her type to be used for fleet issues. In 6 days she gave out 3,800 tons of fresh and frozen provisions.

Fueling Activities of Task Group 30.8

All fleet oilers under CinCPac, except those assigned to Northern Pacific forces or undergoing overhaul, were used in support of Stalemate II. They were to operate with the Third Fleet, beginning 20 August, to fuel all ships during the operation. Intensive preparations had been going on at Eniwetok during August to get them ready, and on the 19th Commander Service Squadron Ten reported that the first contingent of 12 ships was being given last-minute services preparatory to sailing for Seeadler Harbor, which was to serve during Stalemate as a principal resupply base. Squadron Ten's oilers had before that been designated as Fifth Fleet Task Group 50.17, but on departure for Seeadler assumed a new designation: Task Group 30.8. Its composition changed repeatedly during the operation through the necessity of returning empty oilers to advanced bases for refilling and return.

On 20 August the first oiler group of 4 units of 3 oilers each left Eniwetok with 1 escort carrier and 10 escort vessels. Captain Acuff was in command on the destroyer *John D. Henley*. On reaching Seeadler Harbor 26 August he reported the task group carried 1,149,000 barrels of fuel oil, 79,000 barrels of Diesel fuel, and 4,749,000 gallons of aviation gasoline.

The arrival of the *Caliente* at Eniwetok from Pearl on 24 August completed the second oiler group. Besides her standard load she brought hose for the fleet tankers. This second group formed Task Unit 30.8.14, further divided into smaller units numbered 30.8.5-6-7-8. Captain W. T. Rassieur had over-all command in the escort carrier *Sargent Bay*. After completing their loading, the 12 oilers left Eniwetok 26 August with 2

escort carriers, 2 destroyers, and 7 destroyer escorts as screen, reached Seeadler 31 August, and reported to Captain Acuff for further disposition.

On 1 September, Task Units 30.8.1, 30.8.2, and 30.8.4 left Seeadler for the first fueling operations of the current campaign upon rendezvous with Task Force 38. They delivered mail to various units, fueled them on the 2d and 3d, and on the 5th returned to Seeadler for reloading and orders, having delivered 85,000 barrels of Navy special fuel, 1,000 barrels of Diesel oil, and 132,000 gallons of aviation gasoline. Task Force 38 (less Task Unit 38.4) meanwhile proceeded to the vicinity of Palau, where preliminary strikes were conducted 6 to 8 September. Task Units 30.8.5 and 30.8.6, having left Seeadler 4 September, fueled Task Force 38 near Palau on the 8th, prior to the latter's departure for the Mindanao raids.

On the 6th, Task Units 30.8.3 and 30.8.12 (composed of two carrier escorts and two destroyer escorts) sortied from Seeadler for rendezvous with Task Group 38.4, returning from Yap. On 9 September the oilers issued 88,000 barrels of Navy special fuel and 258,000 gallons of aviation gasoline to the task group east of Yap, after which the latter took over further neutralization of Palau.

Task Unit 30.8.8, the *Schuylkill*, *Millicoma*, and *Pecos*, remained at Seeadler until the 8th, then left to fuel Admiral Wilkinson's Task Force 32. While under way to the forward area the *Millicoma* collided with the *Schuylkill*, but both ships conducted fueling operations as scheduled. The latter's war diary reported: "Part of *Schuylkill* fueling was done with only two fueling pumps and one boiler—auxiliary generator had broken valve stem and unable to supply power. Used steam on one fueling pump, and cut out one boiler to cut down load. No one apparently noticed any difference." Several days later the two ships received orders to return to Seeadler for repairs. They were completed on the *Schuylkill* by 30 September by ComServRon Ten, but the *Millicoma* was later returned to the west coast.

Between the 12th and 16th the four groups of Task Force 38 were fueled at sea with 247,000 barrels of Navy special fuel, 1,000 barrels of Diesel oil, and 712,000 gallons of aviation gasoline. Throughout the operations, oilers with remnant cargoes consolidated them with other oilers before returning for reloading. The operation plan provided that "empty oilers or those with less than 15,000 barrels of black oil" should be returned to Seeadler or Eniwetok for reloading. Consequently there was constant shifting in and out of the fueling areas. At Seeadler, Service Squadron Ten's representative, Captain S. B. Ogden, reloaded the



The Boston fueling a destroyer.

empties from commercial tankers or shore storage. To insure emergency reserves of fuel there and to expedite the turn-around of tankers to forward areas, he also had several unclassified storage tankers and barges sent from Eniwetok, among them the *Arethusa*, *Silver Cloud*, *Caribou*, and *Armadillo*. Upon reloading, Captain Ogden regrouped the oiler task units and directed them to scheduled fueling areas or to rendezvous with Commander Task Group 30.8, who remained in the destroyer *John D. Henley* at sea in the forward area.

Task Unit 30.8.7 was retained at Seeadler by Commander Task Group 30.8 in a stand-by status, and consisted now of *Caliente*, *Tomahawk*, and *Kennebago*. The two latter were sent out 11 September to take the places of *Schuylkill* and *Millicoma*. *Caliente* remained at Seeadler until the 18th, when she left for Kossol Passage, Palau Islands, fueling units of Task Force 32 on the way.

Task Unit 30.8.9 was designated as a stand-by of three oilers in the South Pacific to be available when needed by Captain Acuff. Two others, Task Units 30.8.10 and 30.8.11, composed of two and three oilers, respectively, were stand-bys in the Marshalls area, while 30.8.12 and 30.8.13, of two carrier escorts and two destroyer escorts each, operated with the oilers and furnished aircraft replacement for Task Force 38.

Vice Admiral McCain's action report on Stalemate, in which his Task Group 38.1 participated in operations against Palau, Mindanao, the Visayas, Luzon, Celebes, and Morotai, gave an account of Task Group 30.8's activities in his support. From 29 August to 24 September, when the group returned to Manus for reprovisioning, his ships were fueled at sea 6 times: 2, 8, 11, 17, 19, and 23 September. In addition there was frequent topping off of 53 destroyers by the large ships between general tanker fuelings. He stated that all tanker fuelings went smoothly and efficiently. The maximum time taken for any was 7 hours 41 minutes, the minimum 6 hours 11 minutes, with general fuelings at speeds of 10 to 12 knots, while destroyers were topped off at speeds up to 17 knots. Because of her high fuel consumption, the *Wichita*, as compared with the *Boston* class of cruiser, presented a problem during the necessary high speed of operation. In 1 day the *Wichita* burned 15 percent of her total fuel capacity, the *Boston* 11.3 percent, and the *Canberra* only 9.1 percent. This high rate made the *Wichita's* use in topping off destroyers impractical.

Admiral Wilkinson's fueling plan for his Assault Task Force 31 provided that ships were to be initially fueled before departure for the forward area, with larger vessels fueling the smaller ones en route. Port

facilities for fueling him were also available in limited quantities by ServRon Ten at Eniwetok, Kwajalein, Majuro and Manus; at Tarawa; by ServRon Twelve at Guam; and by ServRonSoPac at Tulagi and Espiritu Santo.

To replenish fleet oilers, the Area Petroleum Office of ComServPac arranged for the delivery at Manus of approximately 1,000,000 barrels of fuel, and in September sent 1,250,000 barrels to Marshalls bases, 4,150,000 to Manus, 500,000 to South Pacific bases, and 1,000,000 to Pearl.

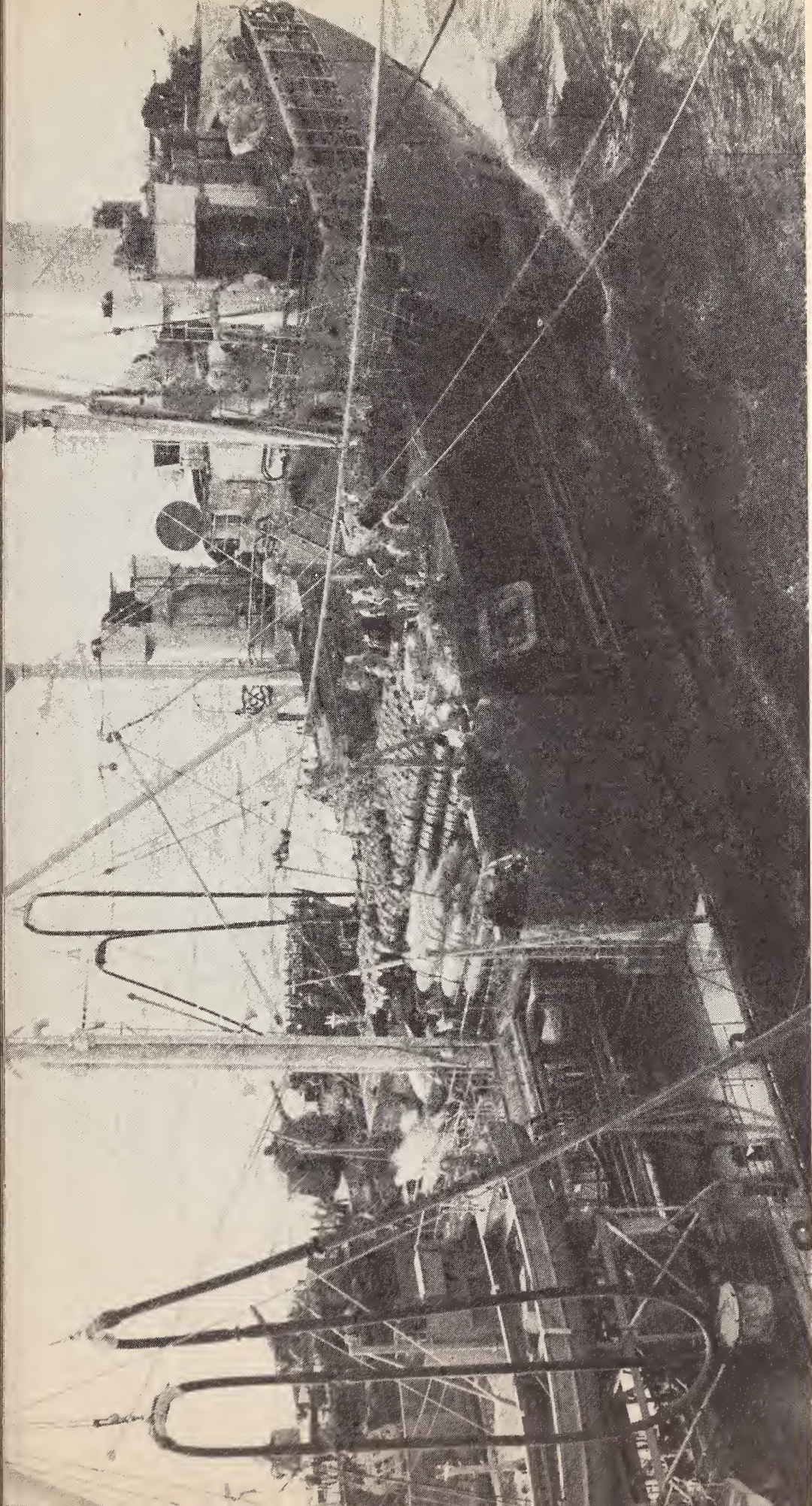
Fueling the ships of the Seventh Fleet for the Morotai landings did not involve the at-sea operations undertaken for the Third Fleet. Tankers were stationed at a number of bases in the area to which ships could return for replenishment—Manus, Hollandia, Woendi, Finschhafen, and Milne Bay.

The South Pacific was mainly a staging area, hence most of the fueling by Service Force South Pacific occurred before D-day and consisted of making the various units ready to join the Third Fleet. During August the area received 906,000 barrels of fuel, 304,000 barrels of Diesel oil, 11,420,000 gallons of aviation gasoline, and 5,426,000 gallons of motor gasoline. In September the area dispensed 777,000 barrels of fuel oil, 242,000 barrels of Diesel oil, 4,899,000 gallons of aviation gasoline, and 7,987,000 gallons of motor gasoline.

Comments and Recommendations Concerning Oiler Groups

Captain Acuff's action report as Commander Task Group 30.8 for this operation recommended that because of the vulnerability of the slow-moving oilers one escort vessel be provided for each one, and also for each escort carrier loaded with aircraft replacements. He also stressed the need for additional carrier escorts because of the insufficiency of aircraft replacements.

Commander Third Fleet, in over-all charge of *Stalemate*, listed the following lessons learned regarding oiler groups: "(a) There has been too great a tendency to discount the need for adequate escorts for oiler and CVE groups. We have been extremely lucky; our oiler groups for *Stalemate* were pure submarine bait. A minimum of one escort per oiler and two per CVE should be provided. This will become important as we move closer to Empire waters. Also, for extensive long-range operations, one fleet tug and one salvage ship should be assigned with each group of three oilers which are kept at sea in advanced positions.



Fueling from both sides.

“(b) Operational control of replenishment and service elements through the establishment of such agencies as 30.8 and 30.9 have worked out well in practice and is recommended for consideration.

“(c) Proficiency in fueling at sea by all units should continue to be emphasized as a vital military necessity. The doctrine that all ships make approach on oilers is sound and should be standardized. In estimating oiler requirements for an operation as much emphasis should be placed on number of oiler sides available for simultaneous fueling as on total quantity of oil required. A little extravagance in number of oilers will pay big dividends when time is an essential factor. Two large ships may be fueled simultaneously from one oiler under favorable conditions with some sacrifice of pumping rate. In order to complete the fueling of a large force expeditiously, destroyers must be fueled by heavy ships waiting their turn to fuel from tankers . . . It is feasible with favorable wind and sea conditions to fuel two battleships simultaneously from one tanker. Due to the possibility of crushing the tanker, this practice should not be resorted to excepting in emergency when the possible loss of the tanker is a secondary consideration. Under unfavorable wind and sea conditions it is sometimes desirable for the heavy ship to maintain station on the tanker rather than vice versa, as prescribed in Fueling at Sea Instructions.

“(d) While it is fully recognized that logistic responsibility for the Task Fleet devolves upon the Commander Service Force, nevertheless the Commander Service Force will be better enabled to give service if the Task Fleet Commander can clearly state his needs. Third Fleet experience indicates that the staff of a Task Fleet Commander must include a line officer widely versed in oiler matters and concerned with oiler operations, and also an officer of the supply corps familiar with the operations, capabilities, and limitations of the facilities of the Service Force.”

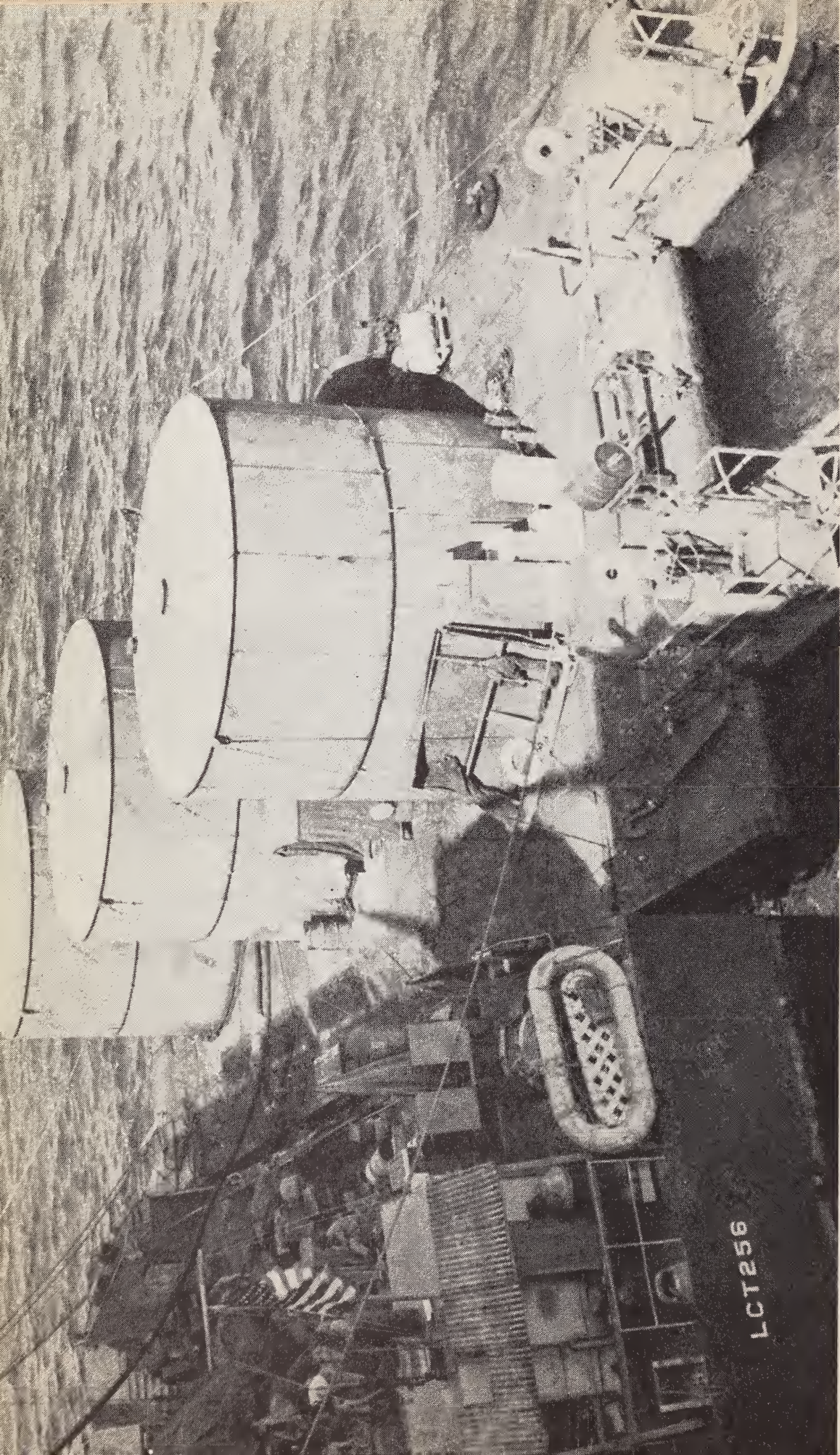
Captain H. J. Martin, Commander Destroyer Squadron 51, whose ships were assigned to Fleet Oiler Task Unit 30.8.1, recommended in his action report on the seizure of Peleliu and Ulithi that in the future fleet oiler task units operate as part of the carrier task force so that they would have the maximum of air and submarine protection. Captain Acuff, commander of the oiler units, believed such a plan impractical because of the tactical inexperience of oiler officers, lack of speed, and the frequent change of task-force objectives. This is borne out in Commander Third Fleet's endorsement, in which he states that fast carrier task forces “are highly trained teams whose maneuverability and mobility should not be

encumbered by units not contributing directly to the combat mission. Keeping in mind a reasonable risk of war, adequate protection for the service units operating in support of combatant groups can be provided by suitable air and surface escorts and by dispositions designed to keep the combatant groups between the service units and the most probable enemy threat. Operations may arise where it will be necessary to include service units in the combatant groups. These should be regarded as special cases only, and such inclusion should terminate as soon as the tactical situation will permit."

Ammunition Supply

Operation Plan 14-44 for Stalemate provided that all vessels would be armed to capacity before departure from mounting points. During the operation, ships would receive resupply from six ammunition ships and two or more cargo ships at Seeadler Harbor, or routed from there by Service Squadron Ten representative. Following completion of the operation, (a) replacement ammunition would be available at Pearl; (b) vessels remaining in Central Pacific areas would replenish from an AE withdrawn from Manus, and from shore supply points; (c) vessels retiring to South Pacific areas would replenish 6-inch ammunition and below from shore stocks in the South Pacific, and if larger sizes were required and not available, special shipments would be sent; (d) should vessels of the Third Fleet retire to Southwest Pacific bases, Third Fleet's AE's would provide ammunition.

For resupply in the combat area, the ammunition ships *Mauna Loa* and *Shasta* left Seeadler 15 September for Kossol Passage, Palau Islands, and upon arrival on the 18th immediately began rearming battleships and cruisers of the Naval Gunfire Support Group. On the 22d the *Lassen* also left Seeadler for Kossol, where she issued replacement ammunition to the support group and to Task Force 38.3. Most fire-support ships for Stalemate were supplied in the Solomons, with the exception of the battleships *Mississippi*, which had been overhauled and loaded on the west coast, and the *Maryland*, loaded at Pearl after completion of battle-damage repairs. Naval Base Tulagi reported for August 1944 that the magazine issued 2,600 tons of ammunition to destroyers, cruisers, and battleships, and 500 tons to landing craft. The *Tennessee*, which collided on 23 August with the *California*, was able to join the fire-support group after repair, but the *California* did not leave Espiritu until 18 September.



Gasoline lighter and an LCT alongside the carrier Intrepid.



Transferring bombs from LST to the carrier Hancock at sea.

Rehearsal for Phase I of Stalemate for fire-support ships was held in the Cape Esperance area, Guadalcanal, 27 to 29 August. The *Sangay*, with 2,936 tons of ammunition, arrived there from the west coast on 6 September, accompanied the group to the objective, and during the early hours of D-day, 15 September, lay off Peleliu Island ready to make issues. She remained in the vicinity until afternoon of the 21st, when she went to Kossol Passage, joining the *Mauna Loa* and *Shasta*. Next day the three were joined by the *Lassen*, and all four issued replacement ammunition to retiring vessels. By the 27th, 66 ships of various types were in Kossol Passage. Because of the total lack of anchorages in the vicinity of Anguar and Peleliu, Kossol proved a roadstead where ships could await call to unload at Peleliu, and also where replenishment of fuel, stores, and ammunition was accomplished. It was used extensively through October and November 1944 as a staging area en route from New Morotai (Operation Interlude); ammunition was supplied at a number of bases in the area, and from 5 ammunition ships which visited Hollandia and Woendi during August and September.

In August, Task Force 38 replenished its fuel, provisions, and ammunition at Eniwetok. On 22 August, Service Squadron Ten reported issuing to 3 battleships, 6 large and 6 light carriers, 6 cruisers, and 38 destroyers. On the 26th, 4 battleships, 5 large and 3 light carriers, 2 destroyers, and 2 destroyer escorts got their issues. The Victory ships *Plymouth Victory*, *Rutland Victory*, *Aberdeen Victory*, *Wilbur Wright*, and *Cape Trinity* were among the commercial vessels bringing ammunition to Eniwetok at this time because of the lack of sufficient Navy AE's.

Commander Third Fleet's report on Stalemate recommended that ammunition ships be loaded in two categories: Those intended to serve the fast carrier task forces, and those serving the fire-support ships. The first type should include in their cargoes stocks of miscellaneous items such as starter cartridges, etc., supplied by ComAirPac. Medium-caliber ammunition and bombs should be furnished at sea to combatant vessels by fleet oilers. Some small experiments had been made during Stalemate in transferring ammunition at sea. Results were satisfactory and warranted development, but it was not until the Okinawa campaign in April 1945 that large amounts were passed from ship to ship at sea.

The report made one further comment on ammunition supply: "The practice of making routine reports of ammunition, adequate for planning operations, has fallen into disuse in Pacific Ocean areas. During Stalemate the information received would have been adequate for defensive or limited offensive operations committed to a set pattern, but was not

adequate to meet rapid and radical changes of plans or extensions of offensive operations taking advantage of enemy weakness.”

Smoke Equipment. After the Saipan-Tinian-Guam operations, Vice Admiral R. K. Turner, Commander Fifth Amphibious Force, recommended that smoke be made available in large quantities, so all ships could be supplied. However, the expected smoke pots and floats were drastically curtailed because of the Port Chicago ammunition depot fire, which destroyed the greater part of the smoke-making material intended for the Pearl Harbor area. It was therefore impossible to supply the Guadalcanal section of Phase I of Stalemate prior to its departure from Pearl. At Guadalcanal substitutions were made, so eventually all ships had the prescribed allowance or its equivalent before going to the forward area.

Water. The problem of getting fresh water to the smaller ships which did not have distilling apparatus became increasingly acute as the fleet moved westward. Large combatant ships and auxiliaries were ordered to issue water to small craft needing it, but demands could not be met solely in this way. The newly commissioned fleet oilers *Ocklawaha* and *Ponaganset* were used to carry potable water to ships and bases in the forward area.

Water was available at a number of points in the South Pacific for the Third Fleet, and in the Southwest Pacific for the Morotai Interlude forces. It was likewise available on certain harbor craft in the Marshalls. At Manus, where 2,000,000 gallons a day, filtered and chlorinated, were available, it could be obtained after 1 September for both Third Fleet and Southwest Pacific forces. Besides the shore facilities at Manus, YO-186, with 55,000 barrels, and YW-90, with 280,000 gallons, were sent to Captain Ogden from Eniwetok late in August. They had been filled from the *Ponaganset* and from surplus in ships returning to Pearl.

In the South Pacific area where most of the amphibious forces were serviced, the naval base at Tulagi estimated that between 15 August and 1 September 20,917,000 gallons of water was supplied to LST's, LCI's, and small craft. No figures are available for Guadalcanal, but that base supplied water in tremendous quantities to the ships and troops which staged in that area.

The *Ponaganset*, with 90,000 barrels of water, reached Eniwetok 2 August, discharged cargo, and returned to Pearl to reload. With a fresh 90,000 barrels aboard, she was ordered to Guadalcanal to take part in the logistic preparations of the amphibious forces. From 27 August to 4 September she discharged fresh water to various harbor and patrol craft,



Taking sugar on the carrier Lexington at night.

LCI's, and to units of LST Flotilla 13. She replenished in part from YW-62 and 4 September left for Manus in company with Task Group 32.19. Here on the 10th she became part of Ogden's Task Unit 30.9.1, and after receiving an additional 30,798 barrels of water sortied with the fleet oiler units 30.8.1 and 30.8.3 on the 13th for the Palau area. From 19 September to 4 October she lay off the southern tip of Peleliu giving water to various landing craft. Then she went to anchor in Kossol Passage to continue operations, not returning to Manus for a fresh cargo until the 17th.

The *Ocklawaha* arrived in Eniwetok 27 August, discharged her 100,000 barrels of water cargo, and sailed for Pearl the 29th. She returned 22 September with the *Severn* in time to service the amphibious forces which put in for replenishment on the 25th. The *Severn* carried 4,033,218 gallons of fresh water on her first trip since commissioning, and after servicing ships at anchor and discharging into the *Ocklawaha* left Eniwetok the 28th with Task Group 33.1 for the next operation.

For land-based forces, enough water was carried ashore to allow 2 gallons per man per day for 5 days, plus distilling apparatus to provide 5 gallons per man per day for the garrison troops. Distillation continued until the local water could be purified to allow 5 gallons a day for each man. This was adequate but not excessive. Some 5-gallon containers could not be used for drinking purposes because they had not been sufficiently cleaned and gave an oily taste and smell to the water.

Fresh and Dry Provisions. Provisions stores ships were routed to the Marshalls area, particularly Eniwetok, during August of 1944, and to Manus during September. Those reaching Manus late in September were generally sent to Kossol Passage or to Ulithi to provision Third Fleet ships remaining in the area after the Stalemate operation. Task forces of the Third Fleet assembling in the South Pacific were provisioned by Commander Service Squadrons South Pacific Force, and included battleships, cruisers, destroyers, escort vessels, mine sweepers, troop transports, attack cargo and transport ships, and escort carriers, 127 in all.

Figures for the naval base at Espiritu Santo for a 3-day period, 8-10 September, show 184 tons of fresh and dry provisions issued to 25 ships. This contrasts with Squadron Ten's issue of 1,715 tons of fresh and frozen only at Eniwetok, 25-28 August, to the ships of Task Force 38.

Since fresh and frozen supplies were never available in the quantities desired, larger ships (light cruisers and above) were initially provisioned,

as already mentioned, on the basis of serving at least one complete dry ration every sixth day. Smaller ships were given preference in provision issues, and were also to be given foodstuffs from larger vessels as needed. Supplies of dry provisions for all vessels were not to exceed 120 days for ship's company and 60 days for embarked troops. All types of provisions for ships in the Morotai Operation (Interlude) were available, either from provision ships in harbor or ashore at supply depots in Milne Bay, Finschhafen, Madang, Manus, Hollandia, and Woendi.

The provisions stores ship *Calamares*, one of several reefers assigned to Service Force Seventh Fleet in support of Operation Interlude, left the west coast 22 August with a fresh and frozen cargo, reached Manus 13 September, and discharged into the supply depot. Leaving there 15 September she touched at Hollandia, Mios, Woendi, Madang, Alexishafen, Langemak Bay, Milne Bay, and finally at Brisbane and Townsville, Australia.

Salvage. Salvage ships for fleet use were maintained in the Tulagi-Purvis Bay area. Three of them, the fleet tugs *Pawnee*, *Menominee*, and *Munsee*, participated in early staging operations with the amphibious forces, later accompanying them to Peleliu for D-day. They mainly assisted beached or disabled landing craft and remained in the Palau area until early October. Fleet tugs *Yuma* and *Apache*, rescue tug *ATR-33*, and auxiliary ocean tug *ATA-123* assisted in salvage of the Army craft *FP-147*, which ran aground 6 September. *Yuma* was sent to aid the hospital ship *Samaritan*, which struck a reef 23 September while carrying more than 600 battle casualties from Peleliu, while *Apache* took charge of salvage and rescue work on the *Elibu Thomson*, which struck a mine field on the 26th, and towed her to Noumea.

The salvage vessel *Grapple* fueled and provisioned at Purvis Bay and sailed 4 September with Task Group 32.19 to the vicinity of Peleliu. On the 15th, as the initial landings were being made, her duty was to lay mooring buoys close in to the assault beaches. On the 17th she went to assist the destroyer *Wadleigh*, which struck a mine the previous day while sweeping the eastern entrance to Kossol Passage. After completing salvage work on the destroyer, the *Grapple* on 2 October continued her work in the vicinity of Peleliu and Anguar Islands.

The fleet tug *Zuni*, previously in the Marshalls-Marianas area, reached Kossol 20 September towing the 3,500-ton floating drydock *ARD-17*, and joined the *Menominee*, *Pawnee*, and *Munsee* in salvage work. Later the landing-craft repair ship *Endymion* also came to Kossol.

Salvage being a vital phase of logistics, numerous fleet tugs operated

in the Marshalls and Marianas, at Eniwetok, Kwajalein, Saipan, and Guam, available for the Stalemate operation through ComServRon Ten. Among them were the *Arapaho*, *Chowanoc*, *Sioux*, *Chickasaw*, *Potawatomi*, *Pakana*, and *Lipan*. In the Morotai (Interlude) engagement the fleet tugs *Quapaw*, *Sonoma*, and *Hidatsa* accompanied the assault forces to the objective and, shortly after the first wave of troops got ashore, assisted in hauling stranded landing craft from the beaches.

The Stalemate operation plan provided that landing forces would salvage for overhaul all possible landing craft damaged in the assault, including amphibious tractors and trucks, before withdrawal from the beaches. After the assault forces left, the island commander was responsible for further salvage. Hulls which could not be repaired were stripped of all useful parts, and craft unreparable locally were returned to Oahu for overhaul.

In addition to the fleet tugs and salvage vessels with the landing forces, several LCI's in each attack force were equipped with towlines and salvage and fire-fighting equipment for assisting damaged landing craft. All ships were directed to be ready to tow or be towed; damaged ships in danger of sinking were to be beached in territory under our control. Despite our preparations, however, the beaches were congested with damaged amphibious craft which to some extent impeded unloading. This emphasized the need of an organized salvage section to go ashore with the initial landing parties to undertake on-the-spot repairs. It further demonstrated that the two LST's assigned to repair more than 400 LVT's and DUKW's were inadequate. A recommendation was made by Commander Task Force 36 (land-based troops) that one LST for every hundred such craft be provided in similar operations.

CHAPTER XVIII

Further "Stalemate" Support

Medical Plans and Facilities—Mail—Service Unit at Seeadler—With the Fast Carriers— Squadron Ten Prepares to Move

EVERY GREAT MILITARY OPERATION means casualties, and Stalemate was no exception, so surgical and medical equipment had to be adequate to such a tremendous effort. Four hospital ships—*Bountiful*, *Relief*, *Samaritan*, and *Solace*—went to the forward area to assist in evacuation of the wounded. In addition, the transports *Pinkney* and *Tryon*, after carrying troops to the objective, served as casualty evacuation ships to Manus. The *Rixey*, similarly adaptable, was to have been used for Phase II, but when that plan was canceled she was diverted to the Philippines campaign. Army and Navy hospitals in the South Pacific were at Noumea, Espiritu Santo, Tulagi, Guadalcanal, and the Russell Islands. Other casualties were sent to Oahu. Newly erected facilities at Manus provided 1,000 beds for staging casualties ultimately destined for South Pacific hospitals, and another 1,000 at Kwajalein took casualties going to Oahu. Wounded sent to either of these rear areas moved by air or surface vessel, depending upon the urgency and condition of the cases. For those evacuated by air, arrangements were made in the staging areas to move approximately 250 patients a week.

The remains of those who died ashore in the Palaus were left for identification and burial by the Graves Registration Service of the landing force. When death occurred aboard ship, burial was conducted at sea or in deep-water areas off shore. After combat operations had ceased, the dead were generally sent ashore to Graves Registration, or in cases where a number of deaths occurred on hospital ships bound for rear areas these too were buried at sea.

For evacuation purposes, patients were classified under a color scheme:

Red, all serious cases and those requiring more than 2 months' hospitalization; Blue, men requiring more than 2 weeks' but less than 2 months' hospitalization; White, cases that could be returned to duty within 2 weeks and which, so far as practicable, were returned to their units before hospital ships left the combat area. One such ship reported that if greater care had been taken in classifying types of casualties on the beach, many would not have been sent aboard hospital ships, diverting attention from the more seriously wounded.

A detailed procedure for transfer of the wounded from the beach to evacuating hospital ships was worked out, but of course varied with combat conditions. In general, however, all vessels except those designated to receive prisoners of war were fitted to accommodate casualties as follows: APA (attack transports), 150 stretcher cases and 325 ambulatory; AKA (attack cargo ships), 15 stretcher, 50 ambulatory; AP (transports), 75 stretcher, 200 ambulatory; LSV (landing ship (vehicle)), 50 stretcher and 200 ambulatory cases. Evacuation from the beaches was directed by the beachmaster of the landing force. He was authorized to place wounded in any of these ships' boats leaving the beach, for transportation to hospital ships, or if necessary to send out DUKW's, the famous amphibious trucks, to meet these ships at the line of transfer.

The *Relief* experienced some difficulty in embarking casualties during heavy seas on 27, 28, and 29 September at Peleliu and Anguar. On the 29th, swells were so high at Anguar that evacuation had to be suspended temporarily. The *Relief* felt that LCT's or LCI's could have been used to advantage during this period, but none were available.

The transport *Harris* was one of many such ships which carried Army and Marine forces to the operation. As an APA she was also equipped to handle casualties during combat, and 23 September she participated in the occupation of Ulithi. Her utility did not end there, either. In addition to her medical facilities, which included an eye surgeon for serious cases, she furnished water and provisions to various smaller craft from 23 to 25 September, gave 21,000 gallons of fuel oil to the high-speed minelayer *Montgomery*, and transferred 8 LCVP's and 1 LCM to the Navy boat pool to remain at Ulithi.

The *Bountiful* and *Samaritan* sortied from Manus several days prior to D-day. Arriving off Peleliu 18 September, the latter immediately began embarking casualties, and left on the 19th for the Russells with 607 patients. On the 24th she went aground on Tauu Reef, with considerable damage to the ship but no personnel injuries. She was assisted to Renard Sound, Russell Islands, for disembarking patients and making

temporary repairs, and on 2 October docked in *ABSD-1* at Espiritu for hull and engine work.

Solace and *Relief* went to Peleliu from Eniwetok. During August both had been at Pearl with casualties from the Marianas. On reaching Eniwetok the *Relief* helped to check the dysentery epidemic in the *Ajax*. The *Solace* embarked 542 wounded at Peleliu from 22 to 25 September and sailed for Noumea to discharge her casualties to Army and Navy hospitals. The *Relief* reached Peleliu 24 September, but did not begin loading until the *Solace* had reached capacity. On the 26th she received her first group from Peleliu and Anguar. Loading was dangerous on subsequent days because of weather conditions, but by the 30th she was under way with 690 cases which she discharged to hospitals in Noumea.

The transports *Tryon* and *Pinkney*, the former with 1,323 troops and the latter with men of the First Marine Regiment, left from Guadalcanal 8 September, unloading troops and cargo on D-day, 15 September, remaining a few thousand yards off shore. That morning the *Pinkney* received her first casualties. On the 16th she moved from 6,000 yards off shore to 5,000 to relieve the *Tryon*, and discharged badly needed blood plasma on the beach while continuing to embark wounded. Both ships got under way on the 20th, the *Tryon* with 797 casualties, the *Pinkney* with 690. After discharging them at Manus, the 2 vessels loaded with dry stores and mine-sweeping gear and sailed for the combat area. Hospital ships meanwhile had taken on board most of the remaining wounded, so, after reloading assault troops, *Tryon* proceeded to the Russells 4 October with 1,309 passengers and 87 patients, the *Pinkney* with 1,339 troops and 81 casualties. The two reached Renard Sound, Russell Islands, on the 10th for disembarking.

Medical supplies for land-based forces for Stalemate were stocked for 60 days. Resupply after return from combat was available at Guadalcanal, Espiritu Santo, Noumea, Majuro, Eniwetok, Kwajalein, Manus, and Pearl. All ships receiving casualties were to exchange with medical groups ashore as many stretchers, bunk straps, blankets, and metal or plywood splints as they received from the beach. Each APA was to land 40 litters, one-third of its supply of splints, and 40 life jackets with the beach party. Each stretcher patient, so far as was possible, was to have a life jacket for the shore-to-ship movement.

Evacuation from the beaches moved smoothly during daylight, but at night some difficulty was encountered in locating medical boats at the reef. It was felt that in the future such boats should carry night lights and be prepared to give more accurate bearings of hospital ships. Facil-

ities for Operation Interlude (Morotai) included the *Comfort* and three other hospital ships, besides naval and military hospitals at Manus, Mios, Woendi, Hollandia, Finschhafen, Milne Bay, and in Australia. All ships stocked medical supplies to capacity, with resupply available at Manus, Finschhafen, and Brisbane.

Mail Facilities. Until post offices could be established ashore, a landing ship (tank) was assigned to each anchorage to serve as a fleet post office. Postal personnel and equipment were transported in the first garrison echelon and transferred to the various LST's at different objectives. Following the capture of Peleliu and Ulithi, post offices were established there to serve all forces.

Mail from the staging areas in the Central and South Pacific for Peleliu-Ulithi was shipped as fast as transportation was available. To avoid betraying a ship's destination by her mail cargo, numbers were used by Navy and Marine Corps, such as Navy 3253, Peleliu Island; Navy 3011, Ulithi Atoll; Navy 3257, Anguar Island.

Recognizing that good service was essential to high morale in any military operation, Admiral Halsey recommended in his report on Stalemate that (a) "The mail base must be the same as the fuel base; (b) CinCPac postal officer must cooperate and move the mail base only on request of the Fleet; (c) officer messenger mail, registered, air, and first class matter can be expeditiously passed at sea by AO's (oilers); (d) second and third class mail should be held at the mail base and transported to anchorages when groups are definitely en route to the anchorage; (e) shore facilities must cooperate in separating mail by task groups, and not loading over 75 pounds per pouch, and if possible, using a distinctive color tag for each group."

The Service Unit at Seeadler

Rear Admiral T. S. Wilkinson, commanding Task Force Thirty-one, ordered the Western Garrison Group, under Commander MacGowan for the capture and defense of Peleliu, Anguar, and Ulithi, to assemble at Seeadler. The 12 vessels, mostly merchantmen, including the *Cape Georgia*, *Cape Stevens*, *Sea Runner*, and *Sea Sturgeon*, with the cargo ships *Matar* and *Lesuth*, arrived on the 7th and 14th, and on the 15th of September departed for the Palau operation. A few days later 2 fast carrier groups came in for quick replenishment. The required levels of supply as prescribed by the fleet logistic plan for Stalemate had been furnished Fast Carrier Task Groups 38.1-2-3-4 in August by Service Squadron Ten

at Eniwetok. From the end of that month they had made strikes in the Bonins, Carolines, and Philippines and were low in everything but fuel, which was supplied to them at sea.

First to arrive was Rear Admiral Davidson's 38.4—the carriers *Franklin*, *Enterprise*, *Belleau Wood*, and *San Jacinto*, cruisers *New Orleans* and *Biloxi*, and 2 destroyer groups, Squadron Six and Division Twenty-four, totaling 12 destroyers. On the 24th the force left Manus. Next to come was Task Group 38.1, Vice Admiral McCain, with the *Wasp*, *Hornet*, *Cowpens*, *Monterey*, Destroyer Squadron Forty-six and Destroyer Division Twenty-three—12 destroyers in all. These left 2 October, each group visit lasting only 4 working days, which was typical of previous visits at Eniwetok and subsequent stops at Ulithi, thus maintaining the tempo of the strikes and keeping unrelenting pressure on the Japanese. To conform to this tight schedule Captain Ogden's forces had to accelerate their already very busy support activities. This meant around-the-clock handling of ammunition, food, stores, aviation supplies, fueling, and watering, with the ever-present demand for boats to carry out the servicing and furnish such transportation of shore parties as could be fitted into the lay-over time. Multiplicity of details always confronted the service unit at times like this.

Attack, escort-carrier, and fire-support forces steamed back to replenish ammunition and stores, beginning late in September. On 2 October, 42 ships of TransDiv 32 entered Seeadler. The greatest number returning from Palau entered next, when 87 ships anchored. Captain Ogden was caring for the 348 ships already in port on 1 October, and this addition considerably increased the responsibilities and duties of service personnel. The transport flagship *Harris*, Captain M. E. Murphy, for example, which came in on the 2d, took 12,913 barrels of fuel, provisioned ship, and loaded cargo, on 7 October embarking 95 officers and 1,543 men of the Twelfth Regiment, First Cavalry Brigade, and left on the 12th to attack and seize Leyte as part of Admiral Fechteler's Task Group 78.2. Most of the others were similarly serviced, but the burden of extra boat work was eased somewhat for the transports, which used their own boats instead of relying upon the pool. Despite the strain of all the extra work, Captain Ogden and his assistants proved equal to the occasion and acquitted themselves in a manner bespeaking his fine leadership, shown not only here at Manus but later at Kossol Passage and Leyte Gulf.

All the Stalemate forces—land, sea, and air—accomplished their respective missions on schedule, though at the cost of heavy casualties in

the assault troops. With the exception of mopping up on Peleliu, Stalemate was virtually completed after the seizure of Ulithi September 23. As was to be expected, the preparation and coordination of the plans proved the most important element in success, with ships, planes, and men brought from all Pacific areas, including the west coast, to be available at the crucial moment. The magnitude and complexity of the logistic problem was unparalleled, and made all the more intricate because of the delayed end of the Marianas engagement. With scarcely a breather after Stalemate, King II, the Philippines operation at Leyte, followed, with the fleet in furious activity.

With the Fast Carrier Groups

Vice Admiral Mitscher's Task Force 38, between 29 August and 27 September, conducted operations supporting the occupation of Peleliu and Anguar in the Palaus, Ulithi in the Carolines, and Morotai in the Moluccas. From Palau its Task Group 38.4 proceeded to Manus for bombs, fuel, and food. The rest of Task Force 38 steamed to the waters east of Luzon, then conducted the first carrier attack of the war on the island, including Manila. Afterward, all the task groups retired to replenishment bases—Task Group 38.1 to Manus on 29 September, 38.2 to Saipan 28 September, and 38.3 to Kossol 27 September. Before 38.1 reached Manus, 38.4 sortied, operating in waters east of Palau until 5 October. At Saipan, logistics were handled by Squadron Ten Representative, Captain Forrest A. Rhoads.

Captain C. C. Laws, commanding the repair ship *Prometheus*, on 3 October became the Kossol Passage Representative of Service Squadron Ten. On 1 and 2 October, Task Groups 38.2 and 38.3 reached Ulithi, just after that atoll had been captured and before the arrival of logistic forces under Commodore W. R. Carter, Commander Service Squadron Ten. Besides the shortage of facilities, the difficulties of servicing the task groups at this time were aggravated by a typhoon. On the 5th, Task Force 38 began that phase of its operations preliminary to seizing Leyte, ending on the 20th. On the 7th the four task groups rendezvoused and next day took 290,000 barrels of fuel from Captain Acuff's oilers, and 367,000 gallons of aviation gasoline. Commander F. S. Gibson, commanding the oiler *Platte*, reported that fueling conditions were very hazardous, with moderate to heavy long and confused swells from the west and southwest. Three sections of hose were broken because it was

impossible to keep close positions in the heavy seas. Nevertheless the *Platte* persevered and despite adverse conditions and damage delivered 48,000 barrels of oil that day and met all requirements of ships coming alongside.

On 9 October, from a point about 600 miles southeast of their objective, all task groups commenced their high-speed run in toward Okinawa, and on the 10th launched aerial strikes against that stronghold. On the 11th, the fast carrier force (Task Force 38) made a dawn rendezvous with the fueling group (Task Group 30.8) and while steaming on a westerly course, took on 331,000 barrels of oil and 542,000 gallons of aviation gasoline. Planes lost in combat or operationally, were replaced from the escort carrier *Nebenta Bay*, attached to the oiler group.

After this fueling, all groups on the 12th and 13th launched strikes against Formosa, Japan's strongest and best-developed permanent base south of her islands proper. Formosa had never been hit before by carrier aircraft. Its antiaircraft batteries and defensive planes exceeded those of any area struck thus far. With Japan only 700 miles away, stiff resistance was to be expected. On the 13th the heavy cruiser *Canberra* was torpedoed and taken in tow, and next day the *Houston* also was torpedoed. Commander Task Force 38 changed his operation plan to cover the retreat of the crippled cruisers, using them as a decoy to entice the enemy main fleet to come out.

Another refueling came on the 15th. This time Captain Acuff transferred by boatswain's chair and trolley from his flagship *John D. Henley* to the battleship *New Jersey* for conference with Admiral W. F. Halsey, commanding the Third Fleet, and returned 40 minutes later. In her war diary the *Intrepid* reported the day devoted chiefly to fueling and aircraft replacement. Alongside the *Schuylkill* for 3 hours 36 minutes, the *Intrepid* took aboard 9,543 barrels of fuel and 76,000 gallons of aviation gasoline, while from replacement carriers she took 5 fighter and 10 bombing planes. She also reported that "We are preparing to meet Japanese surface and carrier units who believe we are a fleeing crippled and disorganized fleet." During 15-16 October, Acuff's group issued 292,000 barrels of fuel and 726,000 gallons of aviation gasoline.

Squadron Ten Prepares to Move

With the landings of the Central Pacific forces in the southern Palau group and of the Southwest Pacific forces on Morotai, the final barriers

to our assault on the Philippines had been pierced. Acquisition of the Palau Islands and of Morotai brought the Philippines within range of our land-based aircraft and pushed the Japanese back to their inner defenses. From them they had to hold the Philippines or be completely cut off from their captured territories in the East Indies and Southeastern Asia.

Expansion of air and naval facilities proceeded energetically at our recently acquired bases in the Marianas, but though this area provided small harbors, nothing could be used as a major fleet anchorage. For the berthing and servicing of the huge concentration of ships required for deeper thrusts into the Pacific, a large harbor farther west than Eniwetok was a necessity. The atoll of Ulithi in the Western Carolines, with its extensive anchorage area, was the choice as our next advanced base for mobile support of the fleet.

Before describing Ulithi and outlining the difficulties of moving the squadron's equipment forward we must consider briefly the logistic situation in the Marshalls at the time. Eniwetok was the farthest west of the atolls of that group, and the most useful because of its closeness to recent operations. Kwajalein, more than 300 miles to the eastward and somewhat south of Eniwetok, was a flight stop for transport planes to and from Pearl. It had been important as a replenishing point in previous campaigns but was now fast becoming a rear area.

In preparation for moving to Ulithi, Commander Service Squadron Ten wished to draw all but a few service units from Kwajalein. There was some slight objection, but a definite expression of policy soon came in a dispatch from Commander in Chief Pacific Ocean Areas. This ruled that Squadron Ten, with its responsibilities for supplying the needs of the fleet, could not afford to tie up much equipment to service local small craft, and the sub-area commander must support such "splinter fleet" locally. Though the incident in itself was not grave, it indicated to doubters that with the advance westward of fleet operations, mobile support units must advance also, rear bases being reduced to a minimum consistent with actual needs or allowed to dry up altogether. The mobile support idea was opposed to the fixed support idea of constructing and developing large shore naval bases at great expense in time and money. These could not be readily moved forward with the fleet, and once left behind, became only costly monuments to those who had failed to grasp the correct over-all strategy. For best results, fleet action and its support had to go forward together, and promptly.

Preparations for the Move. Shifting a floating logistic center from

Eniwetok in the Marshalls to Ulithi in the Western Carolines imposed a variety of problems. First of all, the service squadron was composed of many different types of support craft. It was not homogeneous like a destroyer squadron, for instance, and the ordinary plan to proceed at high speed to the destination did not fit the circumstances. A number of the support craft were not self-propelled but had to be towed, not at 10, 15, 20 or more knots, which with zigzagging offered fair immunity from torpedoing, but at 6 knots or less. At that crawling speed zigzagging offered no protection and merely slowed down the group. Second, the trip to the new anchorage was across more than 1,300 miles of ocean and the tows would pass within 180 miles of the Japanese island of Truk. Previous raids on that stronghold had forced the withdrawal of the Japanese fleet closer to its home waters, and so there was not too much fear of enemy surface action, though there remained some possibility of an air attack. Third, as this was the typhoon season, the forces of nature might impose an even greater threat than that of the enemy. But, all in all, the movement was a fairly good calculated risk.

Some of the preparations involved hoisting LCVP's and LCM's. The former were of plywood construction and their light weight of 8 tons presented no hoisting problem. But for hoisting an LCM weighing about 22 tons the ordinary 10-ton cargo boom available on most ships, would not do. Ships with heavier booms were kept busy lifting LCM's. Every type of ship possible was used to transport boats forward. Concrete barges with their large deck space were fairly good carriers, but skids and shoring had to be provided upon which to rest the LCM's. As the crockery fleet had no booms of sufficient lifting capacity to hoist an LCM aboard, it was necessary to shift the concrete barges alongside a Liberty ship or put a ship alongside the barge. This involved considerable shifting of anchorages and men, and the use of tugs. Concrete barges, because of their fragile construction, could easily be damaged by the impact of heavier ships against their fenders when coming alongside. Another difficulty with them was that until the very last they were busy issuing provisions and stores. Also, all last-minute services required the use of boats; they had to stop work sometime in order to be hoisted.

Hooking up the tows presented its own problems. The fleet, rescue, and salvage tugs, and some others, were equipped for towing with their own wire and towing engines, but the cargo and other ships, particularly the Liberty and older ones, did not always have towing equipment and perhaps had never towed before. In some instances there was a reluctance to tow because of the reduction in speed and consequent greater

danger of submarine attack. However, Boatswain C. F. Scully of the operations department did excellent missionary work, visiting the prospective towing vessels and convincing each commanding officer that his type of ship had towed previously and that his ship could be safely used. The general reaction was that "if another can do it, we can," and the operation was arranged.

Not counting boats, 110 craft had to be moved to Ulithi, ranging from the self-propelled types down through drydocks, lighters, barges, landing craft, and seaplane wrecking derricks. On 4, 5, and 12 October, 1944, the first convoys set out at the snaillike pace of 5 or 6 knots. Astern of the self-propelled units were towed the open and covered barges, concrete barges, floating docks, and other non-self-propelled craft. Where possible all types carried boats and little harbor tugs. The larger harbor tugs made the voyage on their own power, and, acting as retrievers, could assist tug convoys. Wire rope and manila hawsers were very scarce in the forward areas, and much hard work and ingenuity went into the "hooking up" of a tow. Destroyers, minesweepers, and submarine chasers as available were used as escort vessels. Steam was up for the toughest voyage.

CHAPTER XIX

Service Squadron Ten Main Body Moves to Ulithi

Reduction to Minimum at Eniwetok—Improvement in Salvaging

THE FIRST CONVOY to leave Eniwetok on 4 October was made up of repair ships, ungainly but valuable concrete stores ships, station tankers, oil and gas barges, and ammunition barges. The *Vestal*, repair ship, towed the concrete *Chromite* and an ammunition barge. Captain J. B. Goode, commanding the *Vestal*, was task-unit commander. In his war diary he reported that the tugs had some difficulty in collecting and making up tows for delivery to the towing ships. Bad weather delayed the start, and though most vessels cleared the harbor, two station tankers, the tug *Turkey*, and two oil barges because of rain squalls and zero visibility remained in port overnight, joining next morning.

Captain Goode's worries about his assorted charges had only commenced, for next day a working party had to be sent to the covered lighter *YF-254* to shift ammunition and put her on an even keel. Water, 2 feet deep, was found in her, so when the *Turkey* joined she was directed to pump out the bilges and repair some leaks in the barge. By 5 p. m. all the ships had taken their assigned positions in the convoy organization and things seemed pretty well under control, at least for the time being. Next day the towing bridle of the Liberty tanker *Gazelle* carried away. Captain Goode reduced convoy speed to 4 knots, while the retriever tugs *YTB-372* and *384* helped the *Gazelle* reassemble her tow. The following day the fuel-oil barge *YO-76* developed engine trouble. The old tanker *Malvern*, Lieutenant H. C. Pollock, had a steering casualty, dropped out of position astern, and did not regain her place until next day. The *Vestal* sent a repair party to the *Malvern* by tug. Another retriever brought patients over from the *Chromite* for medical attention.

Again the *Malvern* developed steering trouble, but this time regained position by steering by hand. On the 11th the flagship gave a subchaser water and provisions. After having ministered to the ailments of others, the *Vestal* herself encountered towing-engine difficulties, hoisted the breakdown signal, dropped out of formation, overcame her troubles, and later rejoined to assume the guide once more. Two days later, the 13th, the tug *YTB-372* picked up a medical officer and chief pharmacist's mate from the *Vestal* to give medical aid to a patient on a fuel-oil barge. Later he was brought to the flagship. The breakdown of this same busy tug on the 13th was the last of the disquieting incidents to beset this heterogeneous group of 25 units. Captain Goode must have breathed a sigh of relief finally to sight Ulithi and anchor on the 15th inside the lagoon. In spite of all set-backs the voyage was made without loss, at a speed of about 5 knots.

The Second Convoy. Another towing group of miscellaneous types, all valuable to Squadron Ten, left Eniwetok 5 October, and included 2 floating drydocks. Commander W. L. Travis in the *ARD-13* was convoy commander. On the 6th, pursuant to orders from high authority, the docks were ordered to return to Eniwetok. As they had been loaded with boats and hooked up with the usual difficulties, the order caused some disappointment. Nevertheless, back they went, the convoy proceeding with Commander J. E. Dow, commanding the cargo ship *Megrez*, as officer in tactical command of 23 units: 3 concrete ships, the *Corundum* with spare parts, *Trefoil* with general stores, *Silica* with fresh, frozen, and dry provisions, and medical items; an ammunition barge; maintenance barge; boat-pool tender; sludge-removal barge; radio and radar equipment barge; floating workshop; 2 station tankers, the *Giraffe* and *Quiros*; water and gasoline barges; and the barracks ship *Orvetta*, Lieutenant Commander G. L. Armstrong. The *Orvetta* had been recompartmented to provide office space for activities the flagship could not accommodate. She was towed by the War Shipping Administration tug *Watch Hill*. Another fine tug of this type, the *Mobile Point*, towed the concrete *Corundum* and barge *YC-1006*. The two tugs had brought tows out to Eniwetok, and permission to use them was given by Rear Admiral Hoover, Commander Task Force 57. Another WSA tug, *Cubits Gap*, had brought out the floating dock *ARD-25*, Lieutenant Commander Otto Knudsen, and was routed forward to Guam for the use of Service Squadron Twelve, Commodore Fiske. The dock carried in her basin the suction dredge *Point Loma* and dredge *Benson*. The barracks barge *Sea Hag*, made fast to this tow, was for use at Guam.

Two medium size and two large harbor tugs were retrievers for this convoy. Two of them went into action when the barge YF-688 on the 9th broke loose from the *Silica* in the middle of the night. The war diary of the *Megrez*, flagship, recorded it: "At 2348 (11:48 p. m.) stopped engine; rest of convoy well clear and proceeding on course . . . Ship's force was aided by two retrievers in remaking tow. It was found the tow parted because a shackle carried away. The shackle used was too light for the load placed on it, but the principal trouble was that the tow was hooked up improperly. The bridle was on the loaded (drag) end of the lighter, causing a constant yawing which certainly did not help the shackle. It is felt that if the tug which made up this part of the tow had used better judgement the incident would not have occurred."

Admirable restraint was displayed by the war diarist of the *Megrez* in writing such a fine understatement. Here was the flagship of the convoy delayed by this happening, and her men required to work more than 3 ½ hours at night in the middle of the ocean—sitting ducks for torpedo practice by an enemy submarine. The tow was not remade until 3:35 a. m. on the 10th, and the flagship could not overtake the convoy and resume guide position until 10 o'clock that morning. The present writer is sympathetic toward the author of the war diary and toward the men who made the repairs and by reading between the lines feels that at the time the tow was reshackled the salty seagoing language and paint-peeling invective probably used, somewhat compensated for the restraint necessary to compose the "official" language required by the diary.

The convoy reached Ulithi 14 October without further mishap, making a speed of advance of about 6 knots.

The Third Convoy. In the towing convoy of 12 October, affectionately known to Squadron Ten Staff as the "Third Fleet," Commander F. W. Parsons was convoy commander, and his flagship was his command, the battle-damage repair ship *Nestor*. The salvage vessel *Extractor*, Lieutenant (j. g.) L. C. Oaks, had retriever duty, and 3 destroyers were assigned as escorts. The little armada was made up of 14 tows which, with their towing ships, numbered 35 units; 3 floating drydocks; 2 ammunition barges; 1 energizing barge equipped to revitalize fuzes of anti-aircraft ammunition; 1 lighter with boat pool gear; 1 gasoline barge; 4 lighters with various types of freight; 1 hotel barracks barge; 5 LCI's each towing 1 high-speed target sled; 2 degaussing vessels, also each towing a sled. The precious floating docks, because of their size, importance, and poor maneuvering qualities, were entrusted only to fleet tugs. The *ARD-13*, Lieutenant Commander W. L. Travis, with 12 LCM's, 12

LCVP's, and 3 lighters in her capacious basin, was towed by the tug *Hitchiti*, Lieutenant H. A. Guthrie, and had the 1,500-ton covered lighter YF-788 towing astern. The *ARD-15*, Lieutenant Commander W. E. Kellar, towing the YF-786, was towed by the tug *Arapaho*, Lieutenant A. H. Gunn. The dock carried 1 seaplane wrecking derrick, 2 pontoon barges, 1 50-foot motor launch, and 6 LCM's. The convoy arrived without serious mishap at Ulithi 21 October, having made an approximate speed of 6 knots.

Equipment for the new mobile base not brought by these three convoys came forward in smaller groups as tows could be arranged. The unforgettable feature of transferring Service Squadron Ten's activities was that no losses of personnel or equipment resulted. Admiral Nimitz was gratified by this accomplishment. Certain precautions had been taken to diversify the types of equipment in each convoy, to prevent endangering all of any one kind at the same time. In spite of all safeguards used, the amount of damage from typhoon and enemy could have been heavy. Exactly why the enemy allowed all that equipment to proceed nearly 1,400 miles at an average of less than 6 knots may never be known. Some of our naval aviators who viewed these ambling armadas from the air advanced the theory that any Japanese who observed one would suspect a trap, believing that the drydocks and other questionable looking pieces of equipment were in reality different forms of mystery ships or other secret offensive machines. Whatever the truth, all got through to safety.

Reducing at Eniwetok. On 8 October Commodore W. R. Carter, and his staff in the destroyer-tender flagship *Prairie*, Captain O. A. Kneeland, with the *Cascade*, Captain H. K. Gates, and the merchant ammunition ship *Plymouth Victory* sailed for Ulithi. The chief staff officer, Captain E. E. Duvall, with six officers remained at Eniwetok in the destroyer tender *Markab* to dispatch convoys and administer Squadron Ten affairs for a short period, then rejoin the main body at Ulithi. Officers of this staff represented the departments of small craft, maintenance, fuel, operations, and personnel, with one assistant for small craft, a boatswain. Many requests, problems, and duties beset this skeleton staff. The *Markab's* communications division was well nigh swamped with radio and visual traffic incident to servicing fleet units present; almost as much as that borne by the *Prairie*, recently gone forward. Near the end of the stay at Eniwetok a review was made of messages received from both naval and merchant ships. The following extracts show something of the daily routine of a service squadron representative:

Moments in the Life of a Service Squadron Ten Representative

HAVE OFFICERS FOR TRANSPORTATION X NO BOAT AVAILABLE X
WHERE CAN WE GET WATER X LUB OIL X DIESEL FUEL X
REQUEST BOILER REPAIRS X
IMPERATIVE WE OBTAIN WATER X AUXILIARY CIRCULATOR BROKEN
DOWN X
REQUEST ASSISTANCE OF REFRIGERATOR MAN X
REQUEST YOU DESIGNATE SOMEONE TO PAY US X
REPAIRS NEEDED BY RADIO RECEIVER AND TUBE TESTER X
WHERE CAN WE OBTAIN FIVE HUNDRED POUNDS GROUND COFFEE X
BEACH ADVISES ALL THEIR SUPPLY IN BEANS X
REQUEST CRANE BARGE REMOVE BULWARKS X
OUR ENGINES ARE STOPPED X CAN'T MANEUVER X SEND TUG X
MSG JOSEPH LEATHERS CK3C X HELLO JOE X COME OVER IF POSSIBLE X
SIGNED JOSHUA LEWIS
WHO ISSUES REGISTERED PUBLICATIONS X
ANCHOR WINDLASS NEEDS REPAIRS X
ALEXANDER HAMILTON TO MARKAB X HAVING TROUBLE WITH ICE
BOX X REQUEST SERVICES REFRIGERATION TECHNICIAN X
TEMPERATURE MY REFRIGERATORS WITH FIVE MONTHS SUPPLY IS NOW
THIRTY THREE DEGREES X
TO SQUADRON TEN REP MUST TRANSFER MY COLD STORAGE AT ONCE X
TO ALEXANDER HAMILTON YOUR MEAT CAN BE TRANSFERRED TO YF
THREE EIGHT FIVE NOW ALONGSIDE ZEUS DISPATCH ONE LOVE
CHARLIE MIKE (LCM) TO MARKAB TO PICK UP TARPAULIN X
GO TO MERCHANT WITH INITIALS ABLE HOW (ALEXANDER HAMILTON)
LOAD FROZEN MEAT AND FISH FOR DELIVERY YF THREE EIGHT
FIVE X HAVING WORKING PARTY THIRTY MEN READY DASH LOVE
CHARLIE MIKE WILL PICK THEM UP X EMERGENCY TRANSFER OF
FROZEN MEAT WHICH WILL SPOIL IF NOT MOVED X
MASTER VESSEL UNLOADING FROZEN MEAT ADVISED WORK WILL NOT
BE COMPLETED BY MIDNIGHT X ARRANGE TO RELIEVE CREW MID-
NIGHT TO TRANSFER MEAT BEFORE LOSS OCCURS X
MY COLD STORAGE IS GETTING ALONG FINE X SIGNED MASTER X

DID YOU PUT ALL MY MEAT IN YOUR REFRIGERATOR FOR RITZ CARLTON
(A HOTEL BARGE) X

MEAT BEING TRANSFERRED INTO REFRIGERATOR BARGE YF THREE EIGHT
FIVE X

WHEN CAN I GET MY MEAT BACK X

WE CAN LEND YOU A BOAT BUT CANNOT FURNISH WORKING PARTY X

DESIRE BOAT AT 0830 X SIGNED MASTER X

I AM NOW READY TO RECEIVE MY COLD STORAGE X THANK YOU X
SIGNED MASTER X

YOU REQUESTED BOAT AT 0830 AND ONE WAS SENT AT THAT TIME X

(Q. TO CAPTAIN OF ZEUS) DID ALEXANDER HAMILTON EVER GET HER
MEAT BACK X

A. YES SHE FINALLY DID X IT WAS GETTING TOO SOFT TO BE OF ANY
USE TO ME (END OF MEAT SEQUENCE) X

DO YOU HAVE FACILITIES FOR STRAIGHTENING AND REPAIRING STEEL
CARGO BOOM ON LIBERTY SHIP X

DUE BURST STEAM LINE TO DECK MACHINERY UNABLE TO GET UNDER-
WAY X

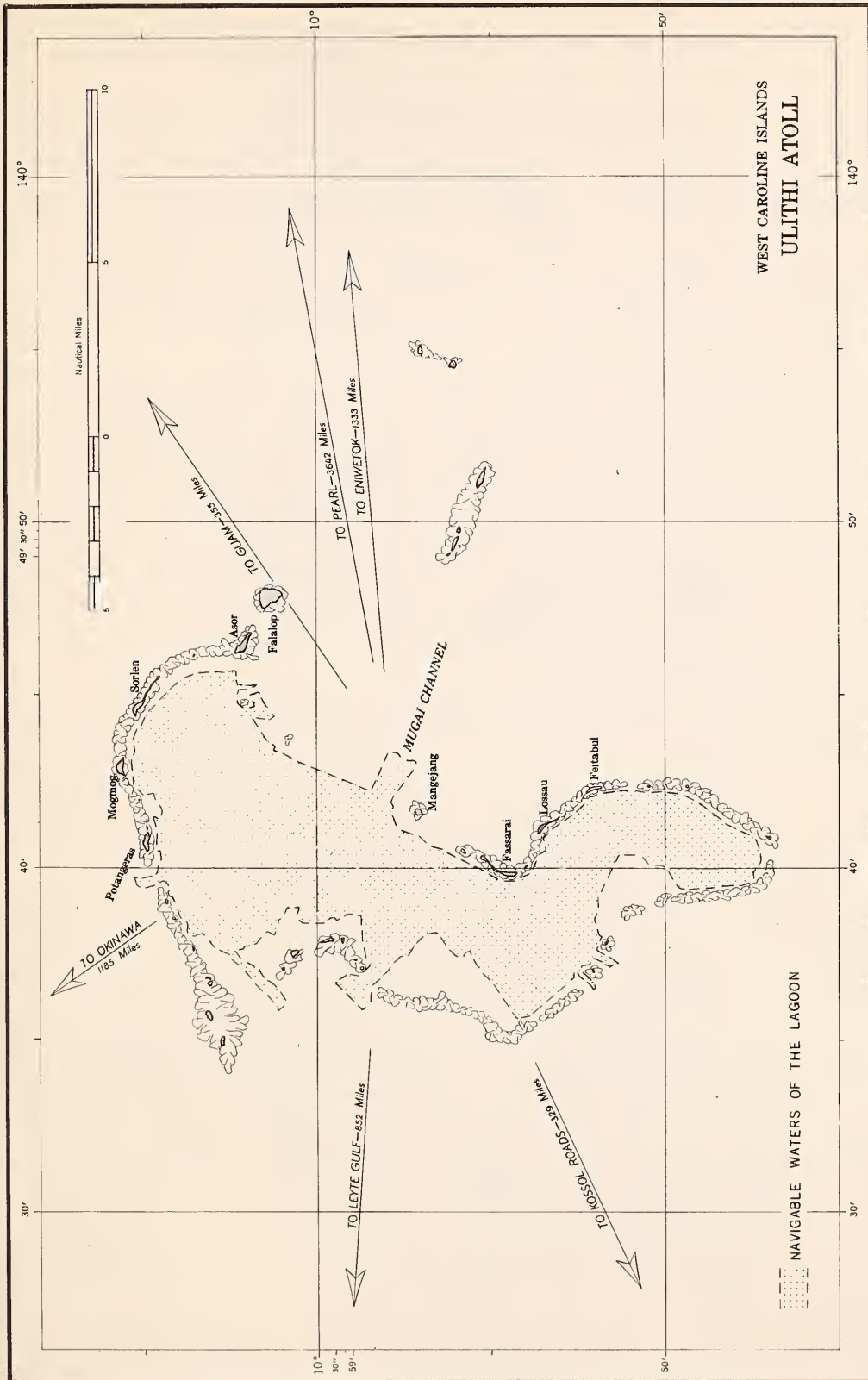
DESIGNATE SOURCE FRESH PROVISIONS X

HAVE MEDIUM SIZE BOY ALONGSIDE WHO WANTS TEN TO TWELVE
THOUSANDS GALLONS OF FUEL X ONLY HAVE SEVEN THOUSAND
ON BOARD X REQUEST GIVE HIM WHAT I GOT AND FILL UP AGAIN
X REQUEST PROVISION ASSIGNMENT X

WE NEED PROVISIONS X WATER X FUEL X REPAIRS X

FUEL?—WATER?—PROVISIONS?—PAY?—WATER, AFFIRMATIVE—PROVISIONS,
NEGATIVE—PROVISIONS! PROVISIONS! PROVISIONS! !* # %!!''

On 18 October Captain Duvall and his staff left Eniwetok in the *Markab*, leaving Lieutenant Commander N. H. Geisenhoff, commanding the drydock *ARD-23* and some officers to assist, in charge of service matters. The logistic equipment directed by Geisenhoff, and later by his relief, Commander C. Lovelace, commanding officer of the internal-combustion-engine repair ship *Oabu*, included the battle-damage repair ship *Zeus*; three floating drydocks; four covered ammunition lighters; one refrigerated stores lighter; three fuel-oil barges; one water, one large gasoline, and one sludge-removal barge; four small harbor tugs; and one seaplane wrecking derrick. On the 22d the *Markab* arrived at Ulithi,



WEST CAROLINE ISLANDS
ULITHI ATOLL

Ulithi Atoll.

and Captain Duvall and his temporary staff resumed their respective duties with Commodore Carter in the flagship *Prairie*.

Ulithi. Ulithi, largest atoll in the Western Carolines, lies slightly south of a line joining Guam and the Palau group, and approximately midway (360 miles) between them. The atoll consists of some 30 islands dotting a reef which surrounds a lagoon 19 miles long from north to south, 5 to 10 miles wide from east to west, capable of use as a fleet anchorage. The northern and southern ends offered the smoothest water, but neither was a storm shelter. The islands are low and offer slight protection from high winds.

Captured charts, substantially correct, indicated that the lagoon was heavily mined in certain areas. Mine sweeping began 21 September. Next day a reconnaissance platoon landed unopposed on three of the principal islands of the group. Friendly natives reported that the Japanese had left at least a month before. Unfortunately the fire support for the landing wounded four natives, who were given medical treatment but later died. Among them was "Princess" Marie, daughter of the chief, or "king," of Ulithi, who died on board the transport *Harris*. She was buried with her ancestors on Mogmog Island.

During the next 2 days mine sweeping continued, and the discharge of 5,600 tons of cargo from the transports and LST's was completed, the former withdrawing on the 25th. Occupation was now completed, giving the fleet possession of a new harbor which in the months to come proved its value as a logistic base for operations farther west.

The provisions stores ship *Aldebaran*, Captain E. E. Burgess, preceded Squadron Ten at this base, issuing fresh, frozen, and dry provisions, clothing, and ships stores to vessels of carrier groups until early morning of 3 October, when she ceased because of an impending typhoon. At 7:30 a. m. the Third Fleet stood out to sea to ride out the storm. South-west and west winds blew from 35 to 55 knots, and large waves built up. At 8:35 p. m. the *Aldebaran* received an SOS distress signal, "We are sinking," from the *LCT-1052*, about 1,500 yards distant. With her engines drowned out, the LCT began to drift and the *Aldebaran*, which in the meanwhile had hoisted out a motor launch, maneuvered to go closer. The motor launch was first to reach the stricken craft but only just as the LCT went down. Fourteen of the crew were rescued, but her commanding officer, Ensign A. E. Smith, was lost.

Between 1 and 6 October because of the storm, the carrier *Bunker Hill*, unable to reprovision at Ulithi, was ordered to remain, and when the work was completed rejoin the task force at the next fueling rendezvous.

The uselessness of the port as a storm shelter was fully demonstrated by the typhoon which caused the loss of the LCT and many small craft from the boat pool, besides halting all service operations. The strategic position justified its acceptance with its shortcomings. Commander Service Squadron Ten had a complete program of typhoon procedures promulgated which required only a two-word signal to put into effect. This was done on two subsequent occasions.

Improvement in Salvaging. Anticipated enemy action manifested itself when on the evening of 13 October the cruiser *Canberra* was torpedoed while 85 miles off Formosa. She was taken in tow first by the *Wichita*, which was relieved by the fleet tug *Munsee*, commanded by Lieutenant Commander J. F. Pingley. The *Munsee* used 225 fathoms of 2 ½-inch wire rope made fast to 60 fathoms of the cruiser's anchor chain. On the 14th the *Houston* was also torpedoed. She was under tow by the cruiser *Boston* on the 15th when the *Munsee-Canberra* tow joined up. Next day the group was attacked by Japanese torpedo planes which secured a second hit on the *Houston*. On the *Canberra* the salvage officer, Ensign P. S. Criblet, who had been placed on board by the *Munsee*, was drowned while diving in the forward engine room to inspect repairs in preparation for pumping it out. Later, notwithstanding the anxious moments spent by the officers and crews of the damaged cruisers, apprehensive not only for the safety of ships at the moment but of possible future enemy attacks, time was taken out for the burial-at-sea services for Ensign Criblet. In devotion to his duty he had given his life.

On the 20th, the War Shipping Administration commercial leased tug *Watch Hill*, Captain De Puey, took a tow wire from the *Munsee* and the two tugs in tandem brought their charge safely to Ulithi on the 27th. The *Houston* also made it safely the same day. At once the repair ship *Ajax* moored alongside the *Canberra* to make repairs and insure her watertight integrity before she moved forward. Since her torpedoing, the cruiser had had only the barest minimum of water for cooking and drinking, part of which she received from the *Boston* while under way. By 10 November the repairs were completed and the *Watch Hill* towed her to Manus, where she entered the floating drydock *ABSD-2*.

As usual when a vessel left the theater of operations for home, the big cruiser was cannibalized—that is, equipment and articles scarce in the combat zone, and which she could spare, were removed. Sometimes gun mounts, more often food, ammunition, and spare parts, and always boats, if any, were taken. In this case, the main battery ammunition was left behind. Before the work of making a damaged ship ready for sea,

considerable time and effort had to be expended in clearing away wreckage, washing out oil, and in some cases removing bodies. Much cutting and welding was required. To assist the drydock's personnel, the repair ship *Medusa* supplied welders for temporary duty on the *Canberra*. She undocked on 6 January 1945, and on the 13th was under way from Manus to Pearl Harbor.

Towing the Houston

In the *Houston's* war diary for 14 October, Captain W. W. Behrens reported that to cover the withdrawal of the damaged *Canberra*, the scheduled movements of Task Force 38 were changed. Task Group 38.2 launched a dawn fighter sweep against Formosan airfields, and during the afternoon the *Houston* was sent to reinforce Task Group 38.1, which was giving close cover to the *Canberra* and the ships assisting her. That task group about 4:30 p. m. launched aircraft to intercept a large group of bogies (unidentified planes) coming in from the northwest, about 90 miles distant. When our fighter planes returned and landed on their carriers just before sunset they believed they had broken up the raid. Later, at 6:36 p. m. (sunset was at 6:22 p. m.), several low-flying aircraft were detected by radar, coming in from far ahead. Meantime several other planes were seen on both sides of the *Houston*. At 8:41 p. m. she was struck by a torpedo on the starboard side near frame 74. All propulsive and steering power was lost, and the ship listed 16 degrees to starboard, her after engine room flooded beyond control and abandoned.

At 8 o'clock the destroyer *Cowell*, Commander T. H. Copeman, in response to a request for a ship to remove excess personnel, with superb seamanship, came along the port side, but rough seas made the procedure too dangerous and she was ordered away. Excess personnel were put over the side in rafts and picked up by the *Cowell*, *Boyd*, and *Grayson*. At 8:30 p. m. the serious buckling in the waist of the ship threatened to break her in two, so the commanding officer gave the order to abandon ship, which was begun in cool and orderly fashion. Half an hour later further information indicated she might be saved, and all remaining personnel were ordered to stay aboard. In the meantime 743 men and 33 officers were picked up by 6 destroyers, 48 officers and 152 men remaining aboard. At 9:20 p. m. the cruiser *Boston* approached, made ready to tow, and by 11:50 p. m. was under way at 3 knots. On the morning of the 15th the *Houston's* draft was 34 feet forward and 30 feet 4 inches aft



The Houston—what holds her up?

instead of her normal maximum mean draft of 25 feet. At 8 p. m. of the 15th both the *Houston* and *Canberra* tows were only 220 miles from Formosa.

During the morning watch next day the *Houston* had an electrical fire in the after steering station, which cut off power from her anchor engine. This delayed passing the tow to the tug *Pawnee*, Lieutenant H. C. Kramer, which had come up shortly after 6 a. m. However, by 10:36 a. m. the latter's wire was secured to the cruiser's port anchor chain, and by 11 a. m. the tug began slowly building up to towing speed. At 1:40 p. m. the task group commander warned of approaching enemy aircraft. The *Houston* brought all available men topside and manned as many 20-mm. and 40-mm. guns as possible, officers manning some of the guns. An enemy aircraft was sighted coming in from nearly dead astern, low to the water. The 3 supporting cruisers and 5 destroyers circled the tow at high speed and when they could bear, joined the *Houston* in opening fire on the oncoming Japanese plane. Though hit repeatedly by the cruiser's automatic weapons, the enemy succeeded in dropping his torpedo, which struck the already crippled cruiser near the stern on the starboard side, wrecking the whole after part of the hangar, which was opened to the sea, breaking the aviation gasoline tanks and starting a raging fire which took half an hour to extinguish. A second plane attacked the *Santa Fe*, and a third was shot down. It was learned later that our air support had destroyed all but these 3 of a very large raid, reported to have been made up of 60 to 90 planes of all types, which, had it broken through, would have finished off the 2 cruisers.

In the midst of these disturbing events, while Captain Behrens was struggling desperately with one-fourth a crew to keep his ship from sinking, the towing vessel *Pawnee* sent the *Houston* the encouraging message, "We'll hold on," and continued to make the usual 5 knots, in the right direction. This simple message might properly take its place among other immortal words uttered or signaled during the heat of a sea fight—"I have not yet begun to fight!" "Don't give up the ship!"—for here was a relatively small service unit, the fleet tug, giving heart to a crippled cruiser, the little *Pawnee* applauding the courage of the hard-hit big fellow with "We'll hold on!" as much as to say: "You'll make it. We're betting on you!"

Hold on the tug did, until 21 October, when she was detached to other duty. After this the tow consisted of the fleet tug *Zuni*, Lieutenant R. E. Chance, and the salvage vessel *Current*, Lieutenant J. B. Duffy, towing in tandem. On the 18th the oiler *Pecos* gave the *Pawnee* 875 barrels



The Reno bard bit and barely afloat.

of Diesel fuel, and the *Munsee* was fueled at the same time by the *Kennebago*, believed to be the first time fleet tugs had been fueled at sea while towing. On the 27th additional tugs nosed the *Houston* through Mugai Channel into relative safety of Ulithi lagoon, where Commander Service Squadron Ten assigned the repair ship *Hector*, Commander J. W. Long, to make the cruiser seaworthy for her voyage to Manus and then home. Thus ended a 1,250-mile trip on the end of a towline. The gallant *Houston* had been brought to safety from under the shadow of Formosa.

Admiral Halsey sent an enthusiastic "Well done!" to all concerned in the salvage. In another Halsey report are the words: "Just after the strikes on Formosa and Luzon, the torpedoing of the *Canberra* on the 13th and the *Houston* on the 14th, there was a tremendous Japanese campaign of falsehood, claiming the destruction of virtually all the Third Fleet. This propaganda program may have been inspired by a feeling of necessity to reassure the Japanese people concerning the 'impregnability' of the Empire, or it may have had a seeming basis of truth in the minds of the authorities; erroneous conclusions probably stemmed from exaggerated claims of returning pilots." Whatever the basis of this propaganda, it was evident that our ability to recover quickly from most types of damage, or at least to avoid total destruction, misled the Japanese in their estimates, and was particularly exemplified in the saving of the *Canberra* and *Houston*, as well as in that of the *Reno* on 4 November.

On 3 November the *Reno*, Captain R. C. Alexander, operating with Rear Admiral F. C. Sherman's Task Group 38.3 east of the Philippines, received a torpedo hit shortly before midnight on the port side, aft. Next day the fleet tug *Zuni* began towing her toward Ulithi. By only the most courageous determination on the part of the captains, officers, and crews of both the cruisers and towing vessels alike did the three tows somehow reach port notwithstanding sinking condition and attendant adversities. Two weeks after the arrival of the *Canberra* and *Houston*, the *Zuni* brought *Reno* in to Ulithi on 11 November. Squadron Ten's forces pumped all of them out, shored up bulkheads, restored some interior communications, water systems, etc., and made structural repairs enough to enable the three to be towed safely to Seeadler.

Temporary repairs were most extensive in the case of the *Houston*, which remained at Ulithi 48 days. The *Canberra* stayed 14 and the *Reno* 39 days. By 19 December all three had left Ulithi by separate tows, with extra tugs or large mine sweepers accompanying, and with PBM Mariners furnishing air cover. By mid-February all were under way for rear areas and eventually home ports, at a speed of 17 knots.

The work of making these cruisers seaworthy and operative, so they might proceed under their own power, testifies to the wisdom of having a large floating drydock available, and to the skill of the repair forces of the detachment at Seeadler. Captain Ogden coordinated all such activities until 11 December 1944, when he moved forward to Kossol Roads in Palau, being relieved as Commander Task Unit 30.9.1 by Captain Paul B. Koonce, commanding the destroyer tender *Sierra*, who remained at Manus until 15 February 1945.

The saving of these cruisers, not discounting the military protection afforded by their escorts, may be attributed to the effectiveness of the logistic support from floating bases. The advance of such bases as the action moved westward, and the presence, at the time, of units of Service Squadron Ten at Ulithi, relatively nearby, made it possible to operate fleet tugs and rescue vessels near the combat areas, in readiness to tow damaged ships away from further danger or complete loss, to that base for total repairs or for temporary work to enable onward routing to home yards. The Japanese were slow to recognize the effectiveness of this.

CHAPTER XX

The Philippines Campaign

Forces and Vessels—Logistic Support of the Seventh Fleet—Battle of Leyte Gulf

BY THE END OF SEPTEMBER 1944 we had moved steadily across the Pacific to such effect that the former Japanese bases east of the Philippines which were not in our hands were so completely cut off from enemy main forces that they were no threat to our operations. By the middle of October the Third Fleet was based for logistic support on Ulithi, where the main body of Service Squadron Ten was anchored; and by 20 October naval and military forces under General MacArthur, covered by Admiral Halsey's Third Fleet, made the Leyte landings.

Vice Admiral Kinkaid's Seventh Fleet, constituting MacArthur's naval forces, was organized in 2 task forces and 3 task groups, numbering more than 180 combat vessels and more than 700 altogether. Rear Admiral D. E. Barbey commanded Task Force 78, Vice Admiral T. S. Wilkinson Task Force 79, Rear Admiral R. S. Berkey Task Group 77.3, Rear Admiral J. B. Oldendorf Task Group 77.2, and Rear Admiral T. L. Sprague Task Group 77.4. The combat vessels included 6 old battleships, 5 heavy and 6 light cruisers, 18 escort carriers, 84 destroyers, 22 destroyer escorts, 34 submarine chasers, and 12 frigates. Among the amphibious types there were 5 combined operations-communications headquarters ships, 10 attack transports, 88 landing craft (infantry), 21 landing craft (tank), 10 landing ships (dock), and 151 landing ships (tank)—a total of 343. Mine sweepers and patrol and service types made up the remainder of the Seventh's forces. Submarines of Task Force 17 and of the Seventh Fleet supported the operation by furnishing early information of enemy movements, performing lifeguard service, and attacking enemy shipping.

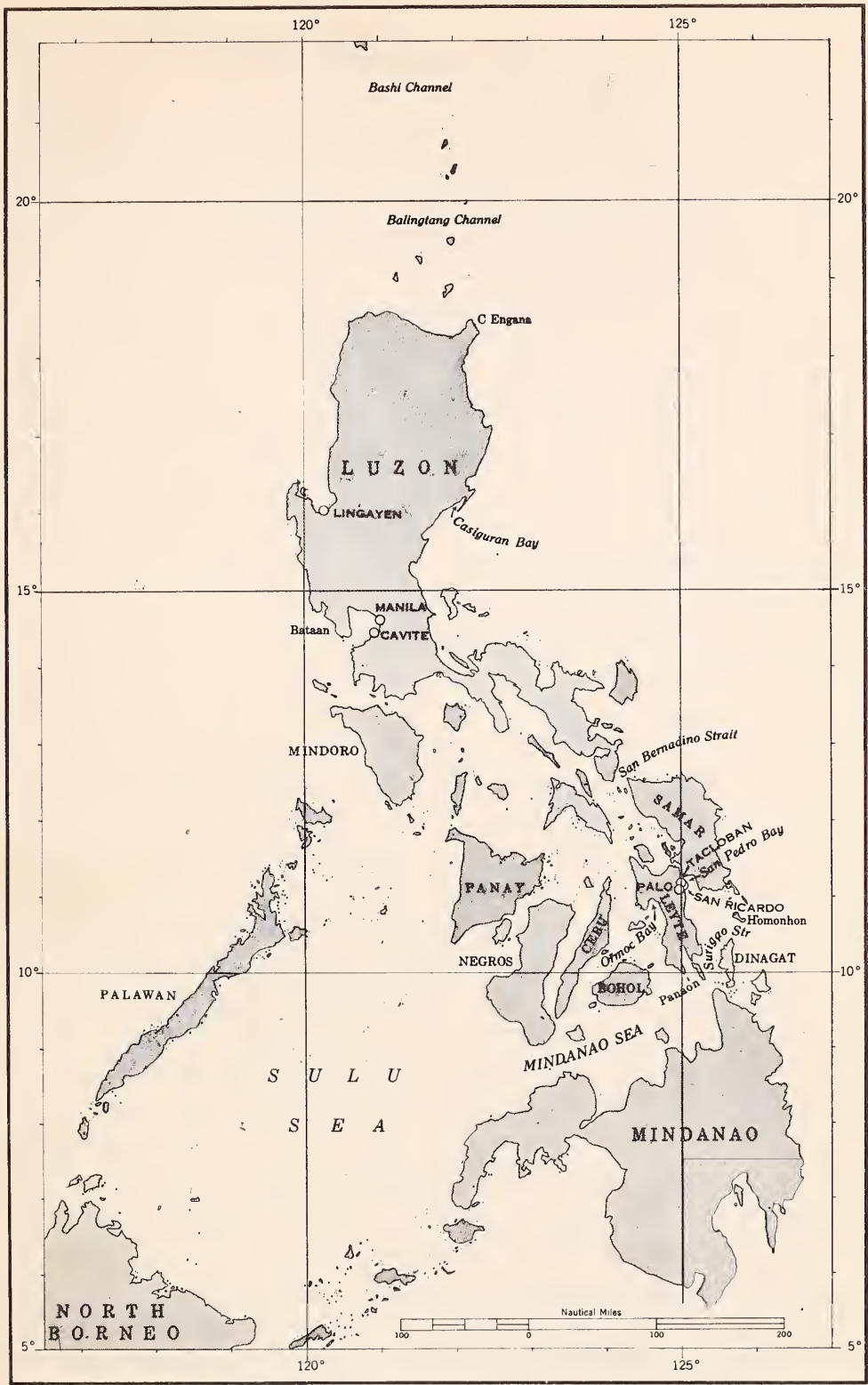
Admiral Halsey's Third Fleet of fast battleships and carriers was or-

ganized in 4 task groups—1, 2, 3, 4—all under Vice Admiral M. A. Mitscher as commander of Task Force 38. D-day was set for 20 October. Eleven days previous the groups were made up as follows, though subject to some changes from time to time: Task Group 38.1, Vice Admiral McCain, included 2 large carriers and 3 small ones, 3 heavy cruisers, and 11 destroyers. Rear Admiral Bogan's Task Group 38.2 had 3 carriers, 2 fast battleships, 2 small carriers, 3 light cruisers, 2 light anti-aircraft cruisers, and 17 destroyers. Task Group 38.3, Rear Admiral Sherman, numbered 4 fast battleships, 2 large and 2 small carriers, 3 light cruisers and 1 light anti-aircraft cruiser, and 17 destroyers. Rear Admiral R. E. Davidson, in Task Group 38.4, commanded 2 large and 2 small carriers, 1 heavy and 1 light cruiser, and 12 destroyers.

Carrier Task Force Missions Before Landings. With the nearest allied airfields nearly 500 miles from the landing beaches, the initial purpose of the Fast Carrier Task Force of the Third Fleet was to secure control of the air before D-day, 20 October. To establish such supremacy over Leyte and surrounding areas, large numbers of enemy aircraft in the Philippines had to be destroyed, and attacks made on bases through which aircraft from Japan had to pass. Destroying aircraft in the Philippines was second in importance only to destruction of the enemy fleet itself, and helpful toward that as well.

To attain these objectives the plan was to strike the strongly defended Japanese aircraft staging bases in the Nansei Islands, and Formosa, following with attacks in the Philippines in preparation for the assault there by Seventh Fleet forces. Okinawa was the first objective in the Nansei group. On 10–11 October its effectiveness as an aircraft staging base was interrupted and substantial damage inflicted on surface shipping. From the 11th to the 16th Formosa was subjected to air strikes from Task Force 38, and again enemy supporting facilities were substantially reduced by the destruction of 807 aircraft and 26 ships. From the 17th to the 23d the Fast Carrier Task Force gave more direct support to the Leyte landings by attacks on the Legaspi and Clark Field areas, and other Luzon airfields.

Staging for the Leyte Assault. In September the plan for the second phase of Stalemate II, the capture of Yap and Ulithi, was canceled, and Leyte was ordered attacked on 20 October, months earlier than had been contemplated. Ulithi, which was to have been seized after Yap, would be taken as soon as practicable. All shipping (except certain LST's and small craft left at the objective) employed in the assault on Peleliu and Anguar was sent, after unloading troops and stores, to South-



Philippines.

west Pacific ports of Hollandia and Manus to be utilized for transportation of troops to the Leyte area.

Task Force 33, the Yap Attack Force, was assigned in its entirety of both assault shipping and troops to MacArthur for use in the Leyte operation. Task Force 33, or 79 as it soon became, reached Eniwetok 26 September and replenished its supplies there from Service Squadron Ten. Then, to permit consultation between commands, concentration of forces, and to avoid the possibility of typhoons in the belt between Eniwetok and Leyte, the LST and transport convoys left Eniwetok for Manus on 28 and 29 September.

Vice Admiral Kinkaid, commanding the Seventh Fleet, had two main amphibious attack forces: The Northern, Task Force 78, under Rear Admiral Barbey, commanding the Seventh Amphibious Force, and the Southern, Task Force 79, under the Commander Third Amphibious Force, Vice Admiral Wilkinson.

Northern Attack Force, Task Force 78. Troops of the four attack groups which comprised part of the Northern Attack Force were embarked at Finschhafen, Hollandia, and Manus. The force, without the San Ricardo attack group transports under Rear Admiral Fechteler, Commander Task Group 78.2, left Hollandia on A-minus-7 day, Friday, 13 October, an unlucky day for the Japanese. The San Ricardo transports left Manus and effected rendezvous with the force 2 days later.

Southern Attack Force, Task Force 79. Assault shipping and escorts hitherto designated Task Force 33, now Task Force 79, was originally assigned to capture Yap and Ulithi. The troops in it (XXIV Corps) reported to the general commanding the Sixth Army, but remained in the assault ships. The organization remained substantially the same as had been planned for the Yap operation, consisting of Attack Group Able, Task Group 79.1, Rear Admiral Conolly, carrying the 7th Infantry Division, and Attack Group Baker, Task Group 79.2, Rear Admiral Royal, carrying the 96th Infantry Division. Task Force 79 remained at Manus for its arrival, 3-4 October, until its departure for Leyte in two detachments, the LST convoy on the 11th, the transports the 14th.

Landings at Leyte. Initial landing sites were around Leyte Gulf in the east central Philippines. Both Northern and Southern Attack Forces converged on Leyte in almost straight-line approaches. On 17 October troops landed on Dinagat and Suluan Islands, commanding the approaches to Leyte Gulf, and next day made amphibious landings on Homonhon Island. Thereafter mine sweepers and underwater demolition teams removed mines and investigated landing beaches. On the 18th

bombardment ships entered the gulf and began firing on shore installations. Simultaneously planes from the carriers of the Third and the carrier escorts of the Seventh Fleets attacked enemy positions and neutralized his nearby airfields. Admiral Barbey's Task Force 78 and Admiral Wilkinson's Task Force 79 entered the gulf during the night of the 19th-20th, and that day successful landings were made on schedule on the western side of the gulf. With the stepping ashore of our troops, the actual return to the Philippines had begun.

Logistic Support of Seventh Fleet. Admiral Kinkaid, in the logistic annex of his operation plan for the seizure of the Leyte area, specified the naval bases at Manus and Hollandia as the principal sources of initial supply, and further that Seventh Fleet supply agencies in New Guinea and the Admiralties, plus CinCPOA supplements at Manus, meaning Ogden's group of Service Squadron Ten, be utilized to accomplish the usual levels. These were ammunition, fuel, and lubricants to capacity; fresh and dry provisions to maximum capacity, but not to exceed 120 days for ship's company and 30 days for embarked troops; general stores, clothing, small stores, ship's stores stock, medical items—each to last 120 days.

Tasks of Commander Service Force, Seventh Fleet. The order required that Rear Admiral R. O. Glover, commanding Service Force, Seventh Fleet, provide fuel, provisions, and water at Manus, and the same, with ammunition, at Hollandia; replacement fuel from floating storage at Leyte on A-plus-4 day; resupply of provisions there by A-plus-30 day; tender and drydock facilities for all types of vessels at Manus, and tender for amphibious craft and destroyers at Hollandia; one repair ship (landing craft), the *Achilles*, Lieutenant C. O. Smith, to accompany the Northern Attack Force and be under Admiral Barbey's operational control. Admiral Glover was also ordered to appoint a service force representative for naval forces afloat in the Leyte area, to accompany Admiral Barbey to the objective.

Fueling schedules required that Task Unit 77.7.1, Captain J. D. Beard, of the service group, consisting of three fleet oilers, with escort, be on station A-minus-5 day to fuel Task Groups 77.5 and 78.4, respectively, the mine-sweeping-hydrographic and Dinagat attack groups. After that the APD's, the high-speed old destroyer transports of Task Group 77.6, the beach demolition group, were fueled, and then the destroyers, and heavy and light cruisers of Task Group 77.2, Admiral Oldendorf's bombardment and fire-support group.

That done, the oilers retired along the route of advance, joining the

LST's of the Southern Attack Force, Admiral Wilkinson's Task Force 79, and while proceeding in convoy refueled the LST's and escorts as Admiral Wilkinson specified. Returning, to be on station 2 days before the assault, the tankers fueled the transports and escorts of the Southern Attack Force as specified by the task-group commander. After this the oilers returned to Kossol Roads to refill, then went to fueling areas about a hundred miles east of the objective.

Bombardment Group Logistics. Admiral Oldendorf reported on the bombardment and capture of Leyte: "Prior to leaving Manus all ships of Task Group 77.2 had loaded to bombardment ammunition levels, had been fueled, and in the last few hours had received provisions. Provisioning was late because of the delayed arrival of the U. S. S. *Bluejacket*, and it appeared for some time that, in spite of the excellent provisioning organization set up by the Manus representative of ComServRon Ten, ships would have to sail without sufficient food to carry them through the operation. Apparently provision-ship operating schedules were not changed adequately to conform with the requirements of the newly planned operation. Some ships of the bombardment and fire-support group were reported as having only 6 days' supply of provisions on hand, and would hardly have been able to proceed on the operation had they not received provisions at the last minute."

Admiral Oldendorf's last statement is noteworthy, indicating the strong possibility of important, perhaps vital, ships being delayed for lack of food. In a very large and complicated plan such as that involved in capturing Leyte, the wisdom of having well-coordinated logistic support in ample quantity cannot be overemphasized.

The report continued: ". . . it was wisely decided to bring the oilers and ammunition ships into Leyte Gulf, which saved much time and did not reduce the combatant force . . . It is appreciated that chances were taken in making this move as 'Flash Reds' (enemy aircraft in near vicinity) were frequent. Fueling of units was usually accomplished expeditiously, although the large number of ships to be fueled and the small number of oilers made the operation seem an endless one.

"The taking of ammunition was, as usual, slow, difficult, and unsatisfactory. Two ammunition ships, the U. S. S. *Mazama*, Commander P. V. R. Harris, and the S. S. *Durham Victory*, were provided. The *Mazama* was well equipped, had its own winchmen, and helped in every way to expedite loading . . . The *Durham Victory* had a very small civilian crew, no winchmen, and no previous experience with ammunition handling. A representative from the *Mazama* was placed

aboard the *Durham Victory* and was of great help. However, throughout the loading period it was necessary to have the combatant ships supply winchmen to the *Durham Victory*. Trained winchmen are not usually available even on the larger ships, and require much experience before they are able to work holds with rapidity and safety. Since an ammunition ship is not a desirable neighbor in a harbor infested with enemy aircraft, and as it is of great importance that combatant ships be reloaded with ammunition as quickly as possible, it is strongly recommended that only naval ammunition ships be sent into assault areas, or if it be necessary to send civilian-manned ships, that the crews be augmented by trained winchmen, preferably by Special C. B. (Construction Battalion) personnel: otherwise by civilian longshoremen." Both Admirals Wilkinson and Kinkaid concurred that sending merchant marine ammunition ships into assault areas was undesirable.

The Fueling Group. Story of the Ashtabula. The war diary of the Navy oiler *Ashtabula*, Lieutenant Commander W. Barnett, reveals its part in the plan mentioned. On 11 October Captain J. D. Beard, Commander Task Unit 77.7.1, and his staff came aboard at Humboldt Bay, Dutch New Guinea, for temporary duty. Next day the ship sailed in accordance with Admiral Kinkaid's operation plan for a fueling rendezvous with the Navy oilers *Salamonie*, Captain L. J. Johns; *Saranac*, Commander R. H. Parker; *Chepachet*, Lieutenant Commander H. K. Wallace; the merchant tanker *Pueblo*; and escorts. On the 15th, the *Ashtabula* fueled some vessels of the mine-sweeping and beach demolition groups, delivering 6,350 barrels of fuel and 1,072 barrels of Diesel oil. The following day she gave the cruisers of the fire-support group, *Minneapolis*, *Louisville*, and *Honolulu*, 23,728 barrels of fuel oil and 1,800 gallons of gasoline. After delivering 14,150 barrels of fuel on the 17th, she ceased fueling, went back to Kossol, and replenished her cargo from the *Pueblo*, taking 29,000 barrels.

On 20 October, in company with other oilers, she left Kossol, anchoring in Leyte Gulf on the 23d, A-plus-3 day, 7 miles east of the beachhead. She gave four destroyer types 7,000 barrels of fuel before going to a night anchorage in the lee of Homonhon Island. The next day enemy planes passed overhead, and she fired at them. Later she anchored 7 miles east of the beachhead and issued 3,000 barrels of fuel, 860 barrels of Diesel oil. While she was under way with a task unit seeking night anchorage, four enemy planes singled her out as a target. At 6:48 p. m. a torpedo struck her on the port side between frames 66 and 69, opening a hole 34 x 24 feet and flooding a pumproom. Fortunately no fire or

casualties resulted, and no damage to engineroom or fireroom. Disregarding their ship's injury, the *Ashtabula's* gunner opened fire as enemy planes circled within range. Radar and radio on the bridge had been knocked out and the ship listed 12 degrees to port. The first lieutenant immediately took damage-control measures by pumping cargo from No. 8 port wing tank to fill starboard wing tank, using fire hose to right the ship. By direction of the commanding officer of the *Salamonie*, the rest of the task unit left, except for the fast attack transport *Bowers*, which stood by. By 7:10 p. m., about half an hour after being hit, the oiler was making 10 knots going away from shore. Before an hour had elapsed she was on an even keel and her radar had been repaired. Steering in a generally southerly direction, she rejoined the task unit and spent the rest of the night on evasive courses.

Next morning at 5:45 three enemy planes were driven off by gunfire, the task unit making emergency turns to port and starboard and laying down a smoke screen. At 6:05 a Japanese plane approached but the *Ashtabula* shot it down. More planes came in but did not attack. By 10:15 a. m. "all clear" was sounded, and the unit proceeded to Maglobo Bay to fuel Task Force 77. The wounded oiler did not participate, but was ordered to steer evasive courses in the gulf for the night. Next day, the 26th, the heavy cruiser *Minneapolis* came close along the injured port side of the *Ashtabula* and took 1,530 barrels of fuel and 1,800 gallons of aviation gasoline, while to starboard the *Salamonie* was taking 128,598 gallons of aviation gasoline. When the *Minneapolis* drew clear, the destroyer *Hadley* took her place and gulped 2,500 barrels of fuel. Late in the afternoon, after receiving orders to steam evasive courses about the gulf during the night, an enemy plane was taken under fire and the task unit began making smoke and emergency turns. Two more Japanese planes came and were driven off. On the 27th, after giving 202,700 gallons of aviation gasoline to the *Suamico*, the *Ashtabula* went to the fueling area where on the 28th she transferred Commander Task Unit 77.7.1 and his staff to the *Saranac*, and later, with the *Chepachet*, was detached and ordered to Kossol Roads, where salvage of the fuel remaining on board was begun.

Ammunition Units of the Fueling Group. The U. S. S. *Mazama* and the merchantman *Durham Victory* were ammunition carriers of Task Unit 77.7.1, and accompanied that group from Kossol to Leyte. From their arrival, 23 October, D-plus-3 day, their operations were greatly hindered by threats of enemy action and by actual air attacks, one of which resulted in a hit by aerial torpedo on the ship ahead of the *Mazama*, the

oiler *Ashtabula*, as already related. During darkness the ammunition ships maneuvered in retirement, returning to anchorages off the Samar coast, to continue issues as early in the morning as enemy action permitted. With the warning "red" all holds had to be closed; the crew not busy with that manned battle stations. Often smoke was used as cover, and if under way, evasive courses were steered. The average time ammunition ships had to make issues during that first week was little more than 4 hours each day. Nevertheless, between 23 and 30 October the *Mazama* delivered 2,220 tons and the *Durham Victory* about half as much. Commander Harris of the former reported that though the working time per day was very limited, analysis of the unloading showed a very high rate of ammunition delivered per hour. On 1 November the ship left for Kossol Roads.

General Comment on Ammunition and Loading. Vice Admiral Wilkinson, commanding Task Force 79, commented in his report on Leyte that "Upon conclusion of the Peleliu-Anguar attack, the Fire Support Group was refilled as necessary to the original allowances and proceeded to Leyte with this load . . . Because of the greater effectiveness of high capacity projectiles against all targets other than very heavy reinforced masonry or concrete, a large proportion of these projectiles for major caliber and 8-inch guns, 80% for the former and 66% for the latter, was loaded, with the remainder armor piercing for possible use against heavy structures. Normal loads were retained for 6-inch and smaller . . . In view of the onset of the Japanese fleet the reduced supply of armor-piercing projectiles offered a serious embarrassment, and in that light it would have been well when the plans were changed to have reconsidered ammunition allowances, even at the expense of the efficacy of the preparatory bombardment . . . It is understood that in the night engagement in Surigao Strait the small quantity of armor piercing available was not entirely consumed, but it is obvious that had a day action with the Japanese fleet off Samar followed, the armor-piercing situation would have been critical."

Ammunition Allowances. Rear Admiral Oldendorf's preliminary action report for Task Group 77.2 on the battle of Surigao Strait, though it is factual, does not explain why supporting battleships were not better supplied to meet the enemy heavies. He wrote: "The combatant forces in Leyte Gulf were assigned sufficient AP (armor piercing) to handle what had been heretofore considered normal needs for a bombardment ship. This averaged an ammunition loading of about 25% AP and 75% HC (high capacity). The AP was to be used in part for knocking out

tough enemy installations against which the HC was ineffective; and, in part, as a possible reserve for use against enemy raiders. Prior to this operation the loading had been ample for all purposes. However, it was clearly inadequate for the Leyte Operation in that danger from enemy surface forces was not only high but actually became a reality in the battle of Surigao Strait. Here the shortage of AP ammunition was so keenly felt as to seriously affect the tactical considerations of the action. It became necessary to permit the enemy to come into relatively close range before opening fire. This brought our surface forces within range of Japanese torpedoes and also well within range of Japanese major guns. The fact that neither these guns nor torpedoes were effectively used by the enemy in no way diminished the danger to our own forces by this range limitation. Ammunition ships were made available on A-plus-2 day in this operation, but this was a little too late to be fully effective."

Ammunition Expended. "The AP allowance of the heavy ships was but 25 to 30 percent of the normal allowance; the remainder . . . being taken up by HC. Of this AP 20-30 percent, a percentage varying for the different ships, had been expended for bombardment purposes. Thus the amount of AP on board the battleships on the night of the battle of Surigao Strait was a disturbing element. In addition to the above 20-30 percent of AP there remained approximately 12 percent of the HC projectiles with their reduced charges, and about 40 percent of the 5-inch mark 18 allowance. It is therefore evident that unusual attention to the conservation of ammunition was necessary and that had the action been prolonged a shift in type of main battery ammunition would have been required." It may be noted parenthetically that the reserve ammunition ships *Bluefield Victory*, *Iran Victory*, and *Meridian Victory* at Kossol Passage were not called in.

Water. Admiral Kinkaid's operation plan required that one clean fleet oiler, with a capacity of approximately 100,000 barrels, be available as a water ship to back up the amphibious forces. Large ships with evaporating plants and tanks of considerable capacity for fresh-water storage were self-supporting. Even some of these were taxed to the limit by the needs of the large numbers of troops carried, delays or alterations of the plan, issues to other ships, or breakdowns of distilling apparatus. Amphibious vessels and small craft with no water-making facilities were wholly dependent. The fleet oiler *Ponaganset*, Commander J. R. Sanford, played an important part during the Palau-Leyte operations in supplying fresh water. Though originally specified to be at Leyte at A-plus-4 day, the

Ponaganset instead operated in the Palau area with voyages to Manus in the Admiralties for replenishment of her cargo of water. Between 20 and 30 September she lay off the tip of Peleliu Island supplying fresh water to landing craft engaged in the Palau operations, discharging 71,688 barrels and servicing 77 vessels during September. In October she was at Kossol Passage making issues of water and later went to Manus to load another cargo, returning again to Kossol and off Peleliu. In October she gave out 43,608 barrels, servicing 125 vessels, and in November in the same area 52,207 barrels to 206 vessels.

So many different items comprise the logistic requirements of all the forces concerned that it would give a wrong impression to say that without any one particular thing the operation would be seriously handicapped. Yet certain supplies are of unquestioned importance, among them food, ammunition, fuel, and water. Among these, water, because of its abundance at home, is most likely to be taken for granted and overlooked. Our planners realized this in time and made sure of an adequate supply. Its importance in tropical seas, thousands of miles from normal bases of supply, is vital.

Battle of Leyte Gulf

The Great Sea Fight Looms. Besides their claims of having destroyed virtually all of Admiral Halsey's fleet, the Japanese press and broadcasts had for months been minimizing their own continued reverses by prophesying the annihilation of our forces when we were lured farther to the west. The enemy could hardly avoid trying to make good that boast. The general strategic factor seemed in his favor. Our lines of communication were stretched to a tremendous distance, his materially shortened. He would fight within easy supporting range of his own airfields. Other considerations also influenced him, and since our possession of the Philippines would be a serious strategic threat, it was apparent that the Empire would soon send its full strength against us. Decisive action was looked upon as probable.

Japanese Naval Strength. On 20 October, the time of the Leyte landings, Japanese combatant ship strength was estimated as, in the Formosa-Japanese Empire area, 3 battleships; 6 carriers; 2 XCV battleships, with small flight deck aft and retaining 8 of the original 12 fourteen-inch guns (maximum speed, 23 knots); 5 light carriers; 3 carrier escorts; 4 heavy cruisers; 7 light cruisers; and about 20 destroyers. In the Singapore area

were 4 battleships, 1 carrier escort, 11 heavy cruisers, several light cruisers, and about 20 destroyers.

Strength of the United States Forces. Our naval forces in the Philippines area were those of the Third Fleet and the Western Pacific Task Forces under Admiral Halsey, and the Seventh Fleet and Central Philippines Attack Force under Vice Admiral Kinkaid, commanding the Allied Naval Forces. Though the numbers changed from time to time, on 22 October there were roughly, with the Third Fleet, operating to the eastward of the islands, 6 battleships, 6 carriers, 6 light carriers, 2 heavy cruisers, 7 light cruisers, and 44 destroyers. In the Seventh Fleet in or near Leyte Gulf, were 6 old battleships, 16 escort carriers, 5 heavy and 6 light cruisers, and 88 destroyers. Thus the United States had a superiority in battleships, carriers, and destroyers, but a few less heavy cruisers than the Japanese.

Task Group 38.2 (Admiral Bogan). About 8:22 a. m., 24 October, Admiral Halsey received a report from an *Intrepid* plane that a large Japanese force without transports or carriers was south of Mindoro, moving eastward toward San Bernardino Strait. This force, known here as the Center Force, could easily reach Leyte Gulf before daylight on the 25th. At 8:28 a. m. Halsey sent an urgent dispatch ordering Task Groups 38.3 and 38.4 to concentrate on Task Group 38.2, which was opposite the strait and nearest the probable enemy line of approach.

Task Group 38.3 (Admiral Sherman). After launching dawn searches, this group about 8 a. m. received a report that about 40 enemy planes were closing in from the west, with a second and later a third large enemy raid appearing on the radar at about 60 miles distance. A brisk air battle ensued for several hours, Admiral Sherman maneuvering his group skillfully within rain squalls as much as possible, emerging to launch or land planes. While most of the attacking Japanese came from the direction of Luzon, a preponderance of carrier-type planes among them led to the conclusion that an enemy carrier force might be threatening from the north-northeast, a sector not included in the dawn searches.

Task Group 38.4 (Admiral Davison). About 9:05 a. m. on the 24th a search-strike group from the *Enterprise* reported an enemy force estimated to be two battleships, one heavy cruiser, and four destroyers southwest of Negros Island, headed northeast. The planes attacked and reported three 500-pound bomb hits on a battleship and several rocket hits on a *Mogami*-class heavy cruiser and four destroyers. This enemy, to be referred to as the Southern Force, then about 215 miles west of Surigao

Strait, could reach Leyte during darkness on the 24th–25th. Task Group 38.4, because of Admiral Halsey's order to concentrate on Task Group 38.2, could not make further strikes, so Admiral Kinkaid's Seventh Fleet force took the necessary measures which resulted in the enemy's complete destruction in the historic battle of Surigao Strait. In the afternoon Admiral Davison's group in a well-coordinated attack against the Center Force reported damaging a *Yamato*-class battleship, a cruiser, and other enemy ships. Most of the strikes against this force devolved upon Task Group 38.2, which was closest, and a torpedo badly damaged the already injured *Yamato*-class battleship *Musashi*, later reported sunk during efforts to save her.

Admiral Sherman meanwhile, with Task Group 38.3, which had undergone two series of enemy attacks and launched two strikes at him, initiated search to the northward previously interrupted by enemy action. Aircraft from the *Lexington* at 4:40 p. m. reported an enemy carrier force almost due north, 190 miles from the task group.

Eve of the Battles for Leyte Gulf. Approaching darkness precluded further air strikes. The situation generally was that the Northern Force, predominantly a carrier group of only moderate gun power, sighted east of the northern tip of Luzon, was still intact. The Center Force, powerful in gunnery but without carriers, which had sustained heavy air attacks, was destined to pass through San Bernardino Strait but could not reach the eastern entrance to Leyte Gulf until at least 2 or 3 hours after daylight. The Southern, another purely gunnery force, though only moderately powerful, and which had been attacked, though not so heavily as the Center, could reach Surigao and the southern entrance to Leyte Gulf at almost any hour it chose during the night. Decisive action to attempt dislodging United States forces from the Philippines was imminent.

The Decisive 25th of October. The three-way advance of the Japanese in their attempt to make their propaganda boast come true turned into a nightmare of losses and failure. Three battles ensued—off Cape Engano, off Samar, in Surigao Strait, from north to south to show the resulting actions of the North, Central, and Southern Japanese forces.

The Battle Off Cape Engano. Admiral Halsey's forces pounced on the carrier force coming from the north, and with no damage sustained by the Third Fleet sank one large and three small carriers and two destroyers, damaging two XCV-type battleships, one heavy and two light cruisers, and three destroyers.

Battle off Samar. Coming through San Bernardino Strait, the Japanese

Center Force engaged the escort carriers of Task Unit 77.4.3, under Rear Admiral C. A. F. Sprague, for about 2½ hours. These light carriers were amazing, with their heroic aircraft and gallant destroyer and destroyer escort screens, in standing off the attack of overwhelming enemy surface forces, among them the mighty *Yamato*, three other fast battleships, six heavy and two light cruisers, and 11 destroyers. It was a naval counterpart of David and Goliath. First sighted at 6:58 a. m. by our carrier escorts, the Japanese after a running fight broke off their gunnery action at 9:30 a. m. and later retired through San Bernardino Strait. We lost the escort carriers *Gambier Bay* and *Saint Lo*, and the destroyers *Hoel*, *Johnston*, and *Samuel B. Roberts*. By combined air and surface attacks we sank two Japanese heavy cruisers and one destroyer, damaging the *Yamato*, one heavy cruiser, and one destroyer. Planes of the Third and Seventh Fleets made strikes after the Japanese retirement on both the 25th and 26th, and though four battleships, four to five heavy and one or two light cruisers, with about eight destroyers, escaped into the China Sea, a number had been heavily damaged.

Battle of Surigao Strait. The Japanese Southern Force of two battleships, one heavy cruiser, and four destroyers late in the evening of 24 October headed northward for Leyte Gulf, via Surigao Strait, with the intention of disrupting our overwhelmingly successful landing operation on Leyte Island. Early on the 25th this enemy force encountered torpedo attacks by our motor torpedo boats and by Destroyer Squadrons 54, 24, and 56. Meantime our battle line of six battleships was steaming slowly on an east-west line awaiting the proper moment to open fire. This force, Task Group 77.2, Rear Admiral Oldendorf commanding, included the battleships *Mississippi*, *West Virginia*, *Maryland*, *Tennessee*, *California*, and *Pennsylvania*, with Destroyer Division X-ray—the *Claxton*, *Thorn*, *Welles*, *Aulick*, *Cony*, and *Sigourney*—as screen. The left flank forces were composed of the heavy cruiser *Louisville*, with Admiral Oldendorf in tactical command; *Portland*; *Minneapolis*; *Denver*; and *Columbia*; with Destroyer Squadron 56, made up of the *Newcomb*, *Bennion*, *H. L. Edwards*, *R. P. Leary*, *Leutze*, *Robinson*, *A. W. Grant*, *Bryant*, and *Halford* as screen. The right flank was made up of the *Phoenix*, *Boise*, *Shropshire* (Royal Australian Navy), and Destroyer Squadron 24, the *Hutchins*, *Bache*, *Beale*, *Daly*, *Killen*, and *Arunta* (R. A. N.). Destroyer Squadron 54 (the *Emery*, *McGowan*, *Melvin*, *McDermut*, and *Monssen*) was on station to the south, patrolling Surigao Strait.

At 3:32 a. m. the *West Virginia* was ordered to open fire when the range became 26,000 yards (13 sea miles). At 3:52 a. m. she began, with

the first eight-gun salvo of armor-piercing projectiles. This broadside fire from our battleships, plus enfilading crossfire from our cruisers and destroyers, was aptly described by Admiral Oldendorf in his war diary: "A methodical, deliberate, destructive fire of all calibers was poured into the enemy forces by the battleships, cruisers, and destroyers. The sky was blanketed with red hot steel sailing toward his Imperial Japanese Majesty's Navy, which seemed bewildered and confused. One after another the enemy ships exploded, illuminating the entire area . . . The enemy now appeared to have turned to the southward, desiring to break off the uneven engagement and save the remainder of his ships." Especially for the battleships, this had been the classic example of "crossing the T," a situation in which most all turrets could be trained against the approaching enemy, while he, advancing bow-on, could only bring forward turrets or bow guns to bear. The onslaught was terrific. The Japanese lost two battleships—the *Fuso* and *Yamashiro*—and three destroyers. The heavy cruiser *Mogami* escaped for the night; damaged, to be sunk next day by our aircraft.

It is particularly interesting that "crossing the T" at Surigao, with the Japanese on the receiving end, was history repeating itself in reverse. Back in 1905 they crossed the Russian "T" in the battle of Tsushima. That action was equally decisive, and the Japanese pursued the cripples after the battle just as we did after Surigao.

Admiral Nimitz reported "the Japanese paid a heavy price for their all-out attempt to interfere with our landings in the Philippines, and in addition failed completely in the accomplishment of their mission. The destruction and damage inflicted on a major portion of their fleet has radically reduced their offensive and defensive capabilities and cannot fail to influence the course of future operations."

The writer recognizes that this brief account of the battles is of a purely combat nature rather than of logistic interest, but the importance of the actions and their profound effect in clearing the way for advancing our service support westward appear to justify including it. And even in the midst of tragedy, comedy smiles. Destroyer Division X-ray was ordered at 4:32 a. m. on the 26th to press home a torpedo attack on the retiring enemy, but later was told to join the screen on the left flank. As daylight came, the *Claxton*, Commander M. H. Hubbard, sighted numerous Japanese survivors in the water. On orders of Commander Task Group 77.2, she maneuvered to pick them up. Referring to one group of three, Commander Hubbard reported in his war diary: "One was willing to come aboard without much urging. The boat was lowered and sent to

pick up the other two (as prisoners of war). Long will we remember the chief machinist's mate in the bow of the boat twirling a lasso in hot pursuit of this Jap aviator attempting to swim away. The chief missed, but the survivor was brought aboard by a firm hand on the seat of his britches." This happening indicated the state of Japanese affairs after the battle. The Greater East Asia Co-Prosperity Sphere was also bottom up!

CHAPTER XXI

Logistic Support of the Third Fleet

Submarine Attacks at Ulithi

VICE ADMIRAL MITSCHER'S Task Force 38, part of Admiral Halsey's Third Fleet, on 14 October numbered 9 heavy and 8 light carriers, 6 battleships, 3 heavy and 6 light cruisers, 3 antiaircraft light cruisers, and 58 destroyers, in 4 task groups respectively commanded by Vice Admiral J. S. McCain (38.1), Rear Admiral G. F. Bogan (38.2), Rear Admiral F. C. Sherman (38.3), and Rear Admiral R. E. Davison (38.4). All were at sea, Admiral Halsey with them, using the battleship *New Jersey* as his flagship.

In an area about 400 miles east of northern Luzon Captain Acuff's fueling group (30.8) gave 94,000 barrels of fuel and 83,000 gallons of aviation gasoline to Sherman's Task Group on the 18th, and 93,000 barrels of fuel plus 190,000 gallons of aviation gasoline to Bogan's group on the 19th. In Task Group 38.3 the carrier *Essex* took her fuel from the *Lackawanna* and her replacement aircraft from the carrier escort *Barnes*, which later was detached with an escort and sent back to Manus to reload more aircraft.

Captain Bolger of the *Intrepid* reported that the 19th was a day free from bogey troubles, and his diary records that 4 fighter and 2 torpedo bomber replacement aircraft were received aboard. She also took 8,778 barrels of fuel and 37,600 gallons of aviation gasoline from the *Patuxent*, besides the heartening delivery of 34 bags of mail. Captain Acuff reported on the 18th that 31 officers and 794 enlisted men from the torpedoed *Houston*, who were distributed aboard several of Sherman's ships, were transferred to Task Unit 30.8.2, the oilers *Mississinewa*, *Tappahannock*, and *Pamanset*, for transportation to Ulithi. Such transfers between — ships at sea were common and so much a part of routine that they might be overlooked as almost commonplace, whereas they were a most important means of carrying on the business at hand. Such a large transfer

as this was unusual, but daily smaller numbers of persons and quantities of material were exchanged between ships. Transfers were accomplished by trolleys; breeches buoys serving for personnel, large cargo nets and canvas bags for materials. If too much slack got into the trolley line, the person in the boatswain's chair got a ducking, but as a rule careful station-keeping of ships kept such accidents to a minimum. Such at-sea transfers had developed to a very high degree since Aleutian days, and as the war progressed, tankers leaving Service Squadron Ten to service the fleet were loaded to capacity, not only with regular cargoes of petroleum products, but with items of other categories as well, such as ammunition, stores, provisions, movies, mail, empty brass cartridge cases, and gas cylinders. Once the task groups were operating at sea, tankers which replenished them were the principal, if not the only means of delivering officers, men, and material. The proficiency with which the tankers executed these special duties undoubtedly contributed to the concept, organization, and operation of the "at sea" support group, Service Squadron Six.

Between the fueling of Task Group 38.2 on the 19th and the next one on the 21st, Captain Acuff's group was kept busy. On the 20th he commenced transfer of fuel remnants from one unit of his group to another, fueled a replacement carrier, the *Sargent Bay*; his own flagship, the *John D. Henley*; and some destroyer escorts. Upon completion of his cargo consolidation, he detached one of his task units of three oilers and sent it to Ulithi, forming the remaining units into groups for disposition on line of bearing in anticipation of the fueling rendezvous with Task Groups 38.1 and 38.4 the next day, the 21st. In 3 days, 21-23 October, he issued a total of 338,000 barrels of fuel and 692,000 gallons of aviation gasoline to the four task groups. Meantime the fueling section of Squadron Ten at Ulithi, with offices on the oiler *Sepulga*, was busy with administrative details for keeping Captain Acuff's group supplied with plenty of oil. On the 21st, for instance, the fleet oilers *Nantahala*, *Cahaba*, and *Atascosa*, having replenished their cargoes, left Ulithi and on the 23d comprised Task Unit 30.8.11, on the line again for fueling the fleet. The same day the *Tappahannock*, *Mississinewa*, and *Pamanset* arrived at Ulithi to refill. On the 22d the *Kern*, from the Marianas, and the *Mission San Antonio* came in from Balboa with 103,000 barrels, while next day the empty *Caliente*, *Kaskaskia*, and *Lackawanna* came in from sea. From Balboa the merchant tankers *Flagship Sinco*, *Wagon Box*, *Mission Santa Barbara*, *Julesberg*, and *Gervais* brought 625,000 barrels of fuel. The continuous entries and exits of filled and empty tankers made up

the principal order of the day for the fuel section, requiring no small planning and work to keep the fleet and its planes active against the enemy.

By 25 October, after nearly 2 weeks of intensive operations against Okinawa, Formosa, and Luzon, all the Third Fleet carrier groups needed rearming except for torpedoes, AP, and SAP (semi-armor-piercing) bombs habitually reserved for use against combatant ships. Personnel, especially the pilots, badly needed rest, which, however, could not be given them. Task Groups 38.2-3-4 at noon of the 23d were in an area roughly 260 miles northeast of Samar, while 38.1 (Admiral McCain) was en route for Ulithi the same day. At 8:46 a. m. on the 24th it was ordered to change course, rendezvous with oilers, and proceed toward the Philippines. Hurriedly McCain's group took on 95,000 barrels of fuel and 124,000 gallons of aviation gasoline (regretting the lost opportunity for repairs and replenishment, and some rest and relaxation at Ulithi) and was on its way back to meet the enemy again.

On the 26th, the day following the decisive battles of Surigao Strait, Samar, and Cape Engano, Task Groups 38.1 and 38.2 were off the east coast of Samar, while 38.3 and 38.4 fueled about 500 miles east by north from Manila. After their high-speed runs on the 25th to intercept the enemy carriers from the north, these two groups drank deeply of precious oil from Acuff's ships, taking 162,000 barrels of fuel oil and 379,000 gallons of aviation gasoline.

After fueling Task Groups 38.3 and 38.4 at sea on the 26th, Captain Acuff's group formed cruising disposition and in accordance with instructions, started toward Ulithi. He had three groups of three oilers each, plus a replacement carrier and the destroyer screen. Entering Ulithi lagoon on the 29th, the group finished a very important phase of logistic operations in support of decisive fleet action against the enemy.

The Quantity of Oil Involved. During the period of these operations (September-October) the consumption of fuel oil was between four and five million barrels, with aviation gasoline for the Third and Seventh Fleets amounting to more than seven million gallons. The bulk of both was delivered at sea by Captain Acuff's Task Group 30.8, of 29 oilers, with escorts. It fed the Fast Carrier Force alone 3,567,000 barrels of fuel and other petroleum products despite typhoon weather and attacks by enemy aircraft on several occasions, suffering only minor casualties and losing no oil nor gasoline. As in previous operations, each oiler was loaded, with half its special tanks filled with Diesel oil, half with gasoline, the main tanks carrying a maximum capacity of fuel oil. Besides



Leyte Gulf—Surigao Strait—Samar—Leyte.

the standard stock of drum lubricants and compressed gases, some canteen and small stores, mail, and personnel for transfer were carried. October saw the first shipments of black oil from the Persian Gulf to the Central Pacific: 114,000 barrels.

After the great sea and air fights of October, all Third Fleet units were directed to retire to advanced bases at discretion. Later Commander Seventh Fleet requested the Third to maintain a strong combat air patrol over the objective area at Leyte and strike enemy air fields when practicable. Task Group 38.1, after the fleet action, reached Ulithi 28 October. Two days later Sherman's group came in for rearming and reprovisioning from Squadron Ten. On the 31st Task Group 38.4 having given close air support to the southwest forces at Leyte, operating in a covering position east of Samar, also came in for servicing—Task Group 38.2 meantime holding the fort, so to speak, off the east coast of central Luzon.

Besides the usual services furnished by Squadron Ten, the three groups at Ulithi needed that sorely urgent item—rest—for the Fast Carrier Task Force had been at sea operating continuously for almost 2 months. Because of the demands of the military situation, the need of rest and recreation, or physical overhaul of the personnel, is often slighted or actually overlooked. This may be due to the recuperative powers of a man and his natural reluctance to admit to his superiors that he is tiring, and therefore not performing at top efficiency. It may be stretching things a bit to consider this under the head of logistics, yet it has an association with periods of replenishment, general overhaul, and ship repair, especially when recreation is provided. The comments of Vice Admiral Mitscher, Commander Task Force 38, extracted from his action report for the period 29 August–30 October 1944, are pertinent.

“During the period covered by this report all units and personnel of TF 38 were called upon to exert themselves to the limit. No other period of the Pacific war has included as much intensive operating . . . Currently our carrier air groups are being debilitated by extended periods of combat duty under ship base condition. Serious consideration must be given immediately to relieving carrier air groups every four months . . . an immediate orderly program of interim navy yard availability in the States should not only be laid out but should be enforced . . . the ships of TF 58/38 have been under constant pressure in the tropics for over ten months. Probably ten thousand men have never put a foot ashore during this period. No other force in the world has been subjected to such a period of constant operation without rest or rehabilitation.”

In each of the anchorages, swimming areas were designated. On shore, spaces were set aside for recreation purposes; some ball

fields laid out, and beer and soft-drink bars set up. At none was the layout or the means of transportation to it adequate, but it helped. Bars for officers met the requirements somewhat better, perhaps because there were fewer officers, perhaps because they realized the situation more clearly and adapted themselves accordingly. Despite the shortcomings, it was some relaxation and recreation to get ashore. The best was set up on Mogmog Islet by Commodore Kessing, Atoll Commander at Ulithi.

For those who could take some ease for the moment this was a good time to read again some of the congratulatory messages coming through. One of them, from Admiral King, Chief of Naval Operations, addressed to the commanders of both Third and Seventh Fleets, read: "The recent actions in and near the Philippines have effectually disposed of the enemy navy, a large part forever and the remainder for some time to come. All officers and men of your fleets have the heartiest admiration of all hands for your valor, persistence, and success. Well done to each and all."

November Activities. With the necessity for replenishment, all task groups except 38.2 had retired to Ulithi at the end of October, but in view of enemy air strength developing at Leyte, Admiral Halsey determined that carrier strikes should be made on Luzon as soon as possible. Task Groups 38.1-2-3 rendezvoused at sea, 38.4 remaining at Ulithi. On 2 to 4 November Service Squadron Ten gave it 18 8-inch .55-caliber HC projectiles, 1,315 8-inch AP projectiles, 598 5-inch 38 AAC projectiles, 18,784 40-mm. AA, 83,160 20-mm. AA, 13 2,000-pound GP bombs, 14 1,000-lb GP bombs, 55 500-lb SAP bombs, 77 500-lb GP bombs, 449 100-lb incendiary bombs and 7 1,000-lb AP bombs. McCain had relieved Mitscher a few days before as Fast Carrier Force Commander.

Bringing in the Reno. Just before midnight of 3 November the light cruiser *Reno* of Task Group 38.3, as told briefly in chapter XIX, was torpedoed on the port side aft. She lost steering control and the after engine and firerooms became untenable. Continued electrical fires in the forward engine room, probably from shorted cables, necessitated stopping the starboard engine. On 4 November the tug *Zuni* took her in tow. At 2:50 a. m. next day the tug went alongside to assist in salvage operations, for the cruiser had developed a list to port which ultimately reached 16°, and she was down in the water 2 feet forward and 9 feet aft. At 3 p. m. the *Zuni* began towing again. Captain R. C. Alexander, the executive officer, heads of departments, and a part of the crew (19 other officers and 248 enlisted men), remained on board to see her through. Between 6 and 8 November high winds and heavy seas from a nearby

typhoon added to the difficulties and danger, but through the skillful seamanship and energetic efforts of the *Reno*, with the assistance of the gallant *Zuni* and others, the two reached Ulithi safely on the 11th. There the *Vestal*, Commander N. W. Gambling, moored beside the *Reno* and began battle-damage repairs. The *Zuni* also assisted with salvage from 11 to 24 November. The *Vestal* disassembled No. 4 turret of the *Reno*, inspected and pumped out flooded compartments, burned away debris, removed topside weights, and accomplished many other tasks to make the ship structurally safe for onward routing. The damage was too extensive to undertake locally without a large floating drydock, and on 19 December the cruiser, under tow of the tug *Menominee*, proceeded to Manus.

The *Reno* was the third cruiser severely damaged and in a sinking condition to be brought into Ulithi lagoon; she from a point 700 miles distant, the *Canberra* and *Houston* from still closer to the enemy's claws. All were saved. The lesson to be learned from these three splendid salvage jobs centers around close logistic support and readiness of well-handled fleet tugs standing by to bring cripples to nearby floating bases.

Hitting Enemy Targets in the Philippines. The three task groups were assigned definite targets: 38.1, Northern Luzon, including Clark Field; 38.2, Southern Luzon and Mindoro's airfields; 38.3, the area between 14° and 15° N., including shipping at and around Manila. Marked success attended the strikes. With comparatively minor loss of aircraft (about 40), and no United States vessels sunk, we destroyed 438 enemy aircraft, sank 9 ships, including 1 heavy cruiser, and damaged 33 others.

First Japanese Suicide Attacks. On 5 November Task Group 38.3 had its first experience with organized attacks by the Japanese "suicide squad." In the afternoon one such plane crashed the *Lexington's* superstructure, virtually demolishing the secondary control, crippling several radars, and inflicting heavy personnel casualties. This Kamikaze (Divine Wind) attack was the forerunner of many others. Later the Navy was to feel the full effect of this desperate destructive effort, particularly at Okinawa, with heavy loss in ships and life besides extensive material damage piled upon the heavy repair load already on the shoulders of the maintenance crews of Service Squadron Ten.

Rearming at Ulithi. Rear Admiral Bogan's Task Group 38.2, with the carriers *Intrepid*, *Independence*, *Cabot*, and *Hancock*; the battleships *Iowa* and *New Jersey*; and numerous cruisers and destroyers, began rearming at Ulithi 9 November. Seabees (Construction Battalion Stevedores) prepared the holds of the merchant ammunition ship *Australia Victory* so

destroyers could come alongside for their projectiles. Immediately upon their arrival, 4 carriers, 2 battleships, 3 cruisers, and 18 destroyers went alongside fleet and station tankers for oil and, incidentally, for that much-hoped-for commodity of a personal nature, mail from home. The destroyer tenders began looking after the needs of their charges, doing all manner of electrical, ordnance, hull, radio, and sound repairs, and issued torpedoes, where needed, and some food. The ungainly but valuable concretes *Trefoil*, Lieutenant N. King, and *Quartz*, Lieutenant Commander P. B. Runyon, issued general stores, and the *Silica*, Lieutenant O. A. Seavey, fresh, frozen, dry, and medical stores.

More and more, Service Squadron Ten was becoming geared to replenishing task groups, and the units named were but a few of the support ships which made it possible for combat groups to return to battle areas with minimum delay. The rearming of Task Group 38.3 (Rear Admiral Sherman) began on the 17th. This group, including the carriers *Essex*, *Langley*, and *Ticonderoga*; battleships *North Carolina*, *Washington*, and *South Dakota*; cruisers *Santa Fe*, *Biloxi*, and *Mobile*; and 16 destroyers, took ammunition and bombs until the 20th—72,345 20-mm. AA; 21,056 40-mm. AA; 3,339 5-inch 38AAC; 1,100 5-inch .38 special; 658 6-inch 47 AP; 105 2,000-lb. APGP bombs; 248 1,000-lb. 257 500-lb., 32 350-lb., 521 250-lb., 448 100-lb. GP bombs; and 96 100-lb. incendiary bombs.

Squadron Ten then had two nights and one day in which to rest and reload barges. On the 22d ammunition and bombs were issued to Rear Admiral Davison's Task Group 38.4, continuing until the 25th. Overlapping these issues was the rearming of Admiral Montgomery's Task Group 38.1 beginning the 24th and ending the 28th. Now Rear Admiral Bogan's Task Group 38.2 returned on the 28th and loaded ammunition and bombs until the 30th. The tempo was being increased, the workload on the service squadron augmented, not only in the ammunition categories but for food, clothing, oil, and dry stores issued, repairs made, and other services rendered. To keep unrelenting pressure on the Japanese the quick turn-around of forces from replenishment and a brief rest at Ulithi was the order of things. In later months there were not just 2 but often 3 and sometimes 4 task groups present at Ulithi. Vice Admiral McCain's task force of 4 task groups on 6 November numbered 10 carriers, 7 light carriers, 7 battleships, 5 heavy and 5 light cruisers, 1 light AA cruiser, and 64 destroyers, a total of 159 combatant vessels. Time in port was only about 4 days for each group.

Supporting the Fast Carrier Task Force at Sea in November. Though

Admiral Halsey on 29 October had withdrawn all task groups for logistics, and though the need for support of the Leyte-Samar operations appeared to have ended, such was not the case. The air situation in Leyte was difficult, and the one serviceable airstrip at Tacloban proved insufficient to support land operations and to protect our shipping in the Gulf. The Japanese made damaging air strikes on Seventh Fleet units, and some of their land reinforcements arrived. It was apparent that the battle for Leyte was by no means ended, and with the approval of Admiral Nimitz, immediate counter operations by carrier forces were initiated.

These new plans required certain of Captain Acuff's oiler groups again to take to the sea. Task Units 30.8.2 and 30.8.5 left Ulithi 2 November at 6 a. m. for a rendezvous about 420 miles east of Samar. Later the same day, in response to orders from Halsey, Task Unit 30.8.3 also left. Next day Task Groups 38.1-2-3 were fueled with 148,000 barrels of Navy special fuel and 113,000 gallons of aviation gasoline. These three were the fast carrier groups that struck the Luzon area 5-6 November with excellent results.

On 7 November Admiral Davison's Task Group 38.4 was joined by Task Unit 30.8.3 and refueled. Later the same day Captain Acuff formed up three oiler units on the line of bearing in anticipation of joining the Montgomery, Bogan, and Sherman groups, as he did, fueling them all from 9:30 a. m. until 9:30 p. m.

Bad Weather for Fueling. The oiler *Kaskaskia*, Lieutenant Commander W. F. Patten, was one of the tankers assigned to Task Group 38.1 and reported that when fueling commenced on the 27th the wind was blowing 30 knots from the northeast and the sea was moving from that direction in 12- to 15-foot swells. These unfavorable conditions were caused by a typhoon approximately 200 miles to the south, moving in a westerly direction. In the early afternoon the small carrier *Monterey* and the battleship *Massachusetts* each reported a man overboard. Destroyers were ordered to the rescue, but one man was not saved. The *Kaskaskia* reported that as the afternoon wore on the wind increased and fueling became very difficult. Though the destroyer *Izard* had been keeping good station, a heavy swell swept her alongside the *Kaskaskia*. Luckily, no personnel casualties or great hull damage resulted, but two lines and various lengths of fuel hose were lost.

Commander H. L. De Rivera, in his war diary of the oiler *Atascosa*, stated that around noon time, while taking the destroyer *Cotten* to starboard and the small carrier *Langley* to port, green water was coming

over the forward well deck, and while making and tending gasoline connections six of his crew received injuries including broken bones, sprains, and lacerations. Hose lines were carried away in several instances, and finally the steel manifold on the after port 6-inch connection was torn loose. The replacement carrier *Cape Esperance*, Captain R. W. Bockius, was also having difficulties. Though she was successful, commencing about noon, in catapulting 11 fighter, 7 torpedo, and 2 scout bomber planes to Task Groups 38.1 and 38.3, later in the afternoon she was unable to take aboard ferry pilots from the destroyers *Callaghan* and *Marshall* "because of coming darkness and increasingly heavy seas due to typhoon weather."

These were some of the vicissitudes experienced in the at-sea servicing of the carrier task groups. Among both combat and service personnel the will to rise above all difficulties brought completion of the task by 9:30 that night. Captain Acuff reported that 299,000 barrels of fuel and 421,000 gallons of aviation gasoline had been issued under most trying conditions. Before the war, refueling operations in such weather would not have been tolerated by the high command as even worth considering. The next day the weather became even more severe. Hoping to avoid the worst of the storm, Captain Acuff moved his group to another fueling area, but the cargo consolidation he had planned for 8 November had to be postponed because of rough seas.

Admiral Bogan's Task Group 38.2 had gone to Ulithi to rearm, beginning on the 9th and finishing on the 13th. During this period the *Rainier*, Commander F. S. Conner, opened her hatches and began issues to the destroyers *Foote*, *The Sullivans*, *Hunt*, and *Owen*, alongside. A flash red radar warning at 10:38 a. m. interrupted proceedings for only a few minutes. At 4 p. m. the *Rainier* closed her holds, and next day she went alongside the *Iowa*, issuing her 124.61 tons of ammunition. Alongside the light cruiser *Vincennes* she issued 155.76 tons and received 26.14 tons of rejected ammunition. Going alongside the *Miami* she gave out 47.24 tons—all the while discharging ammunition into boats alongside. An LCT picked up empty "ammo" cases from cruisers and battleships. Navy Seabees were preparing the holds of the merchant ammunition ship *Australia Victory*, specialists were sent aboard large combat ships to assist in reactivating proximity fuzes of AA shells, and on every side food stores were issued, repair work carried on. All units of Service Squadron Ten were active in meeting the needs of Bogan's ships.

The oiler task units, having replenished their cargoes within Ulithi Atoll, sailed to rendezvous with the carrier task groups at sea. There was

no end to the need for oil, and for more oil. On the 11th the merchant tankers *Balls Bluff*, *Mission San Luis Rey*, and *Mission San Carlos*, with 100,000, 103,000, 100,000 barrels, respectively, of Navy special, and the Navy oilers *Aucilla* and *Taluga*, with standard cargoes of 90,000 barrels of Navy special, 8,000 barrels of Diesel oil, and 400,000 gallons of aviation gas, arrived to keep the life fluid pouring into the fleet.

Admiral Bogan's group, 38.2, sailed after being replenished with everything except rest and recreation. During the short period allowed them, officers and men of this visiting task group went ashore on Mogmog Island—one of the Ulithi islets—to stretch their legs on the sand and bend elbows over a bottle of beer. The spot offered very little more; even the coconut palms were not numerous enough to protect everyone from the tropical sun. But the earth was a change from steel decks, the visit a respite from long watches, constant vigilance, and that tight feeling that is a part of war at sea.

While Task Group 38.2 was at Ulithi the other groups of Task Force 38 operated under tactical command of Rear Admiral Frederick C. Sherman. On the 11th an enemy convoy of four transports and six escorts, approaching Ormoc Bay, on the west side of Leyte, was sighted. Task Force 38 struck and all vessels of the enemy were sunk except three destroyers, and these were badly mauled. The result was substantial, as the transports were loaded with troop reinforcements for Leyte. The next day Captain Acuff stationed three groups of four oilers each at intervals of 10 miles, with 1,500 yards between oilers. Task Groups 38.4, 38.3, and 38.1 closed in and began fueling at 6 a. m., finishing at 3:15 p. m., after loading 383,000 barrels of fuel oil and 327,000 gallons of aviation gasoline. The expenditure of oil and gas was great, but strikes against the Japanese in the Philippines were paying dividends; enemy air power was being butchered.

Sherman Sits on a Powder Keg at Ulithi. On 16 November Task Group 38.2 relieved Admiral Sherman's Task Group 38.3 at sea, and the latter came into Ulithi for rearming and replenishment. Captain D. Kiefer, commanding the *Ticonderoga*, reported in his war diary that his ship took aviation gas and fuel to capacity, loaded ammunition, stores, and four replacement fighter aircraft, three bombers, and two torpedo planes from units of Service Squadron Ten.

On the 20th the Japanese made a concentrated attack by about five midget submarines. The tanker *Mississinewa* was torpedoed and sunk. Captain Fahrion of the *North Carolina* said of this: "The Ship's company had been taking advantage of our stay at Ulithi to go ashore for a



The Mississenewa torpedoed by a midget.

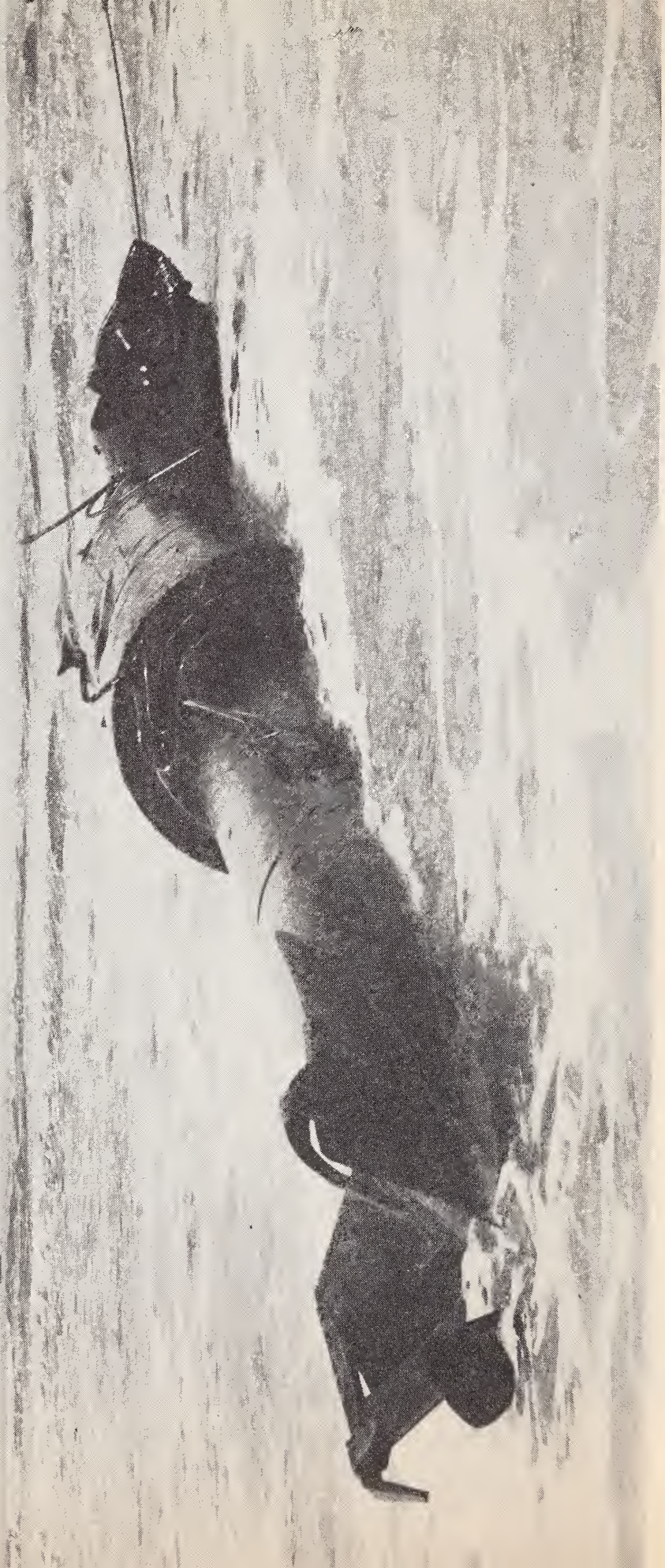
look-see, a swim, the three bottles of beer per man, and a painful case of sunburn;" and referring specifically to the torpedoing: "All of the above is a surprising development after the comparative and apparent safety of the lagoon, and a jolt to the complacency of those having a rest there." In his book "Combat Command" Admiral Sherman referred to the attack with the words: "All that day and the next we felt we were sitting on a powder keg which might go off at any time. Far from enjoying a rest period, we felt we might be safer in the open sea."

The Midget Submarine Attack at Ulithi

The first indication of attack by Japanese suicide submarines on the fleet and shipping in the harbor came early in the morning of 20 November when the destroyer *Case*, Lieutenant Commander R. S. Willey, rammed a midget submarine near the entrance to Ulithi anchorage. Shortly afterward, at 5:47 a. m., the fleet oiler *Mississinewa*, Commander P. G. Beck, at anchor in the lagoon, was torpedoed. Her magazine exploded, and as she had a full load of 85,000 barrels of fuel oil, 9,000 barrels of Diesel oil, and 405,000 gallons of aviation gasoline, she blazed up immediately, the flames and smoke rising in a tremendous column visible for miles.

Directed by voice radio from the operations office in the destroyer tender *Prairie*, flagship of Commodore Carter of Service Squadron Ten, fleet and rescue tugs and other harbor craft sped to the burning tanker, doing splendid fire fighting, some operating up to the edge of the flames to reach survivors, others actually going alongside the ship. While all units performed commendably, the efforts of the tug *Munsee*, Lieutenant Commander J. F. Pingley, and the rescue tug *ATR-51*, Lieutenant A. L. Larson, were especially praiseworthy. Outstanding in rescue work were the ingenuity and daring of pilot Lieutenant (j. g.) B. C. Zamucen of a Kingfisher plane from the light cruiser *Santa Fe*, and his crewman, E. E. Enenrude, ARM3c. Zamucen taxied his plane in and out of the burning oil surfaces, trailing a line astern which survivors caught to be hauled out of danger.

Dropping depth charges one at a time rather than in a pattern, to avoid damage to anchored ships, destroyers wove through the fleet searching for other midget submarines. At about 6:25 a. m. the cruiser *Mobile* reported a torpedo passing under bow. An antisubmarine attack by the destroyer escorts *Rall*, *Halloran*, and *Weaver* resulted in a kill. Two bodies rose to the surface but sank before they could be re-



One of the midgets.

covered. The *Mobile* recovered a pillow and wooden seat block marked with Japanese characters, and a body identified as Japanese was found nearby 3 days later. Another enemy submarine was reported sunk by planes 15 miles to the eastward of Ulithi, and two explosions on the reef indicated the presence of other midgets, which had presumably destroyed themselves on the rim of the atoll. One of these was found.

The harbor was alert, but as logistic work had to be done, this condition of readiness could not be maintained continuously. Carter, acting as Senior Officer Present (Administrative), was charged with the conduct of affairs and safety measures for the anchorage. The safety of fleet units and service vessels was uppermost in his mind, and that more midget submarines might be lurking under the surface was a worrisome possibility. Against it was weighed the relatively short endurance of this type of craft, and the decision was reached shortly after noon to resume routine logistic operations. This was the end of a concerted effort of probably five midgets; the result of Japanese recognition, possibly for the first time, of the strategic value of Ulithi harbor in support of current operations.

After the war, interrogation of Japanese officials revealed that the attacking submarines had been under the control of Vice Admiral Miwa. He said "I sent out eight one-man torpedo-submarines to Ulithi to attack your fleet; they were transported by two regular submarines." Probably three of the eight were lost operationally. What a sight for a fish—or a diver, had one been underwater then—when this fantastic pair passed, the two giant subs each with 4 midgets attached sucker-fashion to the sides, cruising along toward the objective—shades of Jules Verne! And what a target for a well-placed depth charge!

On the 22d Admiral Sherman's Task Group 38.3 departed and Admiral Davison's 38.4 entered Ulithi for rearming and supplies. Two days later Task Group 38.1 came in, and servicing operations, under way for the others, were extended to the newcomers, the carriers *Yorktown*, *Cowpens*, and *Wasp*; battleships *Alabama* and *Massachusetts*; cruisers *Baltimore*, *San Francisco*, and *San Juan*; with 15 destroyers. Service Squadron Ten worked around the clock, issuing supplies of all kinds, restowing ammunition in barges and ammunition ships, consolidating oil, food, and other cargoes in order to release store ships for return to the United States, drydocking vessels and making repairs, carrying on a vast amount of boating, ferrying officers and men, some on business and others for very brief periods of recreation. While this was replenishment and momentary relaxation for the visiting fast carrier groups, it was "battle stations" for Service

Squadron Ten, and "keeping the fleet ready" was its action against the Japanese.

Personnel Matters. Along with issues of oil, ammunition, food, supplies, accomplishment of repairs by service units, the problem of supply of the men who give logistic service and those who man the guns is of prime importance in supporting the fleet. Arrival of 2,508 replacements from Manus 11 October on the transport *General Ernst* occupied the personnel section of Squadron Ten until the task groups began arriving around the 28th. Practically all units were furnished with personnel up to at least 3 percent in excess of approved complements by the following distribution: Carriers, 404; battleships, 271; cruisers, 383; destroyers, 608; tenders, 65; patrol craft, 38; ComServRon Ten, 134; shore unit, 2; and the remainder to miscellaneous other vessels. Approximately 400 various additional ratings received in small drafts during October and November were easily utilized by the fleet with the exception of torpedomen, who were about 70 percent in excess.

The berthing problem was troublesome. While they were in port the big transports were used as receiving ships, but on their departure the problems of quartering officers and men assumed vexing proportions, added to which was the need of extra boats for transferring men about the harbor. Assignment to Service Squadron Ten of unclassified ships of the *Orvetta* type, and later the use of hotel barges, helped, especially for housing the Seabee specialist stevedores who worked ammunition and fleet freight cargoes. The unfavorable boat situation persisted throughout the whole Pacific campaign, and service organizations never had enough boats. Combatant ships were not self-supporting in this regard, for with their increased armament, fire control, radar, and other special devices there was little if any room topside for boats. The need for extra berthing facilities for replacements, officers, men, and other transients such as stevedores, at advanced logistic support anchorages, and the need of boats plus berthing for their crews were felt keenly and are matters which must have a part in planning future activities.

One of the outstanding features of the November operations was the renewed proof of the ability of American warships and men to carry on for long periods with almost no let-up and still give a splendid account of themselves against the enemy. By the end of the month the fast carrier force, with the exception of very brief in-and-out-again replenishments, had been at sea almost continuously for 84 days. The repeated attacks by this force of the Third Fleet had accomplished a great deal in aiding the Southwest Pacific Forces to break Japanese air power in the

Philippines. The new threat imposed by suicide-plane attacks, already mentioned as having started against the *Lexington*, could not be lightly regarded. However, the growing repair and salvage forces of the Service Squadron Ten were available, and the Guam base was developing monthly at a good rate. Though this was no compensation for loss of life through Kamikaze attacks, it was nevertheless heartening to know that large battle-damage repair facilities were building up close at hand.

CHAPTER XXII

Leyte Aftermath

Ormoc Bay and Mindoro Landings—Admiral Halsey on the Rampage—"Bull in the China Sea"—Some Dull Routine at Ulithi—Another Midget Attack—Ammunition Ship "Mazama" Hit

Landings at Ormoc Bay and Mindoro: December 1944

EARLY IN DECEMBER, ground forces of the Southwest Pacific held eastern Leyte but still had not secured the western portion, separated from the east by a central mountain range. To put a pincers squeeze on enemy troops in the Ormoc Bay region, an amphibious landing on the west coast, cutting into the center of the Japanese forces, was decided upon.

Rear Admiral A. D. Struble, with Task Group 78.3, commanded the Ormoc attack, which was to land two regimental combat teams of the 77th Division. His group included 13 destroyers, 9 high-speed transports, 27 landing craft (infantry), 12 landing ships (medium), 4 landing ships (tank), 9 large mine sweepers, 2 submarine chasers, 4 landing craft (infantry) (rocket), and 1 rescue tug. They assembled for logistic services from Service Force Seventh Fleet at San Pedro Bay, Leyte, prior to sortie on 6 December.

Landing proceeded on schedule early in the morning of the 7th without opposition. By 9 a. m. all vessels were unloaded with the exception of 1 LCI and 4 LSM's which had become beached. Fortunately for our troops, enemy air attacks did not begin until about 9:40 a. m., when suicide planes began to inflict some damage on our ships. The destroyer *Mahan*, acting as a fighter-director ship off Ormoc Bay, was struck about 9:55 a. m. by three Japanese planes. A fourth strafed the ship but did

not crash. Several minutes later the high-speed transport *Ward* was struck by a diving plane. Fires broke out on both ships almost immediately. Casualties were not high, but because of intense fires and unrelenting pressure from the air, it was at that time thought necessary to sink both ships by our own gunfire.

Shortly afterward another high-speed transport, the *Liddle*, was struck by a plane which crashed the bridge, killing 8 officers, including the captain, and 26 enlisted men. The *Liddle* was able to maintain full power and stayed in the formation, though the rescue tug *ATR-31*, with salvage and firefighting teams aboard, was ordered to stand by. Next victim was the destroyer *Lamson*. A single-engine fighter came in low and fast, crashed her superstructure just below the bridge, and killed 2 officers and 19 men. After her fires were controlled, she was towed to port by the *ATR-31*.

By nightfall the attacks had ceased and the formation proceeded toward Leyte Gulf, the *Liddle* assisted by neighboring ships with hooded lights to help her control; the *Lamson*, towed by *ATR-31*, followed astern. The net layer *Silver Bell* was able to make temporary repairs to the *Liddle*, while the fleet tug *Quapaw* and the salvage vessel *Cable* aided the *Lamson*. Both ships eventually went to west-coast ports for completion of repairs.

Servicing of the Ormoc Attack Group was by Seventh Fleet Service Forces, among them the cargo ship *Rutilicus* issuing dry and other stores and medical supplies; cargo ships *Murzim* and *Bootes* with ammunition; *Arethusa*, *Caribou*, and *Panda*, oilers; *Midas* and *Egeria*, battle-damage repair ships; salvage ship *Cable*; fleet tug *Quapaw*; floating drydock *ARD-19*; and others. No fresh or frozen provisions were available.

Planning for the Mindoro operation, known as "Love Three of Musketeer," was initiated in October 1944 by directives of Commander in Chief Southwest Pacific Area and Commander Allied Naval Forces Southwest Pacific. On 17 November representatives of the Army, Army Air Forces, and Navy met at Leyte to discuss support of the action. D-day was tentatively set for 5 December. Besides using Seventh Fleet's Task Group 78.3, which was to form the assault force, Task Force 38 was to be used to blanket the 100 or more enemy airfields on Luzon in a 3-day operation from 4 to 6 December, thus seriously curtailing Japanese air power while landings were in progress on Mindoro. To do this, Task Group 38.4 was dissolved and its vessels were reassigned to the other three groups to maintain them at maximum strength for protection against suicide air attacks, which daily became more threatening.

Shortly after leaving Ulithi, Commander Third Fleet received a dispatch from the Commander in Chief Southwest Pacific Area postponing the Mindoro attack from 6 to 15 December. Leaving a small force at sea, temporarily designated as Task Group 38.5, the three groups returned to Ulithi on the 2d. Admiral Halsey directed that maximum advantage be taken of this for repairs, rest, recreation, and rehabilitation, as it was the first time since August that the fleet had had an opportunity to lie at anchor except for essential quick turn-around periods of replenishing and rearming. This brief respite was used to still further advantage by the Seventh Fleet in carrying out the Ormoc Bay assault on the 7th.

The service group (Task Group 30.8) for Task Force 38 left Ulithi 10 December, the force itself the following day. The service group consisted of 12 oilers, 2 escort carriers, 4 destroyers, 8 destroyer escorts, and 3 fleet tugs. Fueling rendezvous was made on the 13th with Task Force 38, after which the latter began a high-speed run in against Luzon airfields preliminary to the Mindoro landing by the Seventh Fleet and ground forces. At this fueling 237,000 barrels of Navy special and 377,000 gallons of aviation gasoline were issued by the *Nantabala*, *Caliente*, *Chikaskia*, *Aucilla*, *Monongahela*, *Neosho*, *Patuxent*, *Marias*, *Atascosa*, *Mascoma*, *Cache*, and *Manatee*.

Rear Admiral Struble, this time commanding the Mindoro attack group, 78.3, and 1 heavy and 3 light cruisers, 20 destroyers, 9 high-speed troop transports, 10 large mine sweepers, 7 motor mine sweepers, 31 LCI (L)'s, 12 LSM's, 30 LST's, 1 rescue tug, 2 submarine chasers, 4 LCI (G)'s, 5 LCI (R)'s, 1 patrol craft escort (rescue type), 1 LCI (D), and 23 motor torpedo boats. This force was serviced completely by Service Force Seventh Fleet at Leyte, Hollandia, Manus, and Woendi. Since embarkation was at Leyte, facilities there were used immediately prior to departure. The battle-damage repair ship *Midas* and landing-craft repair ships *Achilles* and *Egeria* remained at San Pedro Bay for minor work, while *ARD-19* provided drydocking for destroyers or smaller vessels. Hollandia had a destroyer repair base with several drydocks, floating repair shops, and tenders. Manus could do hull and engine work on all classes, and Biak had a mobile amphibious repair base for medium and small craft, but larger ships generally went back to Pearl or the west coast for extensive repairing.

Task Group 78.3 sortied from San Pedro Bay 12 December after filling its logistic requirements. It carried the landing force of one regimental combat team (reinforced) of the 24th infantry and the 503d Parachute

Regiment. While en route, the cruiser *Nashville*, Admiral Struble's flagship, was hit by a single-engine Japanese suicide plane on the port side aft of the Admiral's cabin. A tremendous explosion followed which shook the ship from stem to stern and wrecked the flag bridge, killing the Admiral's chief of staff, staff communications and medical officers, and 129 men, wounding 190 and leaving 4 "missing." Ready ammunition for the 5-inch and 40-mm. guns in both port and starboard mounts exploded, the combined blasts wrecking the combat information center and communications office. Admiral Struble shifted his flag to the destroyer *Dasbiell*, while the *Nashville* returned to San Pedro Bay, transferred the dead and wounded to LST's equipped to handle casualties, and left for Manus, whence she was eventually sent to Puget Sound Navy Yard for battle-damage repairs and overhaul.

While Task Force 38 was launching its second day of air strikes against airfields, air installations, and shipping at Luzon, the Mindoro landings of the 15th were made with little opposition. "The only handicap," the war diary of the *Phoenix* records, "appeared to be friendly natives and cattle who established themselves as spectators squarely in the middle of a target area." Unloading on the beaches progressed so rapidly that all but one LST were able to leave by the early evening of D-day, 24 hours ahead of schedule. The task group returned to Leyte with a loss of 2 LST's, both by suicide planes. Of the 16,000 troops landed on Mindoro, 553 casualties were evacuated, most of whom were taken to hospitals at Biak and Hollandia by the hospital ships *Bountiful* and *Mercy*.

— After its 3-day successful support effort, Task Force 38 retired eastward toward a fueling rendezvous scheduled for 17 December. Throughout the day, sea conditions were so bad that fueling was suspended at 1:30 p. m. and a new rendezvous selected for the following day. Again fueling was unsuccessful, though many of the destroyers were dangerously low on oil. The typhoon was a bad one and caused much damage. Fires broke out on some ships because of shorted wiring and gasoline from a plane that had broken adrift. The main body of the task force was barely able to escape the center of the typhoon by steaming south, but the destroyers *Hull*, *Spence*, and *Monaghan* capsized and were lost. The limited advance information of the storm, the heavy seas, excessive roll, and a shortage of fuel were contributing factors in preventing these ships from moving from the typhoon's path.

On the 19th fueling was accomplished, and until the 21st the storm area was searched for survivors of the lost ships. Additional carrier strikes

on Luzon scheduled for this time were canceled. After fueling 23 December, Task Force 38 with accompanying oiler group proceeded to Ulithi for repairs and resupply, arriving on the 24th. Most of the damaged ships had reached port several days earlier and were already under repair when the main force arrived. The repair ship *Ajax* had begun on the *Altamaha* and *Jicarilla*, the *Hector* on the *San Jacinto*, and the *Prairie* had the destroyer *Dewey* moored alongside for repair of her storm-demolished smokestack and attached gear, in addition rendering services to the *Hickox* and *Aylwin*. The *Buchanan* was alongside the tender *Cascade*, while the *Dixie* had begun on the *Dyson*. On arrival on the 23d the destroyer escort *Melvin R. Newman* moored alongside the *Markab* for 24 hours and then docked in the ARD-13. Soon afterward, in company with the small carrier *Monterey* and the destroyer escort *Tabberer*, the *Newman* was sent to Pearl to complete repairs to her shaft. The hull-repair ship *Jason* took on the *Cowpens*. Before the *Monterey* left for Pearl (and eventually the west coast) she was cannibalized to provide replacement parts and material for the *Cowpens* and *San Jacinto*. The battleship *Iowa* likewise needed extensive repairs, and she too returned to Pearl. Service Squadron Ten performed a tremendous job in expediting repairs and replenishment of Task Force 38 at Ulithi. By 29 December all major damage had been repaired and the force was ready for the next operation in support of the attack on Luzon by Southwest Pacific Forces.

Late in December the tactical situation and control of the air in the Leyte area had improved sufficiently to move forward additional tenders, docks, and supply ships of the Seventh Fleet Service Force. Newly captured Mindoro was also being developed into a forward supply base.

"*Bull*" *Again on the Rampage*. Target date for landings in the Lingayen Gulf area of northern Luzon had been set for 9 January 1945. Careful coordination of effort between air strikes of the Third Fleet, Southwest Pacific Air Forces, and the 14th and 20th Air Forces was secured. Third Fleet operations included air strikes on Formosa and Luzon during the first week in January. Operations after the Lingayen landings were necessarily indefinite, depending upon developments, but destruction of enemy surface units, particularly in the South China Sea, was desired as soon as opportunity offered. With little or no encouragement from existing information, Admiral Halsey was the one to create the opportunity for rampaging against any targets he could find in the South China Sea and along the coast of the mainland.

The airmen of Vice Admiral McCain's Task Force 38, which left Ulithi 30 December, notwithstanding unfavorable weather conditions pushed

home attacks on Formosa airfields on 3 and 4 January. Suicide planes, apparently from Luzon or Formosa, struck Seventh Fleet bombardment and mine sweeping units in Lingayen Gulf, inflicting substantial damage and bringing a request from Admiral Kinkaid for Third Fleet attacks on 7 January on Luzon. Because of this the plan to hit Formosa again was canceled and strikes were launched against Luzon airfields. By this time the weather had improved; results were excellent, and Seventh Fleet operations in Lingayen were practically unhampèred. Captain Acuff's oiler group, Task Group 30.8, which had left Ulithi ahead of McCain for a 2 January fueling rendezvous at sea, was brought relatively closer to the combat area for fueling on the 8th, a risk justified by our control of the air. Formosa was struck again on the 9th as our troops went ashore in Lingayen Gulf against slight resistance.

"The Bull in the China Sea." On the night of 9-10 January, the time seeming opportune, a high-speed run was made into the China Sea using Bashi Channel for Task Force 38 and Balingtang Channel for the group of fast fleet oilers under Captain Acuff, Commander Task Group 30.8. On the 10th the fleet ran down the China Sea to the southwest, and a major part of the 11th was spent in fueling from the oilers. On the 12th, air strikes were made on the French Indo-China coast, and though no major enemy ships were found, other shipping was severely mauled, 1 enemy convoy entirely destroyed, 2 others badly cut up. Altogether 41 ships were sunk and 28 damaged, 112 enemy planes destroyed, and the Indo-China coast had felt the striking power of the United States Fleet.

High seas prevented fueling on the 13th, and not until evening next day was this vital operation completed. On the 15th and 16th, Formosa, Hongkong, Canton, and Hainan were all struck, air opposition again being negligible. Admiral Halsey reported: "Enemy air strength in this area, as in French Indo-China, proved very weak; the China coast in January appeared as wide open and defenseless from an air and naval standpoint as Mindanao and the Visayas appeared in October. Feverish enemy efforts to remedy this easily recognized condition . . . could be anticipated . . . It is believed the indirect strategic results of the attack on the China coast will be quite as valuable as the tangible destruction inflicted."

Bad weather, preventing any celestial observations between the 14th and 19th, continued to hinder operations against the Hongkong-Canton and Hainan areas on the 16th. Fueling was again delayed by the weather, and though the 17th saw indifferent success, not until the 19th could

replenishment at sea be completed. China Sea weather regrettably was running true to the forecasts. However, on the night of 20–21 January the weather proved unexpectedly favorable and expeditious return passage was made through Balintang Channel. After striking Formosa and southern Nansei Shoto again the next day, the 22d saw the conclusion of the current phase of Third Fleet offensive operations, with 3,800 miles covered in the China Sea without battle damage. No enemy aircraft had been able to approach Task Force 38 closer than 20 miles. Fueling was completed on the 23d, and all units except the *San Juan*—sent off on a mission of deception—returned to Ulithi for much-needed repair and replenishment. In his action report Admiral Halsey wrote: “Command was turned over to Admiral Spruance of those Pacific Fleet units and fighting men who had so magnificently extended the domination of United States naval forces over the reaches of the Western Pacific and the China Sea.”

Stretching the Supply Lines. This account of the operations of the Third Fleet has been given to keep before the reader the picture of the combat tasks whose logistics were the responsibility of the service group. These tasks were made much more difficult because of their great distance from normal bases of supply. Aside from the military significance of breaching the hitherto undisputed Japanese zone of influence in the China Sea, the foray of the Third Fleet marked the extreme limit thus far reached by our logistic support. Operations in the China Sea west of Luzon found the fleet at times more than 1,300 air miles from Service Squadron Ten’s main floating base in the Western Carolines at Ulithi. It was therefore necessary that oilers and carrier escorts accompany the Third Fleet to supply fuel and aircraft replacements. Tankers full of oil were dispatched from Ulithi to report to Commander Task Group 30.8, Captain Acuff. From time to time empties were escorted back to Ulithi, a system which applied to the plane-supplying escort carriers also.

Captain Acuff’s Splendid Support

— An annex to Admiral Halsey’s operating plan covered Captain Acuff’s mission, requiring in part that, commencing 2 January, 12 oilers, 3 escort carriers, 3 fleet tugs, destroyers, and destroyer escorts be maintained at sea in support of the fleet. It also outlined the rendezvous and schedule of replacements for both oilers and escort carriers.

Between 7 and 23 January the escort carrier *Sargent Bay*, Captain W. T.

Rassieur, had as its mission air coverage of Acuff's various units. Other escort carriers operating with Acuff's group included the *Shipley Bay*, *Kwajalein*, *Nehenta Bay*, *Altamaha*, and *Rudyard Bay*. On 2 January, Task Force 38, consisting of Task Groups 38-1-2-3, joined the oiler groups at previously assigned stations and fueled, with the *Shipley Bay* servicing as required. Fueling was completed at 3:30 p. m., with 283,000 barrels of fuel and 338,000 gallons of aviation gasoline issued. Next day the destroyer escort *Robert F. Keller*, Lieutenant Commander R. J. Toner, while passing official mail collided with the *Sargent Bay*, damaging both slightly. The *Keller* was detached and sent to Ulithi, where the destroyer tender *Dixie* began to get her ready for sea again.

On other days Captain Acuff fueled his own escort carriers and destroyers, consolidated cargoes, and reorganized oiler groups. On the 8th, replacement aircraft were delivered and 240,000 barrels of fuel and 820,000 gallons of aviation gasoline issued to Task Force 38. Early in the morning of 10 January the oiler *Nantabala* while proceeding in formation through Balintang Channel had a gyro failure, and in the darkness crossed the bow of and collided with the oiler *Guadalupe*. Captain Acuff reported: "In spite of rather severe damage both ships continued with the group in the face of heavy weather and furnished oil to Task Group 38, without which an important phase of its operation could not have been completed." He further reported that on the 13th heavy weather existed in the area (the groups were then in the South China Sea), caused by a tropical low pressure to the south, and that as a result many casualties were recorded during the refueling. On the 15th, though four destroyers of the screen took fuel, the weather was unfavorable for issuing oil to escort carriers. On the 17th the weather still hindered operations. The war diary of the oiler *Patuxent*, Lieutenant F. P. Ferrell, gives this account of the day:

"Heavy seas running, decks swept periodically by full force of seas. Personnel greatly endangered at their fueling stations. Hoses to all ships parted despite additional lengths of hose used to lengthen standard hose rigs . . . Five men seriously bruised at fueling stations. Retrieved one man from water lost over the side from U. S. S. *Baltimore*. Also Captain R. C. Spaulding of the U. S. S. *Niobrara* reported that for this date 'due to these conditions, which caused heavy seas to sweep weather deck, one officer and nine men were injured when knocked off their feet.'"

Notwithstanding the discouraging outlook for continued bad weather, plans were made to resume fueling next day at dawn, but had to be canceled. Task Force 38 and service units retired southward, where at least a reasonable calm area was found on the 19th and fueling was

completed. The total issue 17-19 January was 392,000 barrels of fuel and 720,000 gallons of aviation gasoline.

Something of the work of a replacement carrier operating with Halsey's forces in the South China Sea is shown by the war diary of the escort carrier *Cape Esperance*, Captain R. W. Bockius, for 17 January: "At 0546 (5:46 a. m.) in accordance with orders of Commander Task Group 30.8, Task Group 30.8.11, consisting of the U. S. S. *Cape Esperance*, U. S. S. *Altamaha*, Captain A. C. Olney, and escorts . . . left Task Group 30.8 and took station for replenishment operation . . . at 1230 U. S. S. *Hank* came alongside to receive 2 pilots and 2 aircrewmen for the U. S. S. *Hancock*. At 1315 (1:15 p. m.) the U. S. S. *Charles S. Sperry* came alongside to receive 4 pilots and 8 aircrewmen for the U. S. S. *Lexington*. At 1615 (4:15 p. m.) began launching planes. At 1651 U. S. S. *Callaghan* came alongside to receive 1 pilot and 2 aircrewmen for the U. S. S. *San Jacintó* and to transfer 24 pilots on board to fly off replacement planes. We completed launching planes at 1643, having launched 8 F6Fs-5s, 1 F6FSP and 2 TBM-3s for the U. S. S. *Essex*. At 1647 U. S. S. *Caperton* came alongside to transfer pilots but was unable to make transfers because of heavy seas." Admiral McCain's task force did not always receive on-the-spot replacements of aircraft and pilots with "the greatest of ease."

On the 20th Captain Acuff's oilers commenced cargo consolidation at dawn, and temporary task units were formed with orders to leave the China Sea *via* Mindoro and Surigao Strait, other units with orders elsewhere. On the 21st, on orders from Admiral Halsey, Captain Acuff took his ship back by way of Surigao Strait and Leyte Gulf, reporting to Commodore Carter, Commander Task Group 30.9, at Ulithi, whereupon Task Group 30.8 was dissolved. During Acuff's splendid support of the Third Fleet while Halsey was rampaging through the China Sea, 1,559,000 barrels of fuel oil and 3,416,000 gallons of aviation gas had been issued. To appreciate the quantity of fuel oil expended, the reader is invited to consider that he is on his way to the Army-Navy football game, his way blocked at a railroad crossing by a train traveling at a speed of 30 miles an hour. Assuming that each tank car carries 8,000 gallons and has an over-all length of 43 feet, the train would consist of 8,184 cars, would be 66.6 miles long, and would need 2 hours and 13 minutes to clear the crossing. The reader would miss the game.

At Ulithi in January. From 25 to 29 December the average number of ships at Ulithi per day was 356. This number decreased as Admiral Halsey's forces left for support of the Lingayen operations and the forays

in the South China Sea. For the first half of January the daily number of ships present for servicing was 235. This average was generally maintained until the 27th, after which, with Halsey's return, it rose to 308. The volume of work confronting the service squadron varied more or less directly with the number of ships present and with the nature of the current operations, but the wide variety of tasks was ever present.

Motion-Picture Exchange. Motion-picture programs have long been recognized as one of the most important mediums for the entertainment of officers and men on sea duty, and rank with good food and mail as contributing most to building morale. Carriers, with their large hangar decks, are ideally constituted for showing movies both at sea and in port without violation of "darkened ship" security. In port, as at Ulithi for instance, the senior officer present permitted the showing of movies on topside unless the threat of an attack made a complete black-out necessary. With the visits of combat ships for services, rest, and recreation, with other ships staging through, and for the service vessels themselves, providing adequate movie service was a duty of considerable importance.

Mobile Fleet Motion Picture Sub-Exchange No. 1 was established on 8 March 1944 by Commander Service Squadron Ten to service the fleet when it was at Majuro. The operation of this exchange was delegated to the destroyer tender *Prairie*, which functioned in this capacity until 24 September, when the exchange was transferred to the *Orvetta*. It operated first at Majuro, then at Eniwetok, and later at Ulithi. Adequate trained personnel were necessary for its operation. Errors in issuing programs had to be kept to a minimum and the films maintained in good condition to provide the best possible entertainment. In January 1945 the personnel included 1 officer and 2 enlisted men who had had previous experience in operating naval motion-picture exchanges, 1 man who had had experience as a civilian in the distribution of films, and 11 other enlisted men of no previous experience. Only 3 of the men were rated: One electrician's mate 3d class, one motor machinist's mate 2d class, and one yeoman 3d class. To service ships in the southern anchorage, mostly destroyers, a branch exchange was established aboard the tender *Cascade*. Enlisted personnel of the mobile sub-exchange operated it. The picture program was a busy one, with one-hundred 35-millimeter films and six-hundred fifty-two 16-millimeter issued daily during December 1944.

Mobile Issuing Office. For the distribution of classified material, Mobile Issuing Office No. 7 was located in the *Prairie* and constituted another phase of service rendered the fleet at an advanced floating base. Though

it functioned as an integral part of the ship in which located, the office operated directly under the Chief of Naval Operations and the Commander in Chief Pacific Fleet.

The office had a combined incoming-outgoing monthly traffic of 60,000 publications, every one of which required the signature of a commissioned officer. From two to four hundred ships had to be supplied with the latest publications and changes in publications by the 2 officers and 2 specially qualified enlisted men operating this office. With approximately 2,000 publications handled daily, keeping perpetual inventory was laborious in itself.

Visual Communications. Handling communications is always complicated, and at Ulithi the delivery of visual messages from the flagship, for instance, in the northern anchorage to a ship in the southern, approximately 20 miles away, or to a ship somewhere in between, was particularly vexing. The problem was solved by a relay system. Twelve intervening anchorages were designated as berths for relay ships. Any vessel occupying one of these berths was required to pass along the visual traffic.

Fleet Freight. The activities of the fleet-freight section were tremendously important in making timely deliveries of consignments of previously ordered materials. Under Squadron Ten's supply officer the section's "outgoing" gang was continuously on the go in catching up with ships to make deliveries. The week of 21 January 1945 through the 27th is illustrative of its activities: (1) Air freight deliveries, 1,232 pieces weighing 107,000 pounds, to 245 ships; (2) fleet freight, 35,340 pieces, 849 tons, to 161 ships; (3) storage, 187,077 pieces, 6,141 tons, for 653 ships, and 1,521 pieces weighing 70 tons for transshipment to 132 consignees; (4) transshipment direct from incoming carrier to on-carrying vessels, 2,417 pieces, 86 tons, to 2 consignees; (5) small units of cargo discharged, 4,087 pieces, 802 tons, from 9 ships to 233 consignees; (6) continuance of discharge from two merchant ships, beginning of discharge and delivery from Navy cargo ship *Caelum*, Lieutenant Commander E. Johnson. All these activities required planning, supervision, unloading, loading, storage, and delivery. Possibly the most troublesome was transportation, for at Ulithi as at other anchorages, both before and after the time considered here, the demand for boats and motor-driven barges always exceeded the number available.

Damage to the "Mazama." Shortly before 7 a. m. on 12 January the squadron flagship received word that "an ammunition ship has been torpedoed," and those who heard braced themselves, but the shock did

not come. The *Mazama* had in fact been torpedoed, but she did not blow up. At 6:53 a. m. a man on watch on her reported sighting a periscope off the starboard quarter. General quarters was sounded immediately. It is believed the enemy submarine must have passed under the ship's bow and exploded its torpedo, or itself, just afterward. The explosion occurred underwater off the port side abreast No. 1 hold, rapidly filling it with water, causing a 2-degree list to port, with the ship down by the head. At 7:10 Captain P. V. R. Harris got his ship underway, intending to beach her if the flooding got beyond control. At 7:33 the *Tatarrax*, Lieutenant (j. g.) L. A. Hill, was the first of 11 tugs to reach the *Mazama*. At 7:44 a. m. the ship anchored and her draft was found to be 35 feet forward instead of the normal 23—down by the head 12 feet. Additional gasoline and electric pumps from 3 of the tugs were placed on board, but the former were not used for fear of fire and explosion. At 10:25 a. m. a voice radio message was intercepted reporting the sighting of a submarine 2,000 yards from the *Mazama*. An escort destroyer dropped depth charges and the *Mazama*'s crew went to general quarters, but later secured and gave full attention to salvage. A repair party from the repair ship *Hector* conducted diving operations and reported the ship's port side indented from frame 124 to 162, from A to G strake, with maximum indentation of 3 feet about frame 140, first platform deck. Seams had been opened, rivets sheared off, watertight bulkhead at frame 137 buckled, the anchor windlass knocked out of line, and two forward 3-inch guns, 22-mm. guns, and director rendered inoperative. Commencing at 2:40 p. m. serviceable ammunition was discharged from No. 1 hold into an LCM and from No. 2 into barge YF-693. To add to the anxiety, at 8:45 p. m. another voice radio message was intercepted reporting a midget submarine breaking surface 5 miles from the *Mazama*. She went to general quarters, securing once more at 9:11 p. m. Her casualties for the day as a result of the explosion were 1 missing, 7 injured sufficiently to require hospitalization, and 13 treated for minor injuries and returned to duty. These personnel casualties were regrettable but very slight compared to what they might have been. It was fortunate that the ship did not blow up when hit, as did the *Mount Hood* at Manus.

The salvage vessel *Current*, Lieutenant Commander J. B. Duffy, Jr., made fast to the *Mazama* to furnish power to 6-inch submersible electric pumps in No. 1 hold. Outside, temporary repair was made by divers until the hold could be pumped out. Then followed inside patching and caulking, the *Hector* getting the ship off the critical list in a few days.

Later, in February, a more thorough job was done by placing a cofferdam over the ruptured area, enabling welders and caulkers to do what the divers had been unable to accomplish, thus stopping the bottom leakage which was still giving trouble.

The entry in *Mazama's* war diary for 13 January had this notation: "At 1213 an underwater explosion occurred bearing 250° true, distance 2,000 yards from this ship." Considering this notation along with her torpedoing and the contact reports received in midmorning and during the evening of 12 January, supposedly of enemy submarines, there is a strong probability that again an attack in force, possibly of four or five midget submarines, had been launched at the anchorage. The explosion was the suicide of one of these midget submarines.

January at Ulithi was not too dull!

CHAPTER XXIII

Iwo Campaign

Fifth Fleet Relieves Third—Forces and Vessels— Logistics Prescribed—Logistics Support Group— Service Squadron Six—Service Squadron Ten Still Busy

ON 26 JANUARY 1945 Admiral Spruance relieved Admiral Halsey, so it was again the Fifth Fleet, its first new big job the taking of Iwo Jima. The forces involved were large, the vessels numerous. Vice Admiral Mitscher's Fast Carrier Force numbered 8 battleships, 11 large and 5 small carriers, 6 heavy and 12 light cruisers, and 79 destroyers. Vice Admiral Turner's Expeditionary Force consisted of 7 old battleships, 11 escort carriers, 8 heavy and 6 light cruisers, 42 destroyers, 20 destroyer escorts, 16 destroyer mine vessels, 2 seaplane tenders, 43 attack transports, 4 communications flagships, 16 attack cargo transports, 3 landing ships (dock), 1 landing ship (vehicle), 2 fleet and 2 rescue tugs, 3 salvage vessels, 2 net ships, 2 net layers, 63 landing ships (tank), 31 landing ships (medium), 76 LCI's of all types, 2 battle-damage and landing-craft repair vessels, and 44 patrol craft escorts, submarine chasers, and motor mine sweepers. Vice Admiral Hoover rounded out the armada with his 3 heavy cruisers, 15 destroyers, 12 destroyer escorts, 16 mine sweepers, and numerous small craft, a grand total of more than 540 vessels large and small, not counting more than 260 large and small service vessels, which of course had to service themselves besides supplying the fleet.

Logistics for this armada were supplied by three agencies: at sea by — Commander Logistics Support Group (ComServRon Six) whose supplies were mostly obtained from the other two before sailing; in port by Commander Service Squadron Ten and Commander Forward Area Central Pacific. Much of the hard-earned experience gained in previous campaigns, all the factors known and suspected affecting the undertaking, were laid out in detail in a logistic annex of the general operation plan.

The principal instructions were outlined therein for the employment of Logistic Support Group vessels of various types. Such instructions are condensed as follows: (a) Fleet oilers—specifying Eniwetok as a reloading point until otherwise directed by Commander Fifth Fleet and directing that after D-plus-4 day a minimum of six fleet oilers be maintained in the assigned operating area; (b) ammunition ships—requiring that a minimum number of ammunition ships be maintained at sea consistent with replacements and that moderate stocks of replacement ammunition be maintained in certain vessels in company to augment number of sides (loading spaces) available to fleet units; (c) replacement transport (CVE's)—requiring complete discharge of planes from one carrier at a time to expedite return for reloading, and consolidation of relief pilots and aircraft personnel from departing transport carriers with those remaining in the area; (d) dry and refrigerated provisions ships—requiring that issues from provision ships be expedited and ships return to port for reloading, and transfer maximum amount of provisions from oilers to ships to utilize maximum sides of provision transfer; (e) general stores and aviation supply ships—normal supply to be in port, but limited supply of general stores to be maintained in ships of Logistic Support Group, and if available that ships accompany that group for limited supply to forces at sea; (f) medical stores—standard stock of medical packs be maintained on oilers and other appropriate vessels; (g) personnel—requiring distribution of replacement enlisted personnel from pool aboard vessels of Logistic Support Group in accordance with instructions of Commander Service Force Pacific; (h) towing and salvage ships—directed that movements be accomplished as required by Commander Fifth Fleet.

In addition, the annex outlined the tasks of Commander Service Squadron Ten. Some of these were: Give direct support to units of Central Pacific Task Forces in all ports where Commander Service Squadron Ten was represented; maintain prescribed stock levels of all logistic materials; provide routine upkeep and battle-damage repair facilities; maintain at forward area ports the sources of replenishment and expedite reloading and departure of units of the Logistic Support Group that return to these ports; keep all agencies informed, such as Commander Central Pacific Task Forces (Spruance), Commander Logistic Support Group (Beary), Commander Forward Area Central Pacific (Hoover), Commander Service Force Pacific Fleet (Calhoun).

Commander Forward Area was required in part as follows: Maintain established supply levels at bases in the forward area; exercise general

supervision over logistic support agencies within his area, including loading and routing of replacement CVE's; inform Commander Fifth Fleet, Commander Logistic Support Group, and major task force commanders of the movement of logistic ships into the combat area.

This annex was vague in some places, so self-evident in others as to be redundant, and its prescribed responsibilities at times over-lapped. Nevertheless, as many of our people would be entirely new to the area and studying the plan as a first experience on such a tremendous scale, it had to be all-inclusive, even at the price of vagueness to some and redundancy to others.

The Logistic Support Group, while not new, was to undertake some added services, and had a new commanding officer. Some measures had to be available in case the operation did not work out as well as was hoped. There was also a towing and salvage plan, with tugs and salvage vessels available at strategic points in the Marshalls, in the Marianas under Service Squadron Ten and under Service Squadron Twelve, which had a smaller group, four fleet tugs with the Logistic Support Group and, with the Joint Expeditionary Force three salvage vessels, two fleet tugs, and two rescue tugs. All were held ready for instant duty and replacement of other vessels.

The replenishment scheme for the Fast Carrier Force was no less comprehensive and detailed. Filled chock-ablock with everything before sailing by Service Squadron Ten, the replenishment of the force at sea was to conform with the program of strikes carried out. There were five outlines of these: A basic plan and four alternates, with a replenishment scheme adapted to each of the five, complete as to the date and area.

Replenishment for the Joint Expeditionary Force was available from Service Squadron Ten's representative at Eniwetok for units staging through that port. Facilities at Saipan and Guam were administered by Commander Forward Area Central Pacific, and Service Squadron Ten's representatives—Captain Rhoads at Saipan, Captain Houser at Guam. Fire-support ships equipped to do so were expected to replenish at sea to determine the possibilities of this method of supply.

Fleet oilers were initially located, on D-minus-20 day, 15 at Eniwetok, 12 at Ulithi; on D-minus-10 day, 6 at Saipan. Of these, 27 were assigned to the Logistic Support Group; the 6 to Admiral Hoover, Commander Forward Area, for local operations but available to the support group for fleet support if needed. All the oilers were to service groups staging through until required to proceed to sea.

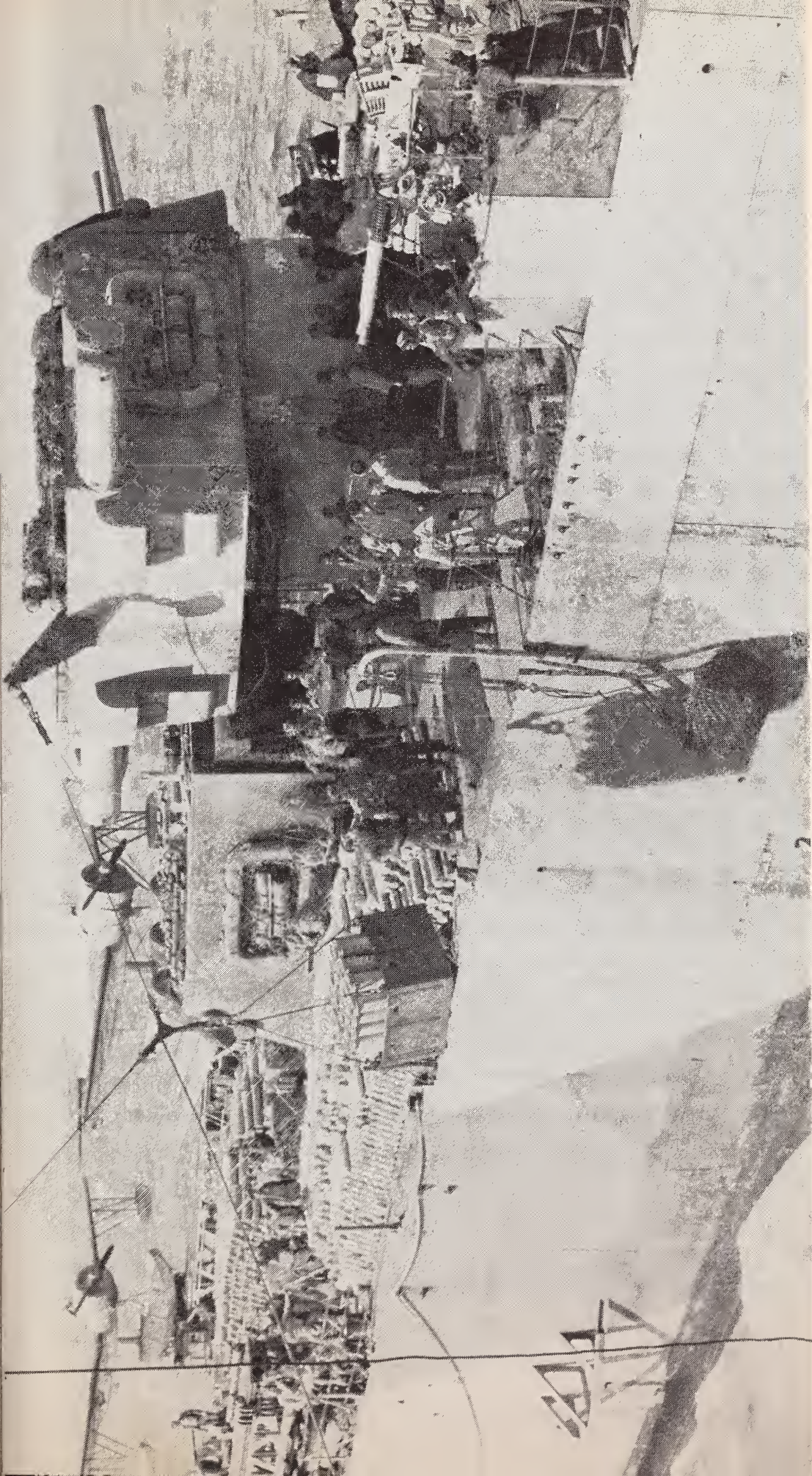
Rear Admiral D. B. Beary's Logistic Support Group was organized in

2 task groups, each of 3 sections: Train, screen, and escort. Group A was designated 50.8.10, its flagship the *Detroit*, Captain D. Curry, Jr. The train, under Captain F. S. Gibson, included 15 oilers, 4 fleet tugs, and 1 escort carrier. Commander H. H. Love commanded the screen, 50.8.14, of 2 destroyers and 12 destroyer escorts, while Commander H. D. Riley was in command of the escort carrier, consisting of 1 escort carrier and 2 destroyers. Task Group B, 50.8.16, under Captain H. F. MacComsey, included Captain V. Bailey's train of 12 oilers, 3 escort carriers, 2 ammunition ships, 1 general supply vessel, all with the designation 50.8.17. Screen, 50.8.22, under Captain J. R. Pahl, had 5 destroyers, 6 destroyer escorts, and 4 destroyer transports. Carrier Escort 50.8.23, Captain F. T. Ward, Jr., commanding, numbered 1 escort carrier and 2 destroyers. Besides these there were the 6 oilers in reserve at Saipan, or as it later worked out, at Ulithi. Task Force 58 sailed from Ulithi on 10 February to give Tokyo a mauling preliminary to the Iwo landings. This was the first air strike against Tokyo Bay by the carriers since the raid Lieutenant Colonel James H. Doolittle had flown off the carrier *Hornet* in April 1942. Task Group A rendezvoused with the Fast Carrier Force 13 February about 10 a. m. and finished the refueling job about noon next day. The *Bougainville* transferred replacement planes and pilots to the force, was rushed back to Guam for a new load, and was back on the 19th with replacements for the losses in the Tokyo raid.

One oiler, the *Patuxent*, had a serious fire and explosion, with considerable resultant damage, on the 16th. She was sent to Saipan.

Task Group B joined Task Group A on the 18th in latitude 19° N., longitude 140° E. On the 19th the Logistic Support Group 50.8 rendezvoused with Fast Carrier Task Groups 58.1, 58.2, and 58.5 in latitude 23° N., longitude 140° E., and replenished them. The same day the *Neosho* was ordered to Iwo Jima to fuel ships there. Next day rendezvous was made with Task Group 58.3 and 58.4 in latitude 23° N., longitude 140° E., and these two groups were replenished, including planes. Three oilers went to Iwo Jima to fuel vessels there, and after discharging remaining cargo to three others, were ordered to Ulithi to refill. The *Attu* was sent to Guam to reload with planes and aviation supplies.

On the 21st of February the fleet tug *Ute* was sent with the destroyer *Thorn* to the aid of the escort carrier *Bismarck Sea*, damaged off Iwo, but it was no use. She was on fire, and was destroyed by internal explosion. Later, on 4 March, the tugs *Sioux* and *Molala* went to assist the destroyers *Yarnall* and *Ringgold* and towed them to Ulithi. Task Group 50.8 demonstrated the feasibility of transferring ammunition at sea. The



Load of powder midway between the Spasta and the cruiser Vicksburg at sea.

Shasta rearmed some of the carriers, giving the *Hornet* 64,000 pounds of bombs in 2 hours, 36,400 pounds to the *Bennington* in 1 hour, and 28,300 to the *Wasp* in 1 hour. These missiles ranged in size from 100 to 2,000 pounds. It was a valuable advance and pointed the way for future improvement in fleet logistics.

The Fast Carrier Force was replenished 23 and 27 February, and most of it again on 3 March, when the Logistic Support Group headed back to Ulithi. From 12 February to 3 March this support group furnished replenishment, sending tankers back to Ulithi for refilling, oilers to Iwo to refuel ships there, ordering escort carriers to and from Guam to bring plane replacements, dispatching tugs to assist damaged vessels, and generally broadening its ability and utility in at-sea support.

Meanwhile Service Squadron Ten, as Task Group 50.9, under Commodore W. R. Carter, with main base at Ulithi and detachments at Eniwetok, Saipan, Guam, and Leyte Gulf, was composed of some 250 auxiliary vessels of all kinds which formed a floating supply and repair base, including drydocking. It supplied practically every form of service such as would be available at a navy yard or supply depot on the continent. Moreover, its work was not confined to the current operation, as was that of most of the other task groups. Squadron Ten's chore was continuous from the day it started in Majuro and was always increasing in scope and amount as the war progressed. At times of specific operations such as Iwo Jima, the load usually became extra heavy. By the time of the Iwo operation it had grown considerably and some organizational changes had taken place.

Part of the extra load requirements were services to the amphibious groups at the staging points. In the Iwo Jima operation all but a small part of the Joint Expeditionary Force started from the Hawaiian Islands, thus presenting a logistic problem for the long voyage, and for maintaining the force at the objective, thousands of miles from permanent major supply bases. Facilities at Saipan and Guam had not been sufficiently developed to render more than a small part of the required services. Staging points and resupply channels therefore had to be established from floating facilities, though all ships were crammed as full as possible with 120 days' supplies for themselves, 60 for embarked troops, and ammunition, fuel, and fresh stores to maximum capacity.

Some of the transports were not designed for the endurance required, and special measures had to be taken to carry extra quantities in passageways and wherever else space could be found. This was not good, as it not only cluttered up the spaces but made orderly accounting and inventory

practically impossible, while also permitting some deterioration. Eniwetok and Saipan were selected as the main staging points on the 4,000-mile voyage, with Guam and Ulithi also utilized. Responsibility for the logistics was assigned to Commander Service Squadron Ten, who sent a representative to Pearl Harbor several weeks in advance of the operation for conferences with the Logistic Section of Commander Amphibious Forces, Pacific Fleet. A week was spent in determining fueling, watering, and provisioning schedules, and anchorage plans for the staging points. Estimates were made of facilities needed to accomplish the logistic requirements within the time available. Fueling, watering, and provisioning plans specified working parties and boats required, the commands furnishing them, and the order in which vessels of the task groups would receive such services. The supplying ships, by types, were spotted in locations facilitating servicing and minimizing back-tracking of ships. Anchorages were allotted in blocks, group commanders assigning individual berths.

When Task Force 51 left Pearl Harbor, an Amphibious Force Pacific representative flew to Eniwetok, taking with him the latest available information concerning movements, and there final detailed schedules were arranged, assigning ships by types for services from specified vessels at specific berths. These schedules, issued in sufficient quantity to give one to each vessel, were delivered to group commanders immediately upon arrival, first at Eniwetok, then at Saipan.

To assist ships and boats of the boat pool to locate them, each logistic ship hung a large sign over the side bearing the name of the ship and its berth number. At night fresh-provision ships displayed three green vertical lights, dry-provision ships three red ones. Ships awaiting service were directed to keep their bow numbers illuminated at night until serviced. Because of the speed with which ships had to be serviced to complete the task within the time limit permitted, it was realized during the initial planning at Pearl that it would be impossible to invoice provisions in the usual manner, so the Bureau of Supplies and Accounts permitted red tape to be cut and provisions taken on as gain in inventory.

At Eniwetok all ships received both fresh and dry provisions, all except the LST's were fueled, and the smaller craft received water. At Saipan all small craft again received fuel, water, and fresh provisions, but the LST's took no fuel. Large noncombatant ships received no logistic services except a few provisions after the other craft had been serviced. Carriers, fire-support vessels, and escorts were topped off with fuel while under way. Provisions both dry and fresh were issued by the unit system,

except to headquarters ships, attack cargo and attack transport ships, and landing ships (dock), which were allowed to requisition whatever they needed. The units of fresh and dry provisions were well balanced and pleased the ships drawing them. The dry-provision units contained considerable fruit juices, which were welcome.

Because of the large number of ships requiring fuel and water in a very short space of time at the staging points, speedy servicing meant a large number of distributing facilities as well as a large quantity of fuel and water. At Eniwetok five oilers were spotted in berths convenient to anchorages of the transport groups. Destroyers and other ships using black oil also fueled from these oilers. Six fuel facilities were set up for Diesel-burning craft. All tankers were equipped to fuel on both sides simultaneously. The LST and smaller types received water, and all except those LST's with "side carry" loads got it by going alongside the supplying vessels. Two self-propelled water barges cared for the LST's at anchor.

At Saipan because of the small harbor the servicing was difficult, so dispersals were resorted to, with LSM's and Mine Group vessels serviced at Tinian, a few miles south. LST's got water and provisions at their berths in the outer harbor of Saipan, water from self-propelled barges, and provisions from Service Squadron Ten delivered by LCM's from the transports. In the outer harbor LCI's went alongside fuel, water, and provision ships. The small craft received their services before the Task Force arrived, and took anchorages at two points in inner and outer harbors. Vessels other than those named were not scheduled for logistics at Saipan, but six oilers were available offshore for fueling at sea such destroyers, destroyer escorts, and escort carriers as required it. Ammunition expended in practice en route from Pearl was replenished by four LCT's, largely loaded from the naval magazine at Saipan. Services at staging points went very smoothly and were completed in three-fourths of the time allotted.

At Eniwetok some 30 ships of Admiral Turner's force required voyage repairs involving 1,500 man-hours of work. Captain C. Lovelace of the repair ship *Oahu* was ComServRonTen's representative, and as a result of the work done all ships were able to proceed on schedule except one submarine chaser for which no spare shaft and propeller were available. Admiral Turner reported "The speed and comparative ease with which this extremely large number of ships received logistics at both staging points proved the desirability of early conferences between representatives of the Force requiring services and the Force supplying them.

Furthermore, it revealed the necessity of arranging and distributing comprehensive anchorage plans and logistic schedules well in advance of the operation. Finally, it reflected credit upon Service Squadron Ten, which did a thorough and energetic job throughout both staging periods."

Considerable additional repair work was done at Saipan because Squadron Ten had supplementary facilities there. Captain F. A. Rhoads, Representative B of Squadron Ten, had the destroyer tender *Hamul*, one Diesel repair ship, one battle-damage repair ship, one 3,500-ton and one 1,500-ton floating drydock for repair work, and the submarine tender *Fulton* also lent a hand. Ten ships were drydocked and about thirty worked upon for more than 10,000 man-hours. Such a splendid job was done on this armada that all but three were able to leave on schedule.

Logistics at or near Iwo were provided by several sources. Rear Admiral Beary sent oilers frequently. Besides fuel these carried limited quantities of many other things: Provisions, candy, tobacco, clothing, and medical units, and some ammunition, mail, and exchange personnel.

Knowing that Iwo would be strenuously defended, preparations for a large expenditure of bombardment ammunition were made, which was wise. The ammunition ships *Shasta* and *Wrangell*, with the auxiliary ammunition ship *Lakewood Victory*, were sent to the objective 2 days after D-day for resupply of our bombardment vessels. In addition to this, Turner had loaded his Task Force 51 vessels with all they could carry of every conceivable use, including 4,800 rounds of 8-inch high capacity in 8 transports; 2,800 rounds in 14 LST's; 32,000 rounds of 4.2 mortar (20 percent of which was smoke) in 10 LST's; and 180 depth charges in 2 transports. Sixteen LCM's carried by the landing ship (dock) *Bellegrave* were loaded with ammunition at Saipan, taken from 8 of the LST's there. Besides all this, 18 LCM's carried by the *Ashland* each carried 500 rounds of 5-inch .38 caliber antiaircraft, not obtained from the LST's.

Between D-minus-1 day to the end at about D-plus-35 day, the ammunition actually expended totaled 14,650 tons: 2,400 rounds of 16-inch, weighing 2,280 tons; 5,700 rounds of 14-inch, 3,640 tons; 1,400 rounds of 12-inch, 520 tons; 8-inch high capacity, 11,700 rounds, 2,020 tons; 8,400 rounds of 6-inch high capacity, 440 tons; 152,000 rounds 5-inch high capacity, 4,160 tons; 17,700 rounds 5-inch star, 300 tons; 12,000 rounds 5-inch, 270 tons; 10,000 rounds 4-inch, 145 tons; and 70,000 rounds 4.2 mortar, 875 tons.

This rocky little island of Iwo, less than 5 miles long and little more than 2 at its widest point, sustained bombardment by more than 30 percent greater expenditure of ammunition than Saipan, where 10,960 tons

were fired. This is in addition to the bombs and rockets used by the Fast Carrier Force on the same targets. As has already been mentioned, a captured note of a Japanese general on Saipan said that if it were not for the naval bombardment his troops could give the Americans a good fight, but with it they could not. That was on an island 30 miles long and wider than Iwo is long. Is it any wonder that the Japanese general at Iwo thought he had set his defenses beyond any such bombardment? Yet he was hit with a total of 30 percent more, concentrated on an area about one-fifteenth as large. Aside from the direct damage, the bombardment was numbing, stupefying. It kept the defenders so suppressed that our Marines made many advances to positions where they could blast in or burn out the enemy from their caves. The Japanese was far from helpless, for he took a heavy toll in Marine lives, but he did not have the impregnability he thought he had. General Kuribayashi, commanding Iwo, said in a dispatch to Tokyo: "I am not afraid of the fighting power of only three American Marine Divisions if there is no bombardment from aircraft and warships. This is the only reason why we have such miserable situations."

Smoke or fog oil was used on nine different nights in the transport areas. The total expenditure was about 90,000 gallons of fog oil and about 9,000 smoke pots and floats. The supply presented no logistic difficulty.

Admiral Turner's ingenuity and initiative were again evident at Iwo, where he introduced a new type of logistic vessel, the small craft tender, later designated APB, a self-propelled barracks ship. The writer regards this as a misnomer. These vessels, two at Iwo, were LST's converted to meet the needs of the many small craft with insufficient endurance for long voyages and long period at objectives. The small craft had suffered many hardships and had previously had to beg or go short, or not be considered worth taking on the expedition. These new tenders carried about 225 tons each of frozen and dry provisions, 120,000 gallons of water, about 235,000 gallons of fuel, and had berthing facilities for 40 transient officers and 300 men, a sick bay for 14 patients, and messing arrangements for 750 men on a round-the-clock basis. The ships serviced by these tenders at Iwo were destroyers, destroyer escorts, destroyer mine sweepers, landing ships, mine layers, patrol and landing craft, mine sweepers, submarine chasers, and rescue tugs. From D to D-plus-15 day, 54 vessels were refueled and rewatered and 76 reprovisioned.

Perhaps the best thing of all was the way the tenders mothered the landing boats and their crews. Many of these were caught at the beach

when their own ships moved out of sight. Many were temporarily disabled, some lost. These tenders berthed a total of 2,500 officers and men, and fed 4,000 on a scale of 1 man, 1 day. It was a great help to a tired and hungry boat crew to have a place to eat and sleep. The tenders did not carry landing-craft spares or repair facilities. The principal part of the maintenance and repair work at Iwo was done by 3 landing ships (dock), 3 repair ships, 1 Diesel repair ship, and 1 landing-craft repair ship. The job was no small one, totaling work on 30 landing ships (tank), 24 landing ships (medium), 42 landing craft (infantry), 18 landing craft (tank), 3 destroyers, 5 attack transports, 1 net ship, and numerous landing boats. It has been said that every small boat used in landing on beaches had sustained damage of some sort, many of them more than once. The LSD's worked 24 hours a day on repairs. The divers of the repair ships practically lived in diving suits from sunrise to 10 or 11 o'clock at night clearing propellers and doing underwater repair and salvage work.

Meanwhile the logistic work of Service Squadron Ten at Ulithi, Saipan, Guam, Eniwetok, Kossol Roads, and Leyte was going steadily on. The amount of repairs and the hours worked would have caused peacetime navy yards to throw up their hands in despair. As a matter of fact it was reported that one wartime yard complained that Service Squadron Ten was taking away its work. It is not easy to describe the repair job without going into detail hardly appropriate here. Suffice it that for February it varied from such big jobs as rebuilding 60 feet of flight deck on the carrier *Randolph* in 18 days and new bows on blasted ships, to replacing guns and electrical equipment. In that month 52 vessels were repaired in floating drydocks.

Fuel and other issues were no less amazing—4,100,000 barrels of black oil, 595,000 barrels of Diesel oil, 33,775,000 gallons of aviation gasoline, and 6,703,000 gallons of motor gas; approximately 28,000 tons of all types of ammunition; 38 tons of clothing; more than 10,000 tons of fleet freight; more than 7,000 tons of ship supplies of rope, canvas, fenders, cleaning gear, hardware; approximately 1,000 tons of candy; toilet articles; stationery; ship's service canteen items; and approximately 14,500 tons of fresh, frozen, and dry provisions.

The logistic work of Service Squadron Ten at Leyte should perhaps be briefly explained. While that was an area under the cognizance of the Seventh Fleet, which at that time did not come under the direct command of Admiral Nimitz, it was nevertheless a matter of brothers-in-arms cooperation to give support wherever possible. Therefore, because

of shortage of the necessary service vessels in the Service Force Seventh Fleet, a detachment of Service Squadron Ten was sent to Leyte to help out. In it was a floating drydock of 3,500 tons and another smaller one, as the shore-base development planned for the area was not far enough advanced to meet the requirements. Later, when the Third and Fifth Fleets based there, Service Squadron Ten moved in with a large detachment to take care of the logistics without drawing upon the shore base for anything except the occasional use of the battleship drydock at Samar.

CHAPTER XXIV

Service Squadron Ten Grows Up

The Guam Base—Seventh Fleet Logistic Vessels and Bases

BY EARLY SPRING OF 1945 Service Squadron Ten was well grown. It had been through enough campaigns to be considered in the veteran category, no longer an experiment but a considered and necessary part of the fleet. It could do almost anything a continental naval base could, and in many cases faster, with hardly any repair job it could not tackle and accomplish. The volume to be undertaken at any one time was the limiting factor. For example, to attack a major job of battle or storm damage on a few ships was all right, but to undertake many at the same time meant that some more routine maintenance and upkeep of active vessels suffered. A nice balance was generally tried for, and any big work seriously handicapping routine upkeep was sent back to continental yards. This usually meant that ServRon Ten had one or more big jobs on hand which could be accomplished at the same time as routine upkeep and minor repairs to all other vessels. Most other big jobs, excepting urgent salvage, coming at such times were passed back to the yards, even though within the ability of the service squadron to accomplish.

The highest priority was given to voyage repair of the ships of the Third and Fifth Fleets. When they were at the anchorage it was the policy to defer most other work; when away, repairs were made to battle-damaged ships, mine craft, service vessels, and others within the area. Some vessels, though badly damaged, were repaired and returned to the fleet with speed equal to that of a shore repair facility. Such very large repairs were, however, limited to vessels urgently needed, for the assignment of men and material to such work prevented the accomplishment of many urgent smaller voyage repairs. The effectiveness of Service Squadron Ten was due no little to the excellent backing received from

the Fleet Maintenance Officer, Rear Admiral C. A. Dunn, on the staff of the Commander Service Force Pacific. Technical personnel and materials, especially repair parts, were made available with remarkable promptness.

— Keeping the fleet mobile was not, however, entirely smooth sailing. In spite of excellent assistance and careful planning there were many instances of shortage; items such as radar antennas, gun mounts, and parts for some Diesel engines were invariably in short supply, not only with Service Squadron Ten but at Pearl Harbor and at home. The service squadron was replenished as soon as they could be manufactured and shipped.

— Repairs to small craft and small boats and the upkeep of the boat pool proved a most difficult problem. The protection afforded by the atolls was never all that was desired, and when a typhoon passed by, the damage to small craft was severe. The boat pool and most of the service craft available had been designed as landing craft; fortunately they were also satisfactory as personnel and cargo carriers, but they were difficult to maintain, and repairing the plywood hulls of the LCVP's required a disproportionate number of maintenance personnel. Despite the many men devoted entirely to small boats, and notwithstanding a daily overhaul of 16 small Diesel engines by the boat-pool repair unit, an average of 20 percent to 30 percent of the small boats were out of commission at a time. Usually only floating workshops, pontoon barges, and floating cranes repaired small craft and boats, thus relieving the repair ships and tenders of this work. At times it was necessary to use the 1,900-ton floating dock full time for hull repairs of LCT's, LCI's and LCM's.

— Most of the repair man-hours were devoted to keeping the fleet mobile, and to making the many voyage repairs needed, but in many cases the work of this floating base made it possible to avoid returning a damaged ship to Pearl Harbor, or made her safe for return. No damaged ships were lost, no matter how badly hurt, if they were able to reach an anchorage at which a unit of Service Squadron Ten was located. The Bureau of Ships restricted publication "Structural Repairs in Forward Areas During World War II" includes some examples of ships which were lost in other areas because of improper or inadequate repairs, and some of the examples of adequate repairs made by Service Squadron Ten.

One of these badly damaged ships was the *Houston*, already mentioned. She received two torpedoes, one at starboard frame 79, about midway between the centerline keel and the bilge keel, the explosion flooding both engine and firerooms and extensive areas on the third

deck; the second, at frame 145 starboard, ripped a hole in her bottom and side from frame 138 to the stern. The ship would undoubtedly have been lost but for the exceptionally good damage control effected by the ship's force. Even so she would have been lost had she met rough weather, as her girder strength had been seriously lessened. Though there was no adequate drydock at Ulithi, the third deck, forward fire-room, and after engineroom were pumped out. A transverse bulkhead was erected in the hangar deck at frame 138½ and areas forward of it pumped dry. Extensive longitudinal stiffening was installed on the third, second, and main decks to compensate for the loss in girder strength, damaged plating left by the after hit was cut away, and temporary side plating reinforced by longitudinal and transverse stiffeners made the ship safe for towing to Manus. There under the direction of the Service Squadron Ten maintenance officer she was drydocked, completely pumped out, and shell plating and girder strength replaced to 100 percent of her original strength.

The *Reno*, also previously reported, was hit by a submarine torpedo at port frame 92. Shell plating and supporting structures were ruptured between frames 89 and 97, and from B to F strakes. The resulting flooding created a condition of negative stability at zero list. Damage-control efforts of the ship's force, assisted by the fleet tug *Zuni*, enabled her to be towed 700 miles to Ulithi. Unable to drydock the ship, divers were used for underwater repairs. Calculations indicated the necessity to remove 200 tons of topside weight, which was done, and about 75 percent of the original strength restored in the damaged area. She was then towed to Manus, drydocked, pumped dry, and completely restored.

When the cruiser *Canberra* received an aircraft torpedo at starboard frame 99 about 10 feet below the waterline, both enginerooms and fire-rooms 3 and 4 were flooded. The ship was towed 1,400 miles to Ulithi where after 138 diving hours a patch was fitted around No. 1 shaft in the forward engineroom, the compartment pumped out, and the ship towed to Manus, where she was drydocked, completely pumped out, and shell plating and strength restored 100 percent.

An interesting repair was made on the destroyer *Renshaw*, damaged by a torpedo at frame 115. The explosion damaged the area between frames 96 and 130, flooding the forward engineroom and after fireroom. The after engineroom was partially flooded. The ship was drydocked, pumped out, and found so badly damaged as to preclude repair in a forward area. Her after engineroom and forward fireroom were made operable, and temporary piping installed to enable her to steam on one shaft.

On 30 December 1944, the destroyer *Gansevoort* was hit by a Japanese suicide plane, the after firerooms and enginerooms were flooded, and the forward engineering plant was made inoperable because of misalignment of the shaft and wiped spring bearings. After temporary repairs the ship was towed to Ulithi. The patchwork included stiffening of the port stringer, which failed during the tow. At Ulithi extensive repairs were made in a floating drydock by tender personnel, and the ship's forward enginerooms and firerooms placed back in commission. She then went to Mare Island Navy Yard under her own power on one shaft. Had she been subjected to heavy weather prior to her arrival at Ulithi she undoubtedly would have been lost.

Not one but four successive Kamikaze planes hit the destroyer *Newcomb*: One at base of after stack; one exploding in the torpedoroom, which damaged both enginerooms; the third at the forward stack; and the fourth amidships, swerving off to crash on the fantail of the destroyer *Leutze*, which had come alongside to help fight fires. The keel was buckled, there were five holes in the bottom, yet the ship was towed to Kerama Retto and drydocked, the hull made watertight and strength restored.

After surviving a typhoon in which three destroyers were lost, the destroyer *Dewey* reached Ulithi with her No. 1 stack flattened and bent completely over. The maintenance department assigned the renewal job to the tender *Prairie*, which made a new stack. The work required very careful measurement in renewing the uptakes, commencing from a point on the main deck. It was a welding job. The repair party also salvaged and reinstalled the whistle and siren, built and installed the "Charlie Noble" (galley smokestack), and the atmospheric exhaust pipe.

The oiler *Guadalupe*, while steaming through Luzon Strait on January 10, had collided with the oiler *Nantabala*, badly damaging her bow, which looked as if a gigantic bite had been taken out of it. Because of the extent of the damage—both anchors and hawsepipes being inoperative—she was put alongside the *Ajax* for repairs. Lacking the shears needed to cut away the mangled metal, the *Ajax* repairman burned it off, built a temporary scaffolding and constructed girders which served as the frame for a false bow built from keel to weatherdeck, and provided a jury rig for anchoring.

A contact mine struck by the net layer *Viburnum* tore a hole from starboard frame 6 to 17, keel to second deck. All spaces forward of frame 30 were flooded. ServRon Ten at Ulithi drydocked the ship, but since she was wood and no such material was available, the shell and supporting



Randolph damaged by suicide plane.



Franklin bard bit.



Close up of the Franklin.

structure had to be repaired with steel—hull plating, decks, and hull strength, completely restored. While the repairs were intended only to permit return to a continental yard, they proved so successful that the ship remained on station in the forward area for the duration of the war. Collisions, bombing, mines, whatever the cause of damage, Service Squadron Ten met the emergency with ingenuity, persistence, and skill deserving the highest commendation.

The largest single job undertaken was repair of the flight deck of the carrier *Randolph*. While the fleet was at Ulithi preparing for another strike, on the evening of 11 March the *Randolph* was hit by a large suicide plane carrying bombs. The plane penetrated to the after hangar space, demolishing about 4,000 square feet of flight deck, all shops in the area, the oxygen and carbon dioxide charging stations, made a large hole in the main deck, and damaged the CPO quarters below. As soon as the fires were extinguished, repair personnel started work around the clock. Next morning the heavy-hull repair ship *Jason* was ordered alongside. Admiral Spruance had requested that repairs be made at Ulithi because of the likelihood of the urgent need of the carrier. The magnitude of the job is indicated by the amount of materials used: 30 tons of steel plate, 29 tons of 12-inch I beams, 1,500 pounds of welding electrodes, 7,500 feet of flight deck lumber. Some of the steel beams were obtained from a Japanese sugar mill dismantled on Saipan. Nineteen days after the attack the ship was ready for sea.

Another example of the type of repairs accomplished by Service Squadron Ten was the job on the carrier *Enterprise*. A bomb had hit the forward elevator, damaging the flight deck and flight-deck control station, starting a fire demolishing two 40-mm. quads, exploding the ammunition in that area, destroying all instruments in the control station and ruining 8,000 feet of multiconductor cable. To accomplish complete repairs it was necessary to remove two 40-mm. quads from the *Santa Fe* and fire-control instruments from the *Franklin*, both of which ships were returning to Pearl Harbor. Twelve days after repairs started, the *Enterprise* was ready for sea, 5 April. Again 12 days later, 17 April, she returned to Ulithi damaged again. One suicide plane had crashed near the starboard bow, injuring the forward pumphoom, another in the 40-mm. sponsons at port frame 150. The bomb or bombs exploded in the water, damaging the propulsion machinery, throwing the port shafting out of alignment, and crippling the after generators. Turbine chocks and line shaft bearing feet were cracked, all reduction gear bearings on No. 3 shaft wiped, the hull punctured at frame 135, and numerous rivet leaks

caused. The hull was made tight. To do this it was necessary to list the ship 8 degrees. Turbines, reduction gear, and shafting were repaired and realigned, and by 3 May the ship was ready for sea. On the 14th she was hit again by a suicide plane crashing on the centerline, 15 feet abaft the forward elevator. The plane pierced the flight deck, exploded in the forward elevator well and seriously damaged elevator and machinery. Since no material was available to replace the elevator, the main longitudinal members were replaced as a temporary repair and the ship returned to a west coast navy yard. On departure her commanding officer sent the Commander Service Squadron Ten the message: "It would appear that the *Enterprise* has been one of the ComServRon Ten maintenance's steadiest customers. In addition thereto, it may be added, the best satisfied."

The success of Squadron Ten's maintenance efforts was due primarily to the willingness and desire on the part of men and officers on the repair ships and tenders to give the fleet all support possible. Objection to working hours or conditions was never voiced. In spite of typhoons, material shortages, and the heat, the morale of the personnel was always of the highest. The support of the main body of the Pacific Fleet during the last year of the war represents the most effective use of vessels of the train by naval commanders in the history of our Navy.

All the other classes of logistic services were attended to by the squadron, with continental ports forwarding materials as requested, largely through Ten's big brother, Service Squadron Eight, in Pearl. At this time the main base of Ten, with flagship and staff, was at Ulithi. Detachments commanded by officers known as representatives were at Guam, Saipan, Eniwetok, Kossol Roads (Palau), and Leyte, varying in size and services rendered according to the needs of current operations. By early spring of 1945 the Eniwetok detachment had dwindled to little more than a floating dock, an internal-combustion-engine repair ship, a tug, and water, oil, and gasoline barges. Saipan was very active and had equipment similar to Ulithi's, but on a much smaller scale. The Guam detachment was dwindling because the shore development as a naval base was growing daily. Kossol Roads was diminishing and Leyte increasing.

The specified duties of the squadron had not been changed since it started, but had increased in volume beyond anything foreseen. Its original organization, however, was sound and had permitted the growth and extension of services without necessitating radical reorganizational changes. Personnel changes had been considerable, with many of the

"old guard" replaced. These mutations generally followed rather closely the already going scheme, but often divided what had been done by one man into work for more than one as the volume increased, especially in the supply department. In some of the other departments where specialties were undertaken, these usually came under some already functioning activity or section and it was merely necessary to allot space and equipment for the specialists as they arrived.

For war, with its necessity for quick results, a simple, easily comprehended organization is best, especially when inexperienced young men must be used to accomplish the required rapid expansion. No claim is made that such an organization would be the most efficient and economical for peace. Doubtless, in several respects, efficiency experts would be horrified, especially if this organization were applied to an industrial establishment intended to bring the great possible return in dollars. This was for war, however, and in war, time is of such value that it must be given priority over many other considerations. In war the teams are made up of many young men mostly strange to the business at hand, whether it be a supply mission or combat. Therefore, the simpler the team organization, the less time lost in learning it and in executing the mission. War is never economical, but always wasteful of material and men. To be successful it must not be wasteful of time!

The Vessels of Service Squadron Ten

From its puny start of a year before, when the squadron was tackling something unusual and almost always biting off more than it could chew (in the minds of the skeptics, and a couple of times even in those of its supporters) but managing to chew it, and finding encouragement from the fleet commanders and from its force commander Vice Admiral Calhoun, it had now become a fleet in itself, like no other which had ever existed. It was composed of a conglomeration of vessels ranging from great 18-knot 20,000-ton auxiliaries down to lowly garbage barges built on pontoon lighters and requiring harbor tugs to move them. These squadron craft had been assembled to fulfill a mission—service to the fleet—in advanced areas where there were no permanent bases and could not be until months after the land had been captured. That mission was fulfilled. It was not glamorous, spectacular, glory-gaining work, but had it failed the war would have lasted much longer at much greater cost in blood and dollars. It was a job of routine-type service but done in unorthodox fashion, stepped up and multiplied many times by

the tempo of the drive plus the unusual demands great and small, often coming without warning because of changes in the situation, or the casualties and fortunes of war. It was a never-ending job, and the men and officers of Service Squadron Ten were as much a part of the fleet which defeated Japan as were the men and officers of any battleship, carrier, cruiser, or destroyer. Admiral Halsey's New Year dispatch to the squadron commander proves it—

A rousing well done to you and all your hard working gang for a magnificent job in taking care of all our needs. Beans, bullets, black oil, bulk stores, and even bulkheads have been promptly forthcoming on each request. Service Squadron Ten is a tried and proven member of our blue team!

Service Squadron Ten had grown up! By the middle of February 1945, — its floating facilities, classified by functions, totaled 280 units: 26 repair ships, other repair facilities and tenders; 34 floating ammunition supply facilities; 48 floating supply and fleet freight units; 100 floating fuel and water supply storage vessels; 24 seagoing and salvage tugs; 42 fleet-service small craft and harbor tugs; 6 barracks ships and hotel barges.

This was quite a growth from the 50-odd units with which the squadron had started a year before. It was a growth beyond the 80-odd units the squadron commander had estimated to be needed at the time of organization—to be told he was dreaming or had his head in the clouds, and scoffed at about the big outfit he was trying to wangle. It is not becoming to say "I told you so!" because he was so far wrong himself that the difference between his underestimate and all the others did not alter the fact that no one in those earlier days was sufficiently posted on fleet logistics to make very good estimates of what the future would require. New calculations had to be made as the war went on, and some of these reestimated on sudden notice before having been fully met.

The Guam Base

At the commencement of the Iwo Jima operation Guam had been in our hands more than 6 months. Considerable development had been accomplished and many fleet logistic services rendered. One big floating drydock was taking ships of the largest size, another being assembled was soon to be ready, and two smaller ones could handle almost any vessel up to 3,000 tons. These were in Apra Harbor, the nearest thing to a protected, sheltered harbor that Guam had which could accommodate large ships. Piers were constructed, some for repairs to vessels, some for supply, 10 for troop loadings and other services, 1 for sub-



Pittsburgh in a drydock, Guam.



Bow of Pittsburgh—towed in—cut up and restored to the ship.

marines. A submarine base to handle 2 squadrons was being rapidly completed, and a tank farm built with a capacity of 448,000 barrels of fuel oil, 130,000 barrels of Diesel oil, and 328,000 gallons of aviation gasoline. This last was in addition to the airfield storage for landplanes.

The naval supply depot had 464 warehouses 40 x 100 feet each, some open storage areas and 68,000 cubic feet of refrigeration storage. The naval ammunition depot for fleet replenishment comprised 202 prefabricated steel magazines, 100 hard stands, and 20 fuze magazines, as well as quarters for depot personnel. There were several water systems, 1 of which furnished 2,000,000 gallons a day to Orote Peninsula and for the fleet. The latter received less than a quarter of this amount, which meant that a 5,000,000-gallon fleet water tanker required about 10 days to fill up.

Guam had three large naval hospitals, Naval Base No. 18, with 1,000 beds, Fleet Bases Nos. 103 and 115, with 1,000 and 2,000 beds, respectively. There was an amphibious boat pool and boat-repair base of large size. Besides all these there were Army and Marine Corps logistic facilities, and others necessary for the land-based aviation and garrison forces.

At Saipan in addition to the floating facilities of Squadron Ten there was a tank farm for 150,000 barrels of black oil, 30,000 of Diesel, and 900,000 gallons of aviation gasoline, a supply depot of 64 steel warehouses 40 x 100 feet each, plus 11 refrigerator units of 640 cubic feet each. The naval ammunition depot had 112 steel magazines, 4 torpedo magazines, and considerable open storage. An amphibious-vessel repair base comprised 5 shops 40 x 100 feet each in floor space, a 12-ton crane on a pontoon barge, a 6 x 18 pontoon drydock, and additional fuel storage of four 10,000-barrel Diesel tanks and two 1,000 barrel tanks for aviation gasoline. A small-boat repair unit with 4 x 15 pontoon drydock had a mobile machine shop. There was also a special small-boat pool and an LVT repair facility run by the amphibious force, two 75-ton cranes on 6 x 18 pontoon lighters, and a pier for handling ammunition between ship and shore. The naval medical facility was small; one hospital of 400 beds and some small dispensaries of the garrison units. There was also a large lay-out for troop logistics of all sorts.

Seventh Fleet Logistics

It may be considered by some that the Seventh Fleet, which also had its logistic problems, has thus far been dealt with lightly. Perhaps that is a

valid criticism, but with the Australian and New Guinea land bases available to it the logistics followed a more customary pattern and therefore in the interests of a shorter, more readily published volume, it seemed unnecessary to go into the Seventh Fleet logistics to the same extent as is done for the others. Some points of Southwest Pacific logistics have been touched upon already. However the subject may again be dealt with briefly here.

On 1 April 1945, fuel supplies on hand in the Seventh Fleet areas were: Black oil afloat, 571,000 barrels, ashore, 387,300, total, 958,300, or about half the available storage capacity; Diesel fuel ashore, 107,700 barrels, afloat, 181,500 barrels, total, 289,200, again about half of available capacity; aviation gasoline, 126,400 barrels ashore, 237,000 afloat, total, 363,400 barrels; motor gasoline, ashore 46,400 barrels, 119,500 barrels afloat. The estimated requirements for April were 960,000 barrels of black, 450,000 Diesel, 245,000 barrels of aviation gasoline, and 4,000 barrels of motor gas.

Water in gallons reached sizable totals. Available ashore and afloat were 191,355,000, with a monthly requirement of 75,000,000 and storage capacities ashore of 206,428,500 gallons; afloat, 84,000,000. The monthly requirement in short tons of provisions for 250,000 men ran to 7,500 fresh and 15,000 dry, with 11,672 tons of fresh and 50,166 of dry on hand. Of ships general stores (hardware, etc.) there were available 52,416 tons, supposed to be 90 days' supply, but not well balanced. The monthly requirement reached 17,472 short tons.

Ammunition was in great enough quantity, but by spring of 1945 was somewhat farther to the rear than desirable and not completely balanced. Principal stocks were at Brisbane, whose base facilities were rolled up and moved forward; at still active Fremantle; at Hollandia, still active but slated to be moved when opportunity permitted; and at Manus, then the principal supplying activity. One fleet issue load of 5,000 tons was received each month. Certain ordnance spares such as gun barrels, mounts, sights, etc., were ordered by Commander Service Force Seventh Fleet as seemed necessary or desirable to meet future requirements.

At the end of February 1945 the vessels of the Seventh Fleet to be serviced by its own service squadron numbered 949 of all classes from light cruisers to motor torpedo boats, with the largest numbers in landing ships and landing craft. Included were 66 submarines, 3 submarine tenders, and 2 submarine rescue vessels. All these were Americans. In addition the Australian contingent depended to a considerable extent upon Seventh Fleet logistics not furnished by its own auxiliaries

when port facilities were too far in the rear. Australia contributed to the effort 2 heavy cruisers, 1 light cruiser, 3 destroyers, 1 sloop, 4 frigates, 2 auxiliary antisubmarine ships, 35 mine sweepers, 9 survey vessels, 1 ammunition ship, 1 provision ship, 2 oilers, 2 fleet tugs and 3 LSI landing ships (infantry), a total of 66 vessels, bringing the Seventh Fleet's total to more than a thousand craft of all classifications useful for the purpose.

Contrary to the belief held by some that Seventh Fleet had but little floating facility for logistic support, it had quite a force, large by prewar standards. Whether or not it was sufficient may be a somewhat controversial matter. It is only fair to say that the Seventh was a resourceful fleet and devised ways and means to carry out its operations in a manner deserving high praise. It was less given to "squawking" about shortages and hardships than others which generally had nothing serious to complain about, while the Seventh on several occasions did.

For services to Seventh Fleet in addition to those furnished by shore bases, there were available in its service force 353 vessels of all types, including patrol, escort, mine sweeping, harbor netting, and guarding craft, with a floating dock of battleship capacity, 2 degaussing ships, hospitals, barracks, ammunition, water, freight, cargo, landing type, tank, repair, stores, and other ships capable of supplying any need.

Combatant and amphibious vessels assigned to the Seventh Fleet varied at times with the different operations. To meet the logistics requirements, special temporary allocation of auxiliary vessels was frequently made. The responsibility for the logistic needs of CinCPac ships operating in the Southwest Pacific remained with Commander Service Force Pacific Fleet, while the Seventh Fleet was to a considerable extent serviced from shore bases, as already indicated, largely because land was available along the route of campaign on which to establish bases, and there were not sufficient floating auxiliaries during the early war years. In the Central Pacific there was not enough available land along the route, except in the Marianas, where a harbor had to be constructed. Therefore the American Pacific Fleet support had to be given by floating facilities in those areas.

Admiral Kichisaburo Nomura, I. J. N., who was ambassador to the United States and conducting the negotiations in Washington at the very moment the Japanese planes were attacking Pearl Harbor, was closely interrogated after the war. His reply to a question by Rear Admiral Ofstie about recovery and capabilities showed he knew, at least vaguely, about our shore bases. He said: "I didn't know exactly, but imagined it would take you quite a time (after Midway) to recover

your fleet strength; but you recovered more quickly than we expected. We were told by the Navy spokesman that you had repair facilities beyond our imaginations, that you had big floating docks for use in repairing ships which you brought from the United States. Your repair facilities were better than we calculated." And again: "Your repair facilities counted very much. I understand that in the Admiralty Islands there is a big repair base; also in the Marshalls there are repair facilities. Our Navy must have figured that when your ships were damaged they would have to go to Honolulu and not the islands where floating docks and other repair facilities were available. I have been told that in some docks you could repair even heavy ships."

In the spring of 1945 the Service Force Seventh Fleet listed 18 bases in the Southwest Pacific where some services were available. Most of them, except for Leyte, Manus, Hollandia, and Perth-Fremantle were either being stripped or were too far away to be of much use. Leyte and some other Philippine bases were building up, Brisbane being reduced, as was Milne Bay. Hollandia and Manus had large facilities but even these were farther back than desirable, and many of the facilities were already slated for "roll up."

At this time Hollandia had the equivalent of a repair ship in shops and ship maintenance facilities. Manus had two or three times that, plus a fleet of floating drydocks, big and little. A spare-parts distribution center at Manus made distribution and resupply by two barges, a small freighter and 4 LCI's. Radio-radar material and spares were carried at Hollandia, but the distribution center and the radio-radar were to be carried forward to Leyte-Samar as soon as practicable. All aviation materials, and spares were at Manus except such as the seaplane tenders carried. There was no aviation-spare-parts supply vessel such as the Central Pacific fleets had.

Refrigerated storage at Manus was about 300,000 cubic feet, about 100,000 at Hollandia, with smaller capacities at many of the little and far-back bases. Leyte had only 46,000 cubic feet at this time, but expected soon to have 20 times that. Neither Manus nor Hollandia was ever filled; most of the time each was nearer to being empty. Refrigerator ships unloaded directly to the tenders and other vessels about as expeditiously as to shore-based storage from which cargo had to be handled again to get it to combatant units.

Commander Service Force Pacific Fleet was responsible for delivery into the southwest area, after which issues were controlled by Commander Service Force Seventh Fleet. He had a large number of boats

and pontoon barges which could have been more profitably used elsewhere had means to transport them been available. At Cairns early in February there were 9 pontoon barges and 25 boats (23 landing craft); at Biak, 25 pontoon barges, 51 boats (38 landing craft); at New Georgia, 35 pontoon barges, 40 boats (30 landing craft); at Treasury Island, 1 March, 10 pontoon barges, 30 boats (23 landing craft); at Green Island, 4 pontoon barges, 46 boats (38 landing craft); at Milne Bay, 26 pontoon barges, 154 boats (145 landing craft); at Bougainville, 1 pontoon barge, 65 boats (61 landing craft); at Hollandia, 1 pontoon barge, 167 boats (164 landing craft); at Manus, 102 pontoon barges, 420 boats (301 landing craft). This total of 213 pontoon barges and 825 landing craft were far behind the Philippines, where operations were taking place and where future operations would do much of the mounting and basing. Doubtless some of them were needed in the rear, but by no means so many as were there. There was still a shortage of boats in the Philippines in June.

As it progressed in its drive, the Seventh Fleet established bases and section bases, setting up various shore facilities. It distributed its floating auxiliaries so as best to support its combatant units, which ranged from PT boats to large fighting ships.

CHAPTER XXV

Operation Iceberg: The Okinawa Campaign

The Forces Involved—Staging Logistics

CLIMAXING AN EXTENDED PERIOD of unrelenting pressure on the enemy, the capture of Okinawa marked the nearing of final defeat for Japanese land and air forces, just as the battle for Leyte Gulf in October 1944 had proved the death knell of the enemy fleet. Operation Iceberg was one of the most successful amphibious operations ever conducted. Admiral R. A. Spruance, Commander Fifth Fleet, in charge of the Okinawa invasion, declared; "For the first time in history a fleet steamed to the threshold of an enemy homeland and, with its own air force embarked, stayed there at sea for a period of months until our own land and air forces were firmly established on the enemy's doorstep." ☆☆

Strategically, Okinawa, largest of the Ryukyu Islands, or Shoto Nansei, afforded a number of advantages. It lay but 350 miles from Japan's mainland, to which attacks could be launched covering both the islands and their sea approaches. Okinawa likewise would give our forces bases supporting further operations in the eastern China Sea for severing Japanese air and sea communications between the homeland and the mainland of Asia, Formosa, Malaya, and the Netherlands East Indies.

Admiral Nimitz published his preliminary order for the capture of Okinawa on 9 October 1944, establishing landing date L-day as 1 April 1945. Admiral Spruance was named commander of the expedition. Vice Admiral R. K. Turner commanded Task Force 51, the Joint Expeditionary Force. Expeditionary troops were under command of Lieutenant General Simon B. Buckner. Vice Admiral M. A. Mitscher led the Fast Carrier Force. Planning for Iwo and Okinawa proceeded concurrently.

The complex nature of the operation required extensive coordination of components of Army, Navy, and Marine Corps on both operational and logistic matters. The first of a series of joint conferences was held 1 November 1944. At that time the Commander Amphibious Force Pacific, Vice Admiral Turner, stressed the desirability of neutralizing outlying islands and obtaining an anchorage in the vicinity of Okinawa prior to the main landings, where logistic support of the fleet could be rendered. Kerama Retto, 20 miles west of Okinawa, was decided upon.

On 31 December 1944, Admiral Nimitz's Operation Plan 14-44 was issued, followed on 3 January 1945 by Spruance's more detailed Operation Plan 1-45. Projects were developed for three phases: The capture of Kerama Retto and the southern portion of Okinawa; the occupation of the remainder of Okinawa and capture of Ie Shima; capture of additional islands of the Ryukyus.

Admiral Spruance, in the *Indianapolis*, commanded the Iwo Jima assault during February. By 5 March, when it was apparent that the critical period of that operation was over, he retired to Ulithi to complete plans for Okinawa. Task Force 58 reached Ulithi from Iwo 4 March and during the next 10 days completed the necessary upkeep and replenishment prior to sortie on the 14th.

For logistic preparation, mounting, and rehearsals the principal forces assembled at widely separated places: The Fast Carrier Force at Ulithi, with the Gunfire and covering Force and Minesweeping Groups; the Northern Attack Force at Guadalcanal; Southern Attack Force and Western Islands Attack Force at Leyte; Demonstration Group at Saipan; Task Group 51.3, the Floating Reserve, at Espiritu Santo; and the Area Reserve at Noumea. The Northern Attack Force, after assembling at Guadalcanal, completed its final logistics at Ulithi from 21 to 27 March. The Area Reserve was not called into action.

Two special groups, Service Squadron Ten, Commodore W. R. Carter, and Service Squadron Six, Rear Admiral Beary, serviced our naval forces. Commander Service Squadron Ten, as heretofore, was charged with the logistic responsibility for the fleet at forward area bases, and the routing and sailing of service ships required by the forces operating in the combat area. Commander Service Squadron Six, brought in to give service at sea in specific operations the first of which was Iwo Jima, commanded a force of fleet logistic ships in the combat area, coordinated fueling schedules for fast carrier task forces, and exercised direct command of replenishment activities at sea.

As preliminaries to the operation commenced, Japanese naval power had been reduced to such an extent that its only surface threat was likely to be in raids on our supply routes or morning-twilight attacks upon our transport area. It was felt that Task Force 58, operating to the north and east of Okinawa, could intercept any enemy force approaching from Japan. It was necessary, however, to be ready to prevent any "express runs" from islands to the north, either to reinforce or to evacuate Okinawa. Accordingly, the fire-support ships of Task Force 54 and escort carriers of Task Group 52.1, in addition to other duties, could be employed to meet these runs if necessary. Actually the enemy made no attempt to interfere with our pre-L-day operations with his surface forces, or to evacuate or reinforce his troops. The only surface actions were with small craft. No shore battery opened on our ships prior to landings, even when mine sweepers were clearing mine fields within range of enemy guns. The Japanese evidently hoped to keep their skillfully camouflaged coast-defense guns intact in order to oppose the landing. Most of these positions, however, were located, heavily damaged, or destroyed before they could be effectively used. At Ie Shima, however, concealment of equipment and dispositions was carried to such effective extremes that our air observers, who flew over the island day after day at tree top level, picked up almost no signs of human activity prior to the assault.

The enemy's air force appeared to be his most formidable weapon. Because of the proximity of Okinawa to empire territory, it was possible to use the entire home-based air force against us. It was imperative therefore that we neutralize enemy airfields, particularly in Kyushu, Formosa, and the Nansei Shoto, to maximum extent so as to control the air of the Okinawa area prior to landing. Immediately after sortie from Ulithi on 14 March, Task Force 58 undertook this mission.

Exceeding all estimates, the greatest of our naval losses came from enemy suicide attacks. Between 14 March and 27 May, on which date operational control passed from Fifth to Third Fleet, 200 ships of the Fifth were victims of such attacks, 19 being sunk out of a total of 292 damaged by all causes.

On 18-19 March the Fast Carrier Force struck airfields and installations on Kyushu, at Kure, and in the Inland Sea area. On the 23d, as invasion forces were en route to the objective, the carrier force began the first of a series of strikes on Okinawa. On the 26th the campaign opened with landings on Kerama Retto by the Western Islands Attack Group. Despite narrow beaches and difficult terrain, all were quickly

accomplished against light opposition. Salvage and repair facilities were immediately set up in ships accompanying the assault forces. The destroyer *Kimberly*, hit by a suicide plane early in the morning, was the first to undergo repairs at the newly acquired anchorage.

Meanwhile the Amphibious Support Force under Rear Admiral W. H. P. Blandy, had arrived and opened day and night bombardment on Okinawa. Two fast carrier groups did the same, while two others refueled and rearmed. On Easter Sunday morning, 1 April 1945, the Tenth Army—96th and 7th Infantry Divisions, First and Sixth Marine Divisions—made the initial assault over the Hagushi beaches at Okinawa, capturing them with little opposition, making it possible to secure both Yontan and Kadena airfields by midday.

As fighting increased in intensity from day to day, it became evident that the Japanese had withdrawn to well-defended positions suitable for delaying-action tactics. Indicative of the ferocity of the struggle was the action at Sugar Loaf Hill, which changed hands 10 times before it was finally secured by the Sixth Marine Division. There was long bitter fighting everywhere. Our troops were forced to dig in and blast each fortified enemy position before organized resistance ended on 21 June, 82 days after that memorable Easter Sunday. Meantime, troops of the 77th Infantry Division, which had previously secured Kerama Retto, landed on Ie Shima 16 April. Organized resistance ended on the 22d, and shortly thereafter our planes were using the airstrip.

The Invasion Forces. As the war in the Pacific continued, despite Japanese losses and our consistent forward gains, our most vital concern was correct planning and the avoidance of failure to estimate properly the forces required for undertakings still to come. Operation Iceberg was such a problem. Okinawa itself, entirely a coral formation 70 miles long, with one big town—Naha—at its southern end, though known as “typhoon crossroads” because of its evil weather, appeared superficially to present no greater difficulties than many we had already overcome. Yet when all its special aspects were clearly thought out, it totaled up to no less than 548,000 men of all arms, 318 combat ships, and 1,139 auxiliary vessels for the campaign, without counting the landing craft (boats, tractors, DUKVS, etc.) necessary to put our troops ashore.

By far the largest number of ships was assigned to Turner’s Task Force 51. It was composed of a Western Island Attack Group, Task Group 51.1, under Rear Admiral I. N. Kiland; a Demonstration Group, Task Group 51.2, commanded by Rear Admiral Jerauld Wright; Rear Admiral Blandy’s Amphibious Support Force, Task Force 52; Rear Admiral L. F.

Reifsnider's Northern Attack Force, Task Force 53; the Gunfire and Covering Force, Task Force 54, commanded by Rear Admiral M. L. Deyo; the Southern Attack Force, Task Force 55 of Rear Admiral J. L. Hall; and all expeditionary troops, designated as Task Force 56, commanded by Lieutenant General Simon B. Buckner. In all, Task Force 51 was composed of 1,213 ships, including assault shipping and vessels of the first Garrison Echelon.

Vice Admiral Mitscher's Task Force 58, the Fast Carrier Force, at first consisted of 9 large and 9 small carriers, 8 battleships, 2 large new cruisers, 2 heavy cruisers, 11 light cruisers, and 48 destroyers. By 1 May, however, its strength had been somewhat reduced by battle damage, 1 destroyer and 1 heavy cruiser added, so the force stood at 7 large and 8 light carriers; 6 battleships; 3 heavy, 2 large, and 11 light cruisers; and 49 destroyers. The carrier *Shangri-La* had joined during April, but *Enterprise*, *Intrepid*, and *Hancock* were forced to withdraw for repairs. The *Cabot*, light carrier, went back to Pearl for overhaul. The battleships *North Carolina* and *New Jersey* had retired for scheduled overhaul and replenishment. !!

Rear Admiral Beary's Logistic Support Group, Task Group 50.8, consisted of 1 light cruiser-flagship, 6 carrier escorts, 12 destroyers, 28 destroyer escorts, 39 oilers, 1 cargo ship, 4 ammunition ships, and 4 fleet tugs. Other special groups operating under Task Force 50 were a search and reconnaissance group of 6 large and 8 small sea-plane tenders, and an antisubmarine warfare group of 2 carrier escorts and 13 destroyer escorts. Service Squadron Ten ships at various bases were designated as Task Group 50.9. A small British carrier force supported the Okinawa operation and was known as Task Force 57. Except for bulk petroleum products, the U. S. Navy was not responsible for the logistics of the British Force.

Development of Logistic Facilities

The Okinawa operation represented the first attempt to provide complete support for the fleet at sea on a broad scale over an extended period. Rearming and food replenishing had been proved practicable provided reasonably satisfactory sea and weather conditions prevailed but because of the number of service force ships and personnel required for complete support, only the fast carrier force received such at-sea servicing at this time.

All groups of that force were unanimous in praising the services

rendered at sea by the Logistic Support Group. The problem of supplying the units of this group which supported the force at sea, however, rested on the shoulders of Commander Service Squadron Ten at Ulithi, and upon his representatives at various forward bases.

The west coast, the Hawaiian Islands, the Marianas, Marshalls, Carolines, South Pacific area, and Leyte provided bases for logistic support of the assault forces prior to participation in Iceberg. Guam, Saipan, and Tinian were important as the advanced bases nearest the objective, but the major part of Fifth Fleet logistics came from Ulithi, which served not only as a staging area but the principal place of resupply. After logistic requirements had been estimated, but about 90 days before the target date, conferences were held with Service Force Pacific representatives and supply officers in the various areas, the estimates were made, were checked against stock on hand at mounting points, and requests were submitted for the deficiencies shown.

At Leyte, where two large groups assembled, there were no shore supply installations when our forces were mounting, all issues being made from Squadron Ten supply ships. Forces mounted in the South Pacific staged through Ulithi, where vessels were topped off with water, fuel, and provisions by arrangement with Commander Service Squadron Ten.

During the spring of 1945 Squadron Ten's facilities expanded in proportion as our fleet grew more formidable. During 17 March vessels added were: 2 landing-craft repair ships; 4 gasoline tankers; 3 provision store ships; 5 ocean tugs, auxiliary; 1 unclassified vessel; 1 hospital ship; 1 ammunition ship; and 1 salvage vessel. April brought more: 2 rescue tugs; 2 gasoline tankers; 3 provision store ships; 3 landing-craft repair ships; 3 cargo vessels; 1 oiler; 5 auxiliary ocean tugs; 1 ammunition ship. The May additions were 2 old ocean tugs; 1 rescue tug; 3 auxiliary ocean tugs; 1 landing-craft repair ship; 2 provision store ships; 1 gasoline tanker; 1 fleet tug; 1 battle-damage repair ship; 3 attack cargo vessels; and 1 cargo ship. All vessels participating in the Okinawa assault were instructed to load to capacity with everything needful, and to stretch their storage space as much as possible to meet the demand.

Leyte

Nearly all ships of the Southern Attack Force and the Western Islands Attack Group for the Okinawa operation assembled and loaded at Leyte. Initial plans designated Commander Service Force Seventh Fleet as the

responsible service agency, and Commander Amphibious Group Twelve as responsible logistically for servicing the ships of the Joint Expeditionary Force staging at Leyte. When it became apparent that Seventh Fleet could not supply the needs of this force, Commander Service Squadron Ten's Representative A, Captain Ogden, was ordered from Kossol Roads to provide services for Nimitz's ships in the area. ComServFor Seventh Fleet provided additional services as requested by Captain Ogden.

Arriving 15 February 1945 in the *Argonne*, Captain Ogden reported to Rear Admiral J. L. Hall, Jr., commanding Amphibious Group Twelve. Pending arrival of additional service-force units, conferences were held to obtain an over-all grasp of the problems involved. It was determined that sufficient quantities of everything required were either available or could be made so at Leyte. All ships had to be provisioned before the training and rehearsal period, and topped off just before departure to the objective. Schedules were interrupted by foul weather and the late arrival of some of the ships from Iwo Jima. The distances from troop embarkation points to the logistic anchorage, 15 to 30 miles, added to the problem.

Maintenance facilities available to staging forces were the destroyer tenders *Dixie* and *Markab*; one limited repair ship, the *Argonne*; two repair ships, the *Hector* and *Prometheus*; one internal-combustion-engine repair ship; and two floating drydocks. Two landing-craft repair ships, *Egeria* and *Endymion*, which were assigned to the amphibious group, were available after 1 March. Because of the limited time in which to accomplish essential repairs and the length of time required to load ships, it was decided to place one repair ship in each of the two loading areas so that a maximum of work could be accomplished prior to departure. Work on small craft was undertaken by three of the other repair ships.

The total number of ships to be serviced at Leyte was 432, some—ships newly reporting from the United States—needing little attention, others considerable, especially amphibious craft returning from Iwo Jima. Of the floating drydocks, both brought forward from Kossol, *ARD-16* was unavailable for the staging work because it contained a battle-damaged destroyer, the *Renshaw*. Consequently *ARD-17* carried most of this type of work, with Seventh Fleet facilities used on several occasions. To complete what would normally be the necessary drydock work every available diver was used. Because of experience gained with many small ships in this staging, a definite need was indicated of having

small drydocks of 1,000 tons and pontoon docks to reinforce the 3,500-ton ARD's.

Because of a lack of replacement ships, permanent battle-damage repairs had to be made on the net-carrying ship *Keokuk*, and major hull repairs on the attack cargo ship *Starr* and the amphibious flagship *Estes*. The *Keokuk* was alongside the *Markab* from 11 to 18 March, with 9,700 man-hours spent on repairing damage sustained by a suicide plane hit 21 February. The *Starr* suffered severe damage to hull plating and framings, and to fittings above the main deck, as a result of pounding her side while transferring ammunition to cruisers alongside at Iwo. The *Dixie* and *Hector* made the necessary repairs between 12 and 18 March. The *Estes* had a rupture in her fresh-water tank about 8 feet long by 2 feet wide; in 72 hours the *Dixie* patched it up sufficiently to enable her to leave with the fleet.

An acute shortage of spare parts developed at this time. Those on hand were rationed out, more flown in from Ulithi and Pearl, and as many as possible obtained from Seventh Fleet, with a few from the *Egeria* and *Endymion* on their arrival from Iwo. Spare-parts barge YF-624 came in 13 March, partly relieving the situation, but practically her entire cargo was needed to complete repairs to inoperative equipment, leaving virtually none for replacing "on board" spares.

Fresh, frozen, and dry provisions came from ships reporting to Captain Ogden. Allocation of quantities was made on the basis of the personnel to be fed; distribution was effected by anchoring ships to be supplied near provision ships in the logistic anchorage. The supply was adequate, if not all that was desired. Except for manila rope, general stores were available in adequate quantities from store ships. The LSM's had priority for lines of 5- and 6-inch size, while other ships received only sufficient to meet their minimum requirements. On 16 March a dispatch was sent to Commander Service Force Pacific requesting that 200 coils of 6-, 7-, and 8-inch line be sent to Okinawa. All available was immediately shipped, but the amount received was less than requested and required. Water supply was provided by one water tanker for smaller vessels not equipped with evaporators and from a water-supply point on South Samar at which four LST's could water simultaneously from an extended pipe run out to mooring dolphins.

Steam vessels were fueled to capacity with black oil by tankers in the logistic anchorage prior to departure. Diesel-driven craft were also filled to capacity; LST's acted as fueling ships for smaller craft until the amount left on board was reduced to 100,000 gallons. Fog oil, smoke

pots, and smoke floats were in adequate supply; all ships drew their allowance, plus as much more as they could load. During the first week in March a number of Squadron Ten ships were sent to Leyte to fuel the staging vessels. On 2 March the *Abarenda* left Ulithi with 58,000 barrels of Navy special fuel. Next day the *Monongahela*, *Cimarron*, and *Manatee* also left with combined cargoes of 286,000 barrels of Navy special, 13,000 barrels of Diesel, and 1,109,000 gallons of aviation gasoline. The same day the *YO-46* left for Leyte with an additional 10,000 barrels of fuel. On the 4th the *Suamico*, *Neches*, and *Cacapon*, with the merchant tanker *Hanging Rock*, left Ulithi for Leyte with 296,000 barrels of Navy Special, 112,000 barrels of Diesel oil, and 948,000 gallons of aviation gasoline.

Ammunition was brought from Ulithi in naval and merchant ammunition ships, also at Leyte there were several Seventh Fleet ammunition carriers. In addition, 17 attack transport cargo ships and 40 LST's which loaded at Leyte carried some of the deadly stuff to Okinawa as replenishment for fire-support vessels.

Guadalcanal

The Northern Attack Force, Task Force 53, mounted for Okinawa in the Guadalcanal-Russels-Purvis Bay area. This was the last and largest staging operation conducted in the South Pacific, an area already engaged in roll-up activities. Logistic support was provided by Commander Service Squadron South Pacific Force and Commander Naval Bases South Solomons, coordinated by Rear Admiral L. F. Reifsnider, Commander Amphibious Group Four. Two periods, 17–28 February and 8–15 March were allotted for logistic and maintenance support in the South Pacific, while 21–27 March was scheduled for topping off and necessary voyage repairs at Ulithi. Admiral Reifsnider in the *Panamint* interrogated the various commanders and a final logistic program was prepared. With the exception of 17 ships—12 attack transports, 3 attack cargo ships, and 2 LSD's receiving final logistics in the Russells—all other ships of the Northern Attack Force, 207 in all, were serviced at the Purvis Bay-Tulagi-Guadalcanal area. To handle this large force, Commander Service Force South Pacific had previously provided substantial increase of all stock levels at supply depots.

To augment repair facilities in the area, Commander Service Squadron Ten ordered Captain Paul B. Koonce, his representative at Manus in the

destroyer tender *Sierra*, to Guadalcanal as representative there for the staging period. With him went the internal-combustion-engine repair ship *Mindanao*, repair ship *Briareus*, and limited repair ship *Zaniab*, the group reporting on 21 February for temporary duty to Commander Service Squadron South Pacific Force. Other repair facilities sent to Purvis Bay, Florida Island, in the Solomons, during February for temporary duty were the battle-damage repair ship *Aristaeus*, landing-craft repair ship *Coronis*, repair ship *Vulcan*, and drydock *ARD-14*.

Repair facilities were adequate, and nearly all ships obtained full allowance of spare parts before departure. The LST's were the only group presenting serious maintenance or repair problems. Sixty of them reported from the Philippines for use with the Northern Attack Force, and Captain Koonce had conducted intermediate screening of their needs at Manus, 41 being selected to go to the amphibious forces at Guadalcanal. The group arrived late, and many were in urgent need of repairs. Despite the short time involved, however, all were ready to leave on schedule.

Movement toward the objective via Ulithi started 12 March, the remainder of the force leaving Guadalcanal on the 15th. Service Squadron Ten's repair unit was dissolved that day on departure of the *Sierra* and *Mindanao* for Ulithi. *Zaniab* went to Leyte; *Vulcan* departed for Noumea to join the floating reserve staging there in late March. *Briareus* reported to Espiritu Santo, where the area reserve staged, *Coronis* accompanied the Northern Defense Group to the objective, and *Aristaeus* returned to Ulithi 2 April.

A total of 235 ships moved from Guadalcanal to Ulithi, where final supplies were received during the 6-day replenishment period. A logistic plan like the one used at Guadalcanal was forwarded to Commander Service Squadron Ten at Ulithi prior to the departure of the Northern Attack Force, and by its use all ships were adequately provisioned, fueled, watered, and made ready for sea on time. Because of the work on battle-damaged ships at Ulithi, very little tender service was available to the force. However, only minor material casualties occurred, and repairs could be made by ships' crew, with limited assistance from repair ships.

Following the departure of the Northern Attack Force from Guadalcanal, April saw a drastic roll-up of logistic activities in the South Pacific. Fifteen different types of service ships were released to Commander Service Squadron Ten during the month. On 13 April the 90,000-ton floating drydock *ABSD-1* at Espiritu was ordered to cease operations and prepare to move forward in sections to Leyte. Her first echelon

sailed 29 June, the remaining sections 7 July. Every such logistic step meant advance for us, retreat and bitter discouragement for Japan. There was no question of our ultimate victory; that was a matter of persistence and time. The end was in sight.

CHAPTER XXVI

Activities at Saipan and Ulithi

ADMIRAL JERAULD WRIGHT'S Task Group 51.2, the Demonstration Group, loaded at Saipan before feinting landings on the southeastern beaches of Okinawa while the actual assault debarked on the Hagushi beaches on the western coast. Between 1 and 26 March his ships received service and conducted rehearsals. Though the force represented the largest concentration—more than 100—thus far staged at Saipan, the various supply agencies were able to fill their requirements except for a few minor items.

Many of the LST's assigned to this group were late in arriving from Iwo Jima. Some had casualties aboard which had to be debarked at Guam. Eleven medium landing ships did not arrive for loading until 24 March, 24 hours before the scheduled departure of the tractor group to which they belonged. Fortunately their material condition was good and all were ready on time.

Every effort was made to keep informed of the status of procurement by vessels, of all categories of material, so that critical items could be obtained or expedited as necessary to meet departure dates. This was complicated by the fact that the various activities involved—Service Squadron Ten Task Group, Representative C, and supply centers ashore—were widely separated. Besides, boating conditions were bad, strong winds blowing almost continuously; but in general, supplies unobtainable at Saipan were procurable at Guam.

Cane or other large ship fenders were almost nonexistent in the forward area, so, to avoid transporting large quantities of this item by air, 800 worn-out truck tires were obtained and 60 of them issued to each attack transport and attack cargo vessel for use as fenders. Also, piling was furnished each such ship for assembling four 8-foot camels per ship. To obtain sufficient cordage for requirements, after delivery of all that was available in the Marianas, Representative C of Squadron Ten had to ask delivery by air from Pearl of 34 coils of 8-inch line, 30 of 6 and 50 of 5-inch, all to reach Saipan by the 22d. They came substantially as requested.

As was true in other cases, much repairing had to be done quickly. Captain Rhoads performed an outstanding job of making the task force vessels ready for the operation. As they arrived they were inspected by the material officer, Lieutenant Commander Hazeltine, for determination of needed repairs. Availability for repair and drydocking was then decided. Work was undertaken by the destroyer tender *Hamul*, repair ship *Vestal*, battle-damage repair ship *Phaon*, internal-combustion-engine repair ship *Luzon*, submarine tender *Fulton*, and floating docks *ARD-25* and *AFD-17*. Special spares not available for machinery repairs were immediately requested by Rhoads from the nearest sources available and arrived to complete ships on schedule. Drydock facilities for small craft in Saipan's inner harbor were severely overtaxed, and drydocking operations were retarded by rough, heavy swells which at times suspended operations.

Fuel and water replenishments began 9 March on the staging vessels. On the 10th the shore-station fuel officer reported two 10,000-barrel tanks ready for use, but that fueling line to the piers would not be completed until the 20th. Meanwhile the *Whippet* discharged fuel alongside to ships in the harbor, and the *Patuxent*, though undergoing repairs due to an explosion, carried out fueling assignments as usual. Among the oilers present were *Niobrara* and *Enoree*, assisted by several gasoline tankers and unclassified craft. The tanker supply proved adequate. The *Tombigbee* came from Iwo to assist in watering the amphibious craft, leaving with Task Group 51.8 on 25 March for Okinawa. When the others departed the 27th, *Whippet* accompanied them.

Provisioning was done from the supply depot ashore and from the merchant steamers *Antigua* and *Cape Lopez*, 102 vessels of the group being provisioned by 22 March. For ammunitioning, the *Mazama* was sent from Ulithi to Saipan with a cargo for the "amphibs."

The Demonstration Group moved from Saipan to Okinawa in two sections; the first, the Tractor Group, 26 March, the second 51.2.1, Transport Unit Charlie, the 27th. Nothing happened to either. The Seaplane Base Group, Task Group 51.20, assembled at Saipan 22 March, conducted logistic services, and left for Kerama Retto the 23d.

Ulithi

Most of the preinvasion activities centered about Ulithi, where major forces of the Fifth Fleet assembled during March for regrouping and

replenishment. On the 13th, 647 ships were at anchor; on the peak day, because of the arrival of the amphibious forces staging through, 722. As a result of this concentration, Squadron Ten's service load was extremely heavy. Only 2 large repair ships were available; one, the *Jason*, receiving 2,359 job orders for the month, 223 of them on 10 March.

The first large group to be replenished was Task Force 58, the Fast Carrier Force. Task Groups 58.1-2-3 arrived from Iwo 4 March, following Task Group 58.4, which had arrived on the first. On the 9th the cruiser *Indianapolis* came in with Admiral Spruance, ComFifthFleet. He then ordered the *Enterprise* group, operating as a night carrier force off Iwo, to return to Ulithi for replenishment and to be ready for sea 14 March with the rest of the fleet.

While en route to Ulithi as part of Task Group 58.1, the destroyers *Ringgold* and *Yarnall* collided in the early hours of 4 March while conducting night battle drills. *Ringgold's* bow was sheared off to frame 22 and she was badly damaged to frames 26 port and 38 starboard. *Yarnall's* bow was bent to the right about 20° and elevated about 30°, the break starting at about frame 30. The fleet tug *Molala* went to the assistance of the cripples, while the destroyers *Sigsbee* and *Schroeder* acted as screen. *Molala* took *Yarnall* in tow stern-first, and with *Ringgold* and *Sioux* and the two screen destroyers, proceeded toward Ulithi. Next day, 6 March, *Yarnall's* bow broke clear and sank, which made towing easier. On the 14th, she entered ARD-23 for the construction of a false bow, which was built to about 3 feet above water. Then the ship went alongside the *Prairie* for completion of the work.

The *Ringgold* went alongside the *Cascade*, which installed a temporary bow extending 16 feet forward of frame 26. Docking schedules made it necessary to complete above-water repairs before the underwater section could be installed. "It was in the nature of building the roof of a house before the walls and foundations," reported Commodore Carter. On 27 March *Ringgold* was docked in ARD-15 for completion of the work. Early in April she went to Pearl for permanent repairs, *Yarnall* to Mare Island Navy Yard.

A greater loss by far occurred on the evening of 11 March, when the carrier *Randolph* was attacked by a suicide plane which crashed the starboard edge of the after end of the flight deck, tearing a 40-foot hole in it, wrecking part of the hanger deck beneath, destroying 14 and damaging 10 aircraft, causing 134 casualties (26 killed, 3 missing, 105 wounded), and setting the ship on fire. Commodore Carter immediately ordered tugs and the salvage vessel *Current* to fight the fire. *Current* went

alongside the port quarter and the tug *Chickasaw* on the starboard, both playing water effectively on the fire. When *Current* moved away, the fleet tug *Munsee*, with 6 streams, and the big harbor tug YTB-384, replaced her. The fleet tugs *Apache* and *Molala* then came up, but by now neither was able to get close enough to be very effective.

The fire was confined to the *Randolph's* stern from main to flight decks. Continuous explosions occurred, presumably from 40-mm. ready boxes. One small harbor tug and 3 YTB's were close in under the flight deck of the carrier, doing effective work. Here the small fire fighters had distinct advantage over the larger tugs held off by the overhang of the flight deck. As the approach to the fire was upwind, smoke, sparks, and salt water were blown down on all ships as they approached the stern. Disregarding their own danger and courageously working to save the big fellow, these tugs, with the *Randolph's* own crew, got the fire under control. At daylight only a few smoldering embers remained.

Though ships were partially darkened at Ulithi, a certain amount of shielded illumination was permitted for cargo handling and other night carrier activities; also on deck shielded movies were shown in the interest of morale. On the balmy evening of 11 March, pleasant topside but stuffy below decks, a motion picture was being shown on the fore-castle of the *Ocelot*, Carter's flagship. The program had just started. Preceding the feature was a short subject, in this case one of those community singing affairs in which audience joins in the chorus, keeping time with the bouncing ball on the screen. The song was "Red River Valley," and officers and men were vocalizing lustily when a plane flying at masthead height roared over in the darkness, drowning out the music. Many ducked their heads, and a few were heard to imprecate some "damn Army flier" who had the crust to zoom ships at anchor—though there was no Army flier nearer than Guam. But with the explosion on the *Randolph*, another on nearby Sorlen Island, the sounding of the general quarters alarm howlers, the true situation became apparent. Japanese suicide planes had attacked. There were two, possibly three, twin-engined planes, one of which hit the *Randolph*, another crashing on Sorlen, evidently mistaking that slim bit of atoll fringe for another big carrier. One must have come very close to the *Ocelot*, for next morning the commission pennant was reported missing. The same plane passed over Spruance's flagship, the *Indianapolis*, also having on-deck movies.

Although the various departments of ServRon Ten could estimate with fair accuracy the requirements of a fast-carrier-force replenishment, it was obviously of much value to learn as far as possible in advance

more exact needs, particularly in the unpredictable category of repairs and replacement aircraft. The task-group commander at sea making strikes on the enemy but not wishing to break radio silence to transmit supply and work lists to ServRon Ten, flew in such lists by special messenger to arrive ahead of the group. These officers sometimes reached Ulithi a day or two earlier, sometimes only three or four hours, before the carrier groups. The list of logistic requirements was handed to the chief staff officer, who passed them to the heads of the departments concerned. Even though on occasion very short advance notice was received of the needs, this preparatory time was valuable in scheduling services, especially if the visit of the task groups was limited to only 4 days, during which they had to rearm, replenish completely, and receive replacement aircraft before departing to make further strikes against the enemy. During early March three officer messengers were flown in: Lieutenant Sullivan from Task Group 58.1; Lieutenant John Roosevelt, son of the President, from Task Group 58.2; and Lieutenant Commander Brenner from Task Group 58.3.

Provisioning of Task Force 58 for Okinawa was conducted by Service Squadron Ten according to schedules set up by the squadron supply officer, copies of which schedules were distributed to the force upon arrival. Destroyers were serviced by tenders to which they were assigned. They made requests to the tender which repeated them to proper squadron departments for items not in the tenders. Fuel and ammunition came direct from the squadron service vessels. Other ships were issued clothing and small stores, ships store stock, general stores from the supply ships *Castor*, *Rutilicus*, and *Caelum* and from the concrete barges *Trefoil* and *Quartz*. Medical stores came from the first three and air-mail stamps and envelopes were supplied by the *Quartz*. For the week ending 10 March the *Quartz* issued 33 tons of clothing and 400 tons of stores. The *Trefoil* issued 1,053 tons to 325 ships in the same period. Issues were made on an around-the-clock 24-hour basis, each receiving vessel providing 5 checkers and a working party of 35 under the charge of officer or petty officer.

A representative of Commander Naval Air Bases was stationed aboard the aircraft stores ship *Fortune* to coordinate requests for material, replacement aircraft, and air crews. Delivery to the carriers was made by ServRon Ten boats and barges. The concrete *Corundum* supplied radio, radar, underwater sound, and ordnance spare parts.

Ammunition was issued from naval and merchant ammunition ships and lighters. The *Mazama* issued to several battleships before leaving

for Saipan. Throughout March the *Mount Baker* and *Rainier* serviced the forces replenishing at Ulithi, the former issuing 3,789 tons, the latter 3,320. Ammunition lighter YF-691 carried out routine reenergizing and refuzing of antiaircraft projectiles on board. A steady stream of merchant ammunition carriers poured into Ulithi in the early March to rearm the carriers, among them the *Manderson Victory*, *Bucyrus Victory*, *Mayfield Victory*, *Red Oak Victory* (these four now being commissioned AKE's), *Meridian Victory*, and *Elmira Victory*. Besides servicing Task Force 58, these ships discharged into the four ammunition ships *Lassen*, *Mauna Loa*, *Shasta*, and *Wrangell*, which were being loaded to sortie with the Logistic Support Group on 13 March.

Assisting the food ships *Aldebaran* and *Polaris* in supplying fresh and dry provisions were the cargo ship *Rutilicus* and merchantman *Cape Pilar*. Fleet allowance of consumption of fresh and frozen provisions per 1,000 men was 21,176 pounds frozen and 30,823 pounds fresh monthly, or 1¾ cubic feet per man per month. The amusing rumpus over shortage of black pepper that arose at this time would have made a good comic opera theme. There was such a howl in Task Force 58 that almost half a ton—894 pounds exactly—had to be proportionately rationed among the ships before the growling stopped.

Arrangements for fuel, lubricants, and water were handled by the fuel section on the oiler *Sepulga*, which with all other oilers had moored in the southern anchorage for smoother water servicing. The *Sabine* and *Aucilla* served the carriers, *Marias* and *Platte* the battleships. Cruisers, as they entered the harbor, went alongside the *Taluga* and *Sepulga* and two other oilers, two cruisers to each. Destroyers and destroyer escorts were fueled the same way as they entered, by the *Cowanesque*, *Aucilla*, *Chotauk*, *Elk*, and *Malvern*. On the 3d ten merchant tankers arrived to replenish the fleet oilers, bringing combined cargoes of 909,000 barrels of Navy special and 110,000 barrels of Diesel fuel, but no aviation gasoline. One of the 10, the *Hanging Rock*, was sent next day to Leyte. On the 4th, 4 merchant tankers from San Pedro and Balboa brought 307,000 barrels of Navy special, 50,000 barrels of Diesel oil, and 3,098,000 gallons of aviation gasoline. On the 14th, when the carrier force sailed, 14 oilers also departed to provide replenishment at sea for them. Because of a temporary delay in merchant tanker deliveries at Ulithi, Admiral Spruance warned Task Force 58 to conserve fuel.

Service Squadron Ten's Maintenance Division worked around the clock to effect repairs before the task force put to sea. Four tenders serviced the destroyers and destroyer escorts—the *Cascade*, *Prairie*, *Piedmont*,

and *Yosemite*. The two large repair ships, the *Ajax* and *Jason*, and one small one, the *Nestor*, were taxed to capacity. Docking facilities for destroyers were furnished by *ARD-13*, *ARD-15*, and *ARD-23*. Final logistics for Amphibious Group Four, which had assembled at Guadalcanal, were given at Ulithi between 21 and 27 March, with a schedule similar to that worked out for the fast carrier force. As before, all but the destroyers were serviced direct from stores ships, and the destroyers from their tenders. The others drew clothing and general supplies the day they were scheduled for provisioning. Supply officers were notified to present all requisitions during the one issuing period, since time and facilities permitted only one issue for each ship. Stores came from the two IX's, *Trefoil* and *Quartz*, medical stores from the cargo ships *Ascella* and *Azimech*. The concrete *Silica* gave fresh, frozen, and dry provisions to the smaller ships, while all others got their fresh and frozen supplies from the merchant refrigerator ship *Trade Wind*, and dry from the *Rutilicus*. The fresh and frozen were issued only in balanced 5-ton units, ranging from 4 units to attack transports down to 1/20th unit for the little YMS's, the motor mine sweepers.

Water at Ulithi was limited, and was issued only to ships whose evaporators were inoperable. The situation was such that ships leaving Ulithi for Pearl or home ports were requested to inform the fuel section, at least 12 hours before leaving, of the amount of water carried in excess of requirements, so it could be picked up and added to the supply stock.

Besides furnishing ammunition to departing ships, Service Squadron Ten loaded three cargo ships, the *Bucyrus Victory*, *Las Vegas Victory*, and *Lakewood Victory*, and also the ammunition vessel *Firedrake*, with balanced issue loads to be sent forward on the 25th to join Admiral Beary's Logistic Support Group. However, the latter two remained in Ulithi in a stand-by status until ordered forward early in April by ComFifthFleet. Nine LST's were loaded with bombardment ammunition to go to Kerama Retto, but one, because of a fire resulting from the ignition of a 14-inch powder charge, did not sail with the others on 22 March.

As always at Ulithi the assistance given by the atoll commander, Commodore O. O. Kessing, was to the extent of his facilities in boats, mail, personnel, and recreation. His port director's office was going full blast day and night, as was his boat-repair unit. The amount of mail handled by the fleet post office on Asor Island was tremendous. Service Squadron Ten helped somewhat in this by supplying storage and delivery vessels. At Mog Mog Island a very creditable fleet recreation facility had been built up which, considering the small size of the island

and the thousands of men and officers who went ashore, was well supplied and managed.

On 27 March, servicing of ships for the Okinawa operation was completed with the departure of the Northern Attack Force. Other Fifth Fleet units which had replenished at Ulithi were the Amphibious Support Force consisting of fire-support ships of gunfire and covering force, carriers and aircraft of Task Group 52.1, mine sweepers of Task Group 52.2, and one section of the underwater demolition group. These departed in echelons between 19 and 21 March. One of the greatest logistic jobs in naval history had been accomplished on schedule.

CHAPTER XXVII

Logistics at Kerama Retto for the Okinawa Operation

Suicide Plane Attacks

DURING INITIATIVE has been a characteristic of American operations in both strategy and tactics. Our enemies have known the book doctrines as well as we, but they could not throw the book overboard and try something new as freely as we. Thus at times we have had the advantage of projecting moves that they did not anticipate. The capture of Kerama Retto is an example.

This small group of islands lies about 15 miles southwest of Okinawa. The idea of seizing it for use as a forward base before the main assault was a bold conception. To replenish fuel and ammunition from the anchorage there, so near the objective, increased immeasurably the effectiveness in useful hours of the fire-support and mine-sweeping ships. Also, maintaining repair facilities close at hand aided in quickly returning some damaged ships to duty, whereas many precious days would have been lost had the cripples returned to Guam, Ulithi, or some other rear base. Several crippled destroyers might have been lost altogether without such immediate succor. Originally conceived as an anchorage principally for fuel and ammunition replacement, the emphasis at Kerama Retto shifted to salvage and repair as enemy air attacks increased.

Apparently the capture of the Kerama Retto group came as a complete surprise to the enemy: its defenses were comparatively light. Japanese plans to use it as a base for small suicide torpedo boats went awry when, during the first and second days of operations, several hundred of these boats were captured in caves on the various islands and destroyed, fortunately before they could be used against our assault forces.



Kerama Retto.

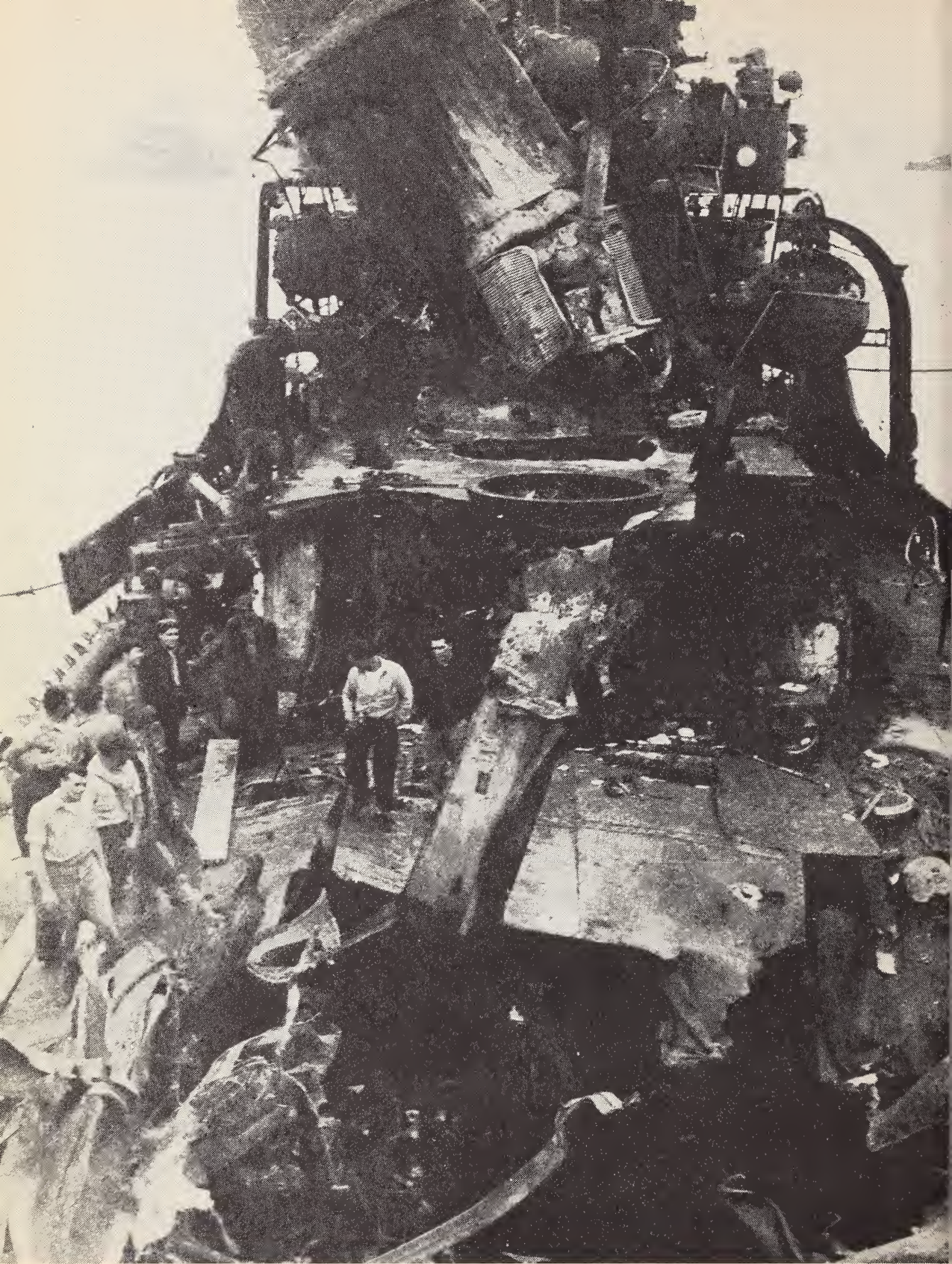
The Western Islands Attack Group, Task Group 51.1, transporting the 77th Infantry Division, came to Kerama Retto from Leyte. Its major tasks, under Rear Admiral I. N. Kiland, were to capture the islands, beginning about 6 days prior to the main assault, and to establish an anchorage for logistic support of the fleet. At 8 a. m. 26 March the first units of the 77th went ashore, supported by naval gunfire and air bombardment. Although resistance on the beaches was light, Japanese suicide planes immediately proved a serious menace to our ships.

On the 27th Task Group 51.6, the first salvage and repair facility, began operations with two fleet tugs, *Yuma* and *Tekesta*; 1 salvage tug, *Clamp*; and 1 landing-craft repair ship, *Egeria*; establishing itself in a well-sheltered location termed "Cripple Creek" or "Wiseman's Cove," to give emergency repairs to battle-damaged ships. The first job began at once, patching up the destroyer *Kimberly*, which had been hit by a Kamikaze several hours prior to the assault the day before. Patched into seaworthiness, the *Kimberly* returned to Ulithi.

By the 28th all organized resistance in the Kerama Retto area was over. That day the seaplane unit arrived in the anchorage, followed by eight LST ammunition ships and three tankers of the Logistic Support Group, *Atascosa*, *Brazos*, and *Kishwaukee*, screened by four destroyer escorts. The oiler *Tomahawk*, accompanied by the merchant ammunition ship *Las Vegas Victory*, relieved the *Atascosa* on the 31st, while the oilers *Brazos* and *Kishwaukee* remained as station tankers. Three converted Liberty Ships, the *Camel*, *Elk*, and *Whippet*, joined 2 April for base fueling. Fleet tankers were called forward by Admiral Turner, Commander Task Force 51, coming to Kerama either from the at-sea vessels of Task Group 50.8 or from Ulithi about every third day thereafter.

On 1 April the tanker *Ponaganset* brought in the first water cargo. Until relieved by the tanker *Soubarissen* on the 25th, she discharged water to damaged vessels, and various patrol, amphibious, and mine craft. She also issued most of the fog oil and smoke pots used in the anchorage, as well as quantities of lubricating oil and motor gasoline. On the 3d and again on the 6th she went alongside the *Indianapolis*, flagship of Admiral Spruance, to furnish food and potable water, as the cruiser's evaporators were inoperable as a result of a suicide-plane attack on 31 March. The cruiser was alongside the *Clamp* for temporary repairs before returning to Mare Island Navy Yard.

Repair facilities were augmented 2 April by the arrival of landing-craft repairships *Endymion* and *Coronis*, and the battle-damage repair ship *Oceanus*. Because of the heavy toll of damaged ships, these too were soon



Destroyer Newcomb damaged by suicide attacks.

overtaxed, shortage of mechanics and of material for structural and other repairs being a serious handicap. In spite of a loan of Seabee personnel and the cannibalizing of equipment from vessels patched up for return to rear bases, the problem of damaged ships was becoming very serious.

Kerama Retto anchorage was not secure from the Kamikazes. While the fast carrier force did not replenish there, the harbor was the logistic center for escort carriers of Task Group 52.1. The task-group commander reported that the "main desire of carriers at Kerama Retto is to get their supplies and get out as fast as possible." The escort carrier *Sangamon* was badly damaged shortly after leaving the harbor, while at least two carriers were attacked at anchor and barely escaped damage. Others were attacked either approaching or leaving.

Enemy air activity was, however, surprisingly light during the first weeks of the occupation. This was extremely fortunate because anti-aircraft defense was limited to the ships at anchor; no defenses were set up ashore until later. On 6 April the first serious air attacks occurred when the two merchant Army ammunition carriers *Hobbs Victory* and *Logan Victory* were hit by suicide planes. Efforts to extinguish the fires were futile because of detonating ammunition. Both ships sank during the night after a furious pyrotechnic display.

Several of our ships were hit during the succeeding days. One notable casualty occurred 28 April, when a suicide attack was made on the hospital transport *Pinkney*, serving as station hospital ship in the anchorage. About 80 percent of the crew was attending a movie in No. 6 hold when the plane crashed amidships. The entire engineroom and all auxiliaries were put out of operation, so the men had to fight the fire with only handy-billy pumps and carbon-dioxide extinguishers. The fleet tug *Molala* came alongside, put her fire-fighting crew aboard, and turned water on the blaze. With the assistance of several landing craft and landing ships the flames were under control in about 3 hours.

At the time of the explosion an emergency appendectomy was being performed in the *Pinkney's* operating room. All lights went out, but the surgeons and corpsmen completed the operation—the work illuminated by a flashlight—and then evacuated the patient to another ship.

The *Molala* remained alongside the *Pinkney* next day to supply power for pumping out the engineroom. She was relieved by the net-layer *Terebinth*, which was later forced to cast off and get under way because of heavy seas. On 4 May the *Pinkney* was towed to a more protected anchorage to await repairs with several other badly hurt ships. Three days later she was sufficiently seaworthy to return to the rear area.



Damage to the flight deck of Sangamon.

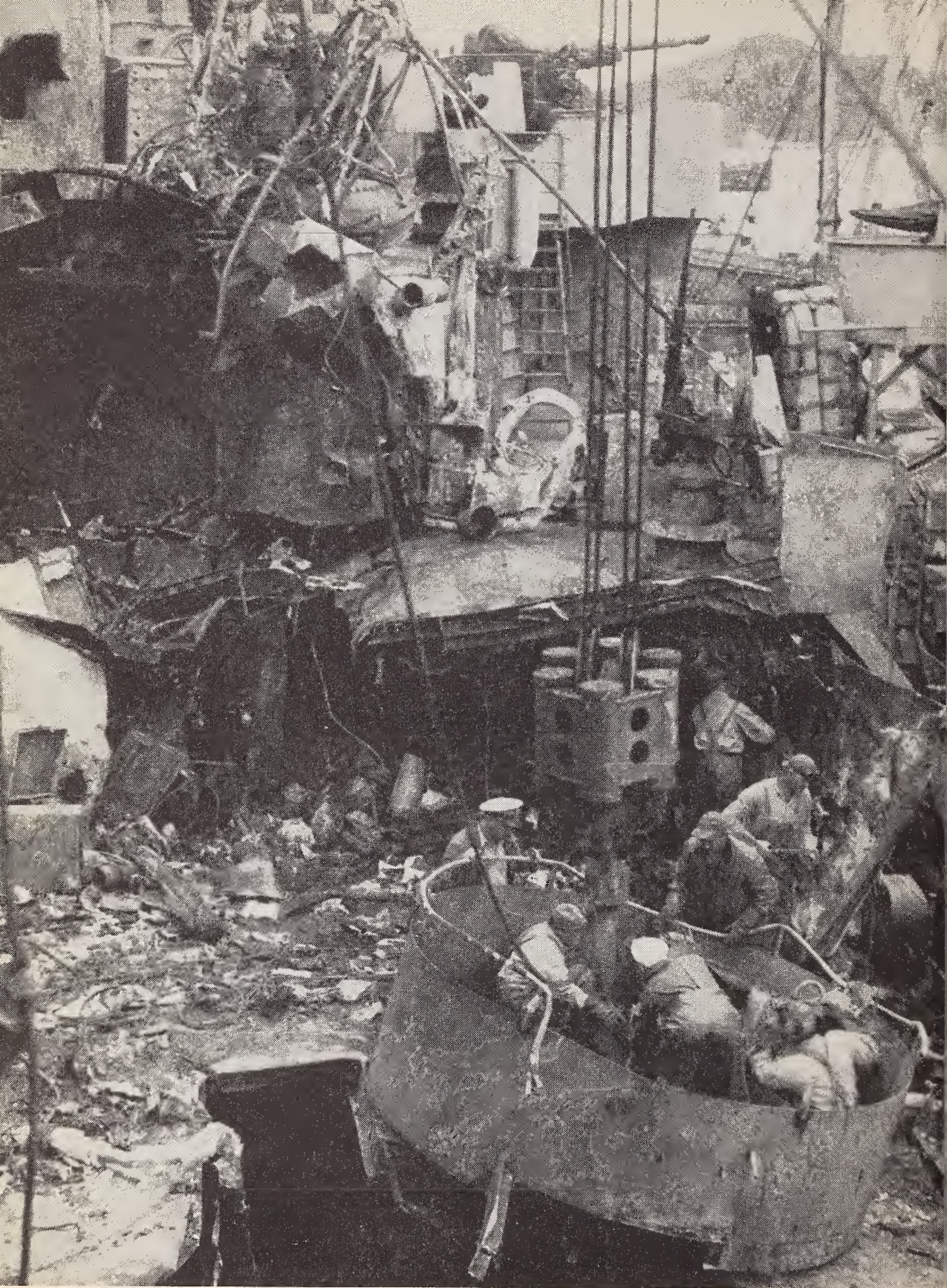
Indicative of the more or less constant tension at Kerama Retto, the headquarters ship *Mount McKinley*, flying Admiral Kiland's flag, reported that her crew went to general quarters 75 times during April. The Combat information center of that ship was charged with the air defense of the area, accounting for 25 enemy planes shot down. Fortunately, during the month, the Kamikazes succeeded in Keramo Retto only in the instances above mentioned.

By the end of the first week of April, with the Okinawa operation but a few days old, battle-damaged ships were accumulating at Kerama faster than facilities could accommodate them. To assist in the supervision of emergency repairs to destroyer types, Captain A. I. McKee, Assistant Fleet Maintenance Officer of Service Force Pacific, was brought from Ulithi. He arrived 16 April in *ARD-13*, a floating 3,500-ton drydock, towed by the fleet tug *Jicarilla*, accompanied by the battle-damaged repair ship *Nestor*, tug *Molala*, four support landing craft, and two destroyers. He remained at Kerama until the arrival of Captain Rhoads, ComServRon Ten's Representative B, on 17 May.

Besides battle damage, much routine repair and maintenance work was accumulating. The majority of the smaller vessels requiring work were LCI types and patrol craft which had operational deficiencies after long periods of service, some coming direct from Iwo Jima without opportunity for maintenance, and many reporting that they had had no maintenance or overhaul for as long as 9 months. Once at the objective they naturally had no let-up. A very serious handicap arose from the lack of replacement parts for worn-out and damaged equipment for these two types, which resulted in some ships operating on one engine or at reduced speeds. Overtaxed docking facilities, a shortage of parts, inoperative sonar or radar equipment, and lack of electronics repairmen kept many badly needed patrol craft out of useful service. In several cases patrol craft had to return to the rear for repairs which could not be handled at the objective except after long delays.

In the case of landing craft, some shortages of anchors, cable, manila mooring lines, propellers, and engine spares developed. Unsalvageable ships and those patched up for return to rear areas were cannibalized to supply these shortages. All Seabees who could be spared were sent to Kerama to alleviate the shortage of mechanics. The use of these trained men and their welding equipment and tools made a considerable contribution toward getting damaged ships back into action in a hurry.

Originally it was intended to use the *Egeria* and the landing ship dock *Gunston Hall* for repairs to boat-pool craft, but both had to be used for



Damage to Kiland's flagship Mount McKinley.

major work only. Repair facilities for boats, including hull repair shops and engine repair shops, were established on pontoon causeway sections. By this means most boat overhaul and repair was accomplished. A second LSD, the *Casa Grande*, joined for small-boat repair on 4 April. She reported "there appears to be plenty of work in store for us for some time to come."

As was to be expected, the boats originally assigned to the boat pool were inadequate for transportation and the miscellaneous services required. To build up the pool 31 LCVP's, 4 LCM's, and 3 LCP (L)'s or (R)'s were removed from transports returning to rear areas. The *Casa Grande* furnished 12 LCM(6)'s out of a total of 16 on board. The final total of boats was 51 LCVP's, 36 LCM's, 5 LCP (L)'s or (R)'s, and 17 LCT's, which proved barely adequate to the heavy workload imposed on them. Of the group, 15 LCVP's were reserved for smoke-making duty only.

The salvage unit on 1 April consisted of the salvage tugs *Clamp* and *Gear*; two fleet tugs, *Yuma* and *Tekesta*; and several landing craft. The fleet tugs *Molala* and *Jicarilla* joined on the 9th. The large salvage pumps on the *Clamp* and *Gear* proved valuable in keeping damaged ships afloat until temporary underwater patching was effected. The busy tugs were alerted for service at all times, and brought battle-damaged destroyers and other vessels in from picket and screening stations. By night salvage craft were strategically located throughout the anchorage to aid ships in case of fire or of damage by suicide planes. During the period of severe enemy activity, twice as many of these ships could have been utilized had they been available. The *Gear* and *Clamp* were released from salvage duty 15 May and sailed to Ulithi.

On 1 May three additional repair facilities arrived from the rear—the *Vestal*, salvage tug *Deliver*, and auxiliary repair ship *Zaniab*. The destroyer tender *Hamul* arrived on the 10th, and within a few hours had her first destroyer alongside. The same day Captain Rhoads, Commodore Carter's Representative B, previously at Saipan, came aboard to establish his headquarters. A week later he assumed direction of logistics in the Okinawa area, relieving Admiral Kiland.

Another casualty in the anchorage occurred early on 1 May when the minelayer *Terror*, serving as tender for minecraft, was hit by a suicide plane and set on fire topside. Order had been given to make smoke, but it had not become fully effective. Salvage craft went alongside immediately and the fires in the superstructure were rapidly controlled, but the damage was heavy, a check of it showing 41 killed, 7 missing, and 123

wounded. It was felt by some that the ship would not have been attacked had she not opened fire on the plane, thereby disclosing her position. Though the moon was out, visibility from aloft was not good. After temporary repairs and removal of all useful spare parts, the ship got under way for Saipan. There it was decided that her battle damage would not be repaired in the forward area, and she was sent back to the Mare Island Navy Yard.

A most important feature of the Kerama Retto plan was the ammunition replenishment program. The Okinawa Operation Plan provided that all vessels except battleships should be prepared to receive ammunition at sea. Actually, because of shortage of ammunition ships, transfer of ammunition at sea was made to ships of the fast carrier force only. Those of the Joint Expeditionary Force, especially fire-support ships, and the escort carriers were resupplied at Kerama Retto.

To start the replenishment the 8 LST's loaded with fire-support ammunition were available, each equipped with special cranes, slings, and other gear necessary. This type of ship was first used at Iwo Jima and had proved its worth there as it did later at Okinawa. Loading was effected direct from the LST's to combatant ships, without transfer by smaller craft, when demand for ammunition was particularly urgent. Two LST's were needed simultaneously to replenish satisfactorily each battleship or heavy cruiser during the course of a day, one for each light cruiser and one for every two escorts in a 4-hour period. Only about half the LST's which could have been satisfactorily used were available.

Although each ammunition-carrying LST was reported to have four camels and six large fenders on sailing, they arrived with no camels and very few large fenders. Because this type of equipment is absolutely essential in any kind of swell or heavy weather, transfer of ammunition was slowed decidedly and in a few instances prevented altogether. Commanding officers repeatedly emphasized the importance of placing camels between ships when transferring fuel and ammunition.

These LST's proved particularly successful in contributing to the rapid replenishment of fire-support ships for 3 days before the main assault, and prevented the difficulty encountered in previous operations of having fire-support ships practically empty upon completion of D-day missions. A total of 3,000 tons of naval ammunition was given the fire-support ships in the 3 days preceding 1 April.

Following the delivery of their initial loads to the battleships, the LST's reloaded ammunition from the naval ammunition and merchant-type ammunition ships whenever these were not discharging directly



Damage to the destroyer Hazelwood.



Pennsylvania low in water after being torpedoed by plane.

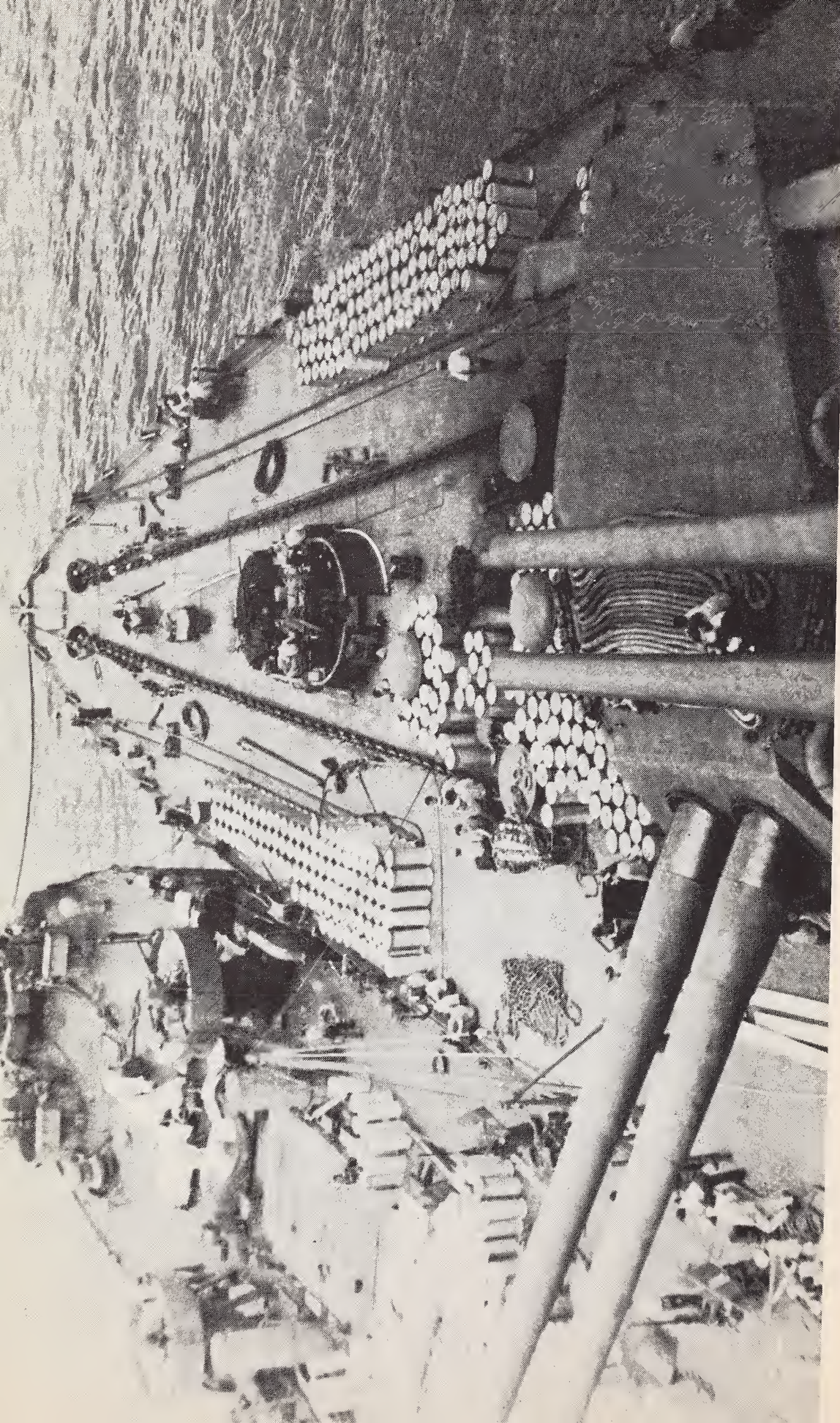
into the fire-support ships, and thereafter those LST's discharged to the fire-support ships. This permitted faster unloading of the large ammunition carriers and reduced the numbers of them required to be in port at any one time, besides expediting transfer by providing more sides for working. For instance, two or three LST's could lie alongside a battleship simultaneously, transferring two or three times as much ammunition as could have been handled had the big fellow been required to receive from a single AE or AKE.

To expedite resupply, all possible arrangements were worked out the night before. Generally, battleships, cruisers, and escort carriers submitted their needs by dispatch the night before arriving, and all ammunition carriers submitted their available inventories by 6 p. m. daily. That enabled definite assignments of the ammunition craft, thus saving a great deal of time. Destroyers and other escort types did not submit their requirements in advance. Destroyers were sent to Kerama on schedule with the larger ships, regardless of ammunition expenditure, so that they might fuel and also screen these vessels en route.

As a general rule two ammunition ships—one carrier loaded and one bombardment loaded—were at Kerama Retto at all times. Eight LCT's from the boat pool were assigned duties of taking ammunition from LST's and AE's for further aid in delivery to combatant ships. But until the arrival of eight more LCT's early in April, the disposal of empty cartridge and powder tanks was a perplexing problem. Because of the insistence of several ships that empties be dumped into the craft transporting the ammunition, the latter craft were made useless as ammunition carriers until the empties could be disposed of on the beach or put on vessels especially furnished for that purpose. It was necessary in a few instances to throw empties overboard.

Sixteen LCM's were assigned from the boat pool for ammunition work, carrying the smaller types for reasons of weight and protection from the weather. Three weeks after replenishment began a few LSM's became available for ammunitioning. Though the number available varied from time to time because of other requirements, generally at least two were assigned ammunition duties exclusively. They proved most useful for supply and for receiving empties. Because they carried large crews, they were excellent for ammunition work with all types except carriers.

To be in readiness to service combatant ships with the quantity and types required in the limited time available, considerable tonnage had to be preloaded and consolidated, much of this being done every night. For



Maryland taking turret gun powder.

the carriers, ammunition was transferred from the ammunition ships into LCM's for delivery. Battleships got theirs from LCT's loaded the night before, and from LST's ordered alongside. For the most part, cruisers were sent alongside ammunition ships to receive direct, as well as from LST's also alongside. Destroyers and escorts went alongside LST's and received their supplies direct. Battleships, cruisers, and carriers were required to furnish working parties ranging from 50 to 200 hands each for handling ammunition. Since most ships were replenished only during daylight, these working parties were not available at night, when most of the preloading and consolidation of cargo was under way. A permanent working force of 500 could have been utilized had it been available.

Changes in the tactical situation brought changes in the types of ammunition used. When it became apparent that proximity-fused projectiles were best suited to combat the increased number of suicide planes, the demand for this type of destroyer ammunition immediately increased. Except for a few types, the supplies at Kerama Retto proved adequate at all times. From 28 March through 16 May the ammunition issued was 37,915.6 tons. The number of replenishments for the larger types were: Battleship 56; heavy cruiser 38; light cruiser 22; escort carrier 53; destroyer 330. Other small types brought the total to 610.

During the same period 1,137 ships received 1,295,000 barrels of black oil and 337,000 barrels of Diesel fuel. A much greater quantity of gasoline was consumed at Kerama than had been anticipated, because more extensive seaplane operations were conducted than were originally contemplated, and battleships and cruisers also burned an unusual amount. As a rule the escort carriers received their supplies in their operating areas and not at Kerama Retto.

Because fleet oilers were permitted to remain at the objective 3 days only, there was seldom time to fuel screening ships and station tankers and still transfer aviation gasoline to the seaplane tenders and fire-support ships. As a result, tankers occasionally left the area without discharging the aviation gasoline needed by the forces at the objective. For future operations it was recommended that a loaded station tanker with aviation gasoline be provided at the objective for later issue, and that several small barges or bowser boats (small craft equipped with pump and carrying a supply of gasoline) be provided to supply the gas to fire-support ships while receiving other logistic services. The schedule of tanker arrivals at Kerama was about every third day. Their cargoes were discharged into station tankers; two for black

Handwritten notes in the right margin: "Kerama Retto" written vertically, with an arrow pointing to the word "Kerama Retto" in the text above.

oil, one for Diesel, two for black and Diesel, and one for gasoline.

As facilities in the anchorage expanded for fuel, ammunition, and repairs, a greater need for supply facilities developed than had been anticipated. Naval personnel needing logistic support at Kerama soon approximated 110,000, considering ships stationed in the anchorage, those under repairs, and ships reporting for fuel and ammunition. Normal replenishment of provisions, general stores, clothing, and small stores had been last available during the staging period in mid-March. Losses of provisions and stores by battle damage added to the demand, reducing normal reserves still lower. As a result the cargo carried by provisions and stores issue ships proved insufficient to provide full replenishment to normal operating stock.

At first replacement of provisions lost by battle damage was available only from large ships stationed at Kerama, or from ships returning to the rear. Naturally only limited amounts could be obtained in this way, and very little, if anything, could be had from incoming fleet tankers, as they had usually expended their excess while fueling at sea before reaching Kerama. By mid-April destroyers and destroyer escorts required normal provision replenishment, in addition to battle-damaged ships.

On 18 April the cargo transport *Azimech* arrived at Kerama. Before her departure 10 days later, she issued 2,800 tons of dry provisions to 221 vessels, at least half of her deliveries under difficult conditions. Ships generally came into Kerama Retto after dawn and left before dusk the same day, and fueling and ammunitioning had priority over provisioning. Vessels stationed at Kerama could have issues only at night, a hazardous procedure because of the frequent air alerts in the anchorage. The *Azimech* carried a limited stock of clothing and small stores which was quickly expended in filling the needs of survivors and in issues to ships caring for them. She left for Hagushi Beach to discharge the remainder of her provisions cargo at that objective.

On 26 April the food ship *Adria* arrived with fresh and frozen provisions. Her entire cargo was exhausted by 4 May without provisioning all ships normally receiving logistic support at this base. Issues were made on the basis of a 20-day supply, and 219 vessels received *Adria's* entire cargo of 1,470 tons. Next arrival was the *Castor* on 1 May with general stores, issued chiefly to repair facilities and including only such items as were essential to place damaged ships in operable condition. She left for Hagushi on the 4th and returned to Kerama 23 May with a remnant cargo which she discharged before departing.

The *Antares* on the 10th brought in 1,500 tons of general stores but

no clothing, small stores, or ship's stores stock. Her cargo was more adaptable to filling the needs of repair facilities than to normal replacement of GSK items to fleet units. She issued to repair facilities, ships arriving for logistics, and to station units, but because of limited nature, only about 20 percent of the requisitions submitted could be filled. Issues were made to 170 ships.

Next came the cargo ship *Matar*, on 14 May, with 5,800 tons of dry provisions, about 75 percent of a normal cargo of clothing and small stores, and an incomplete loading of ship's store stock and medical items. Controlled issues of clothing and ship's store stock were necessary because of limited quantities. Shoes in proper sizes were especially critical items. However, the ship's dry provisions were adequate and allowed a 30-day supply for vessels receiving replenishment. The *Bridge* on the 15th brought a combined cargo of fresh-frozen and dry provisions. She had previously made issues at Okinawa, so a large part of her fresh-frozen and some of her dry provisions had already been exhausted before arrival. On 22 May the *Latona* came into Kerama with a much-needed cargo of 1,276 tons of fresh and 450 tons of dry provisions. Of the fresh, 522 tons were issued before she sailed for the Hagushi area, which was an anchorage off the west coast of Okinawa, 25 miles from Kerama Retto. By the end of May the supply situation was virtually adjusted, and repetition of the critical early days was no longer feared.

Freight handling presented a problem at the Kerama Retto anchorage. Tankers and escort carriers brought in freight consigned to ships in the Okinawa area. If the particular ship was known to be stationed at Hagushi, delivery was made by one of the ammunition ferry craft or the LCI patrol. When a ship was expected to arrive for logistics within a short time, arrangements were made for temporary stowage of her freight aboard one of the ships permanently assigned to Kerama. Vessels of the support carrier unit left air-drop supplies for delivery on the western beaches of Okinawa. To distribute this, one LSM met the designated escort carriers, received the cargo, and when a sizable load had accumulated went to Hagushi Beach to discharge. On 20 May, LST's 851 and 795 were sent to Kerama from Hagushi designated for receiving, stowage, and redistribution of freight.

Before night attacks began the supply of smoke materials and equipment to ships in the anchorage was considered sufficient. About the middle of April, however, because of abnormal requirements, the supply reached the critical stage and rationing became necessary for most effective coverage. All ships present were repeatedly warned to conserve

fog oil, and Admiral Turner, Commander Task Force 51, issued directives covering the use of substitutes and dilution with 25 percent Diesel oil. Despite all precautions the supply remained critical until the arrival of the *Clovis Victory* 19 May. To add to the difficulty, smoke generators broke down under heavy use and replacements and spare parts were unobtainable. When the *Vestal* arrived on 30 April, generator repairs were undertaken, but some had to be cannibalized to keep others operating. Smoke materials and generators were removed from ships returning to the rear. The situation was partially relieved by the arrival of a limited number of generators and spare parts about 12 May.

Captain Rhoads, who had taken over Kiland's logistic duties, was responsible thereafter in both Kerama and Okinawa areas for all supplies, ammunition, repairs, assignment of replacement personnel, assignment of berths and anchorages except in the seaplane area, provision and direction of harbormaster, and operational control of the boat pool. Admiral Kiland retained responsibility for local distribution of smoke-making equipment, spare parts and smoke material, exercised the military functions of senior officer present afloat, and administered salvage, casualties, mail, net and buoy unit, and antisubmarine and smoke screens.

Captain Rhoads's subordinates in other areas were Lieutenant F. E. A. Wilden, fuel and water representative aboard the tanker *Armadillo*; Lieutenant (j. g.) E. E. Wilcke, GSK and provisions aboard the *Ancon* (on the *Auburn* after 3 June); Pay Clerk W. E. Click, assistant fuel officer aboard the gasoline tanker *Hiwassee*. These three ships at Hagushi. Click supervised delivery of all aviation and motor gasoline, and lubricants from YOGL's to shore installations. Some confusion arose during the first few days after the change of command. Many requests for fueling and ammunition assignments were made to the activities formerly handling them, resulting in some delay until finally relayed to Rhoads. All fueling was done during daylight, as the harbor was completely blacked out at night.

Ammunition replenishment continued, but Commander Task Force 51, who became Commander Task Force 31 on 28 May, was responsible for determining the ammunition necessary at Kerama Retto to replenish all forces in the area, and requested it direct from Commander Service Squadron Ten; Captain Rhoads was responsible, in turn, for the actual distribution replenishment of all ships arriving at Kerama Retto. Commander Task Force 51 designated fire-support ships for replenishment approximately 36 hours in advance of their scheduled time. The ships then submitted requests to Captain Rhoads, who was expected to be

able to meet their needs. Ammunition expenditure was extremely high, but so long as the supply was adequate, no restrictions were placed on the amount fired, except for star shells when, after 17 May, 720 rounds were allowed per night. Smoke and smoke equipment appeared to be in adequate quantities during the later phase of the operation.

Fueling operations were handled on much the same basis as previous schedules. Every third day a fleet oiler arrived at Hagushi Beach from Admiral Beary's Logistic Support Group, fueled the screening vessels under way inside the screen during daylight, and anchored before dark the first night at Hagushi. The second night the oiler was sent to Kerama to refill station ships there and give aviation gas to the seaplane tenders. It remained there the third day and night and left with the escorts that brought in the next tanker. The average oiler cargo at Hagushi consisted of 75,000 barrels of black oil, 8,000 barrels of Diesel oil and 350,000 gallons of aviation gasoline. Ashore in the Okinawa area there was tank storage on 21 June, at Hagushi for 798,000 gallons of aviation gasoline, 84,000 gallons of motor gasoline; at Ie Shima, 168,000 gallons of aviation gasoline, and no motor gas.

Besides the repair ships under his direct operational control, Captain Rhoads also had the assistance of Admiral Turner's repair ships at Kerama—the *Egeria*, *Oceanus*, and *Casa Grande*. Commander Task Force 51 continued to repair landing craft at Hagushi Beach with the *Achelous*, *Coronis*, *Gunston Hall*, and *Oak Hill*; at Nakagusuku Wan (Buckner Bay), with *Endymion* and *Lindenwald*; and at Naga Wan with *Epping Forest*. On 1 June Captain Rhoads assumed all repair work in the Okinawa area and was given all Admiral Turner's repair ships.

Two additional drydocks reached Kerama Retto late in May, bringing the total to four ARD's. The ARD's 22 and 27 were towed by the fleet tugs *Menominee* and *Tenino*. ARD-27 reached Kerama 22 May; ARD-22 on the 26th. The destroyer tender *Cascade* arrived 2 June for additional tender service.

For provisioning all types of small craft, the barracks ships *Wythe*, *Yolo*, and *Presque Isle*, known as LST mother ships and first tried by Turner at Iwo, were turned over to Captain Rhoads by Turner. They provided fresh and dry provisions, Diesel oil, and fresh water, and had considerable berthing space aboard for boat-pool personnel. The three replenished their own cargoes whenever provision and refrigerator ships arrived. The *Wythe* was anchored at Kerama throughout the Okinawa campaign, and served a gradually decreasing number of small craft as additional supply facilities were brought forward during May and June.

In July she moved with other service ships to Buckner Bay. During May she issued 162 tons of fresh and 143 tons of dry provisions, 38,980 gallons of Diesel oil, and 88,600 gallons of fresh water, besides berthing and feeding the Kerama Retto Boat Pool during the entire period.

The other two were stationed at Hagushi Beach from L-day onward, but the *Presque Isle* made alternate trips approximately every 10 days to Nakagusuku Wan and Ie Shima to replenish small craft in those areas. *Yolo* remained at anchor 1,000 yards off the beach in the Yontan airfield vicinity where, since air activity was keen, it was necessary to carry out much of the replenishment between air raids. She described her activities during May:

“In carrying out our assignment as a Landing Craft Tender for the second month off Okinawa, our operations for the month consisted of taking 407 ships of all classes alongside. These ships were serviced in all categories of supplies—provisions both fresh and dry, fuel, fresh water, ship’s store items, medical services when needed, at times laundry facilities based on a standard unit, taking into account the needs of the ship, our own supply on hand, and the number of ships dependent upon us. Issues amounted to a total of 549,012 pounds of dry provisions, 382,814 pounds of fresh and frozen, 574,446 gallons of fresh water, 51,984 gallons of fuel, and 8 tons of fresh bread. Still another function of the ship was to act as a barracks for the Northern Boat Pool. In this capacity we took care of the needs of 120 men daily and provided mooring and fueling facilities for 20 small boats.”

Under Captain Rhoads, Representative B of Squadron Ten, provisioning of all combatant ships continued at Kerama. Issues were restricted to 10-day supply for larger vessels, 20-day for others, with fire-support, radar picket, and screen ships given priority over station units. From 17 May to 21 June, the date Okinawa was declared secured, 10 supply ships discharged 25,372 tons of cargo at Okinawa, representing all categories, with dry provisions heading the list.

The service and salvage group operated independently of Captain Rhoads, but its duties after 17 May were salvage and rescue of ships only. Repair work it formerly did was assumed by Rhoads’ group. Its various units were at Kerama Retto, Ie Shima, Hagushi Beach, and Nakagusuku Wan. With the exception of the Hagushi unit, which operated directly under the salvage group commander, all were operationally controlled by the respective SOPA’s. The total consisted of 3 salvage tugs, 12 fleet tugs, 6 rescue tugs, 4 LCI’s, and 2 LCT’s constantly ready in their assigned areas for calls to assist damaged ships.

Harbor clearance was another important duty of these vessels. When Asato Gawa, a small boat harbor just north of Naha, was opened from seaward, an investigation was made to clear that area for beaching of

landing craft to replenish supply dumps near the front lines, at that time inaccessible because of rainy weather. In agreement with the island command, salvage personnel and equipment cleared the area of numerous wrecks obstructing landing craft traffic.

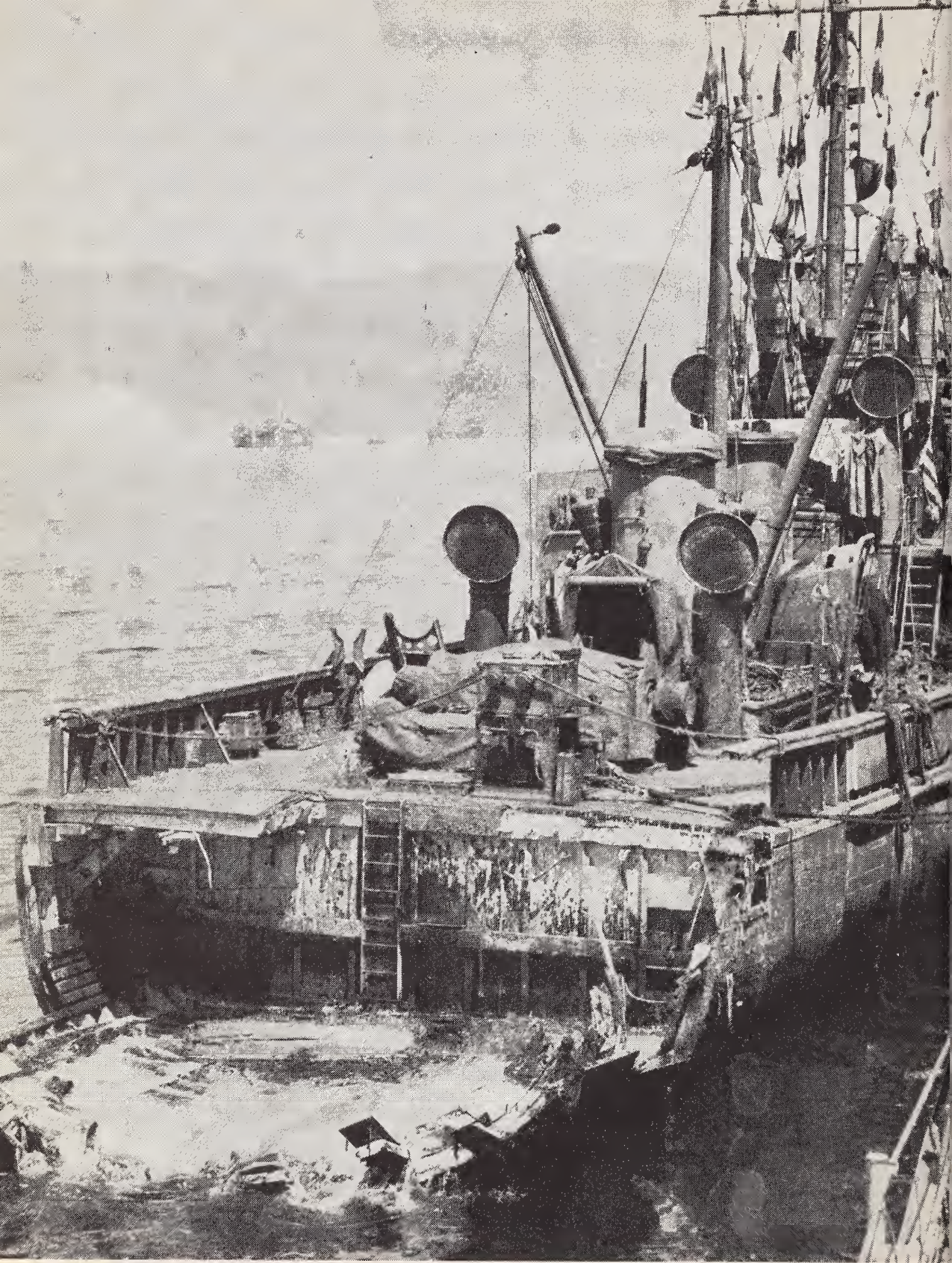
As soon as Naha Harbor could be entered, the salvage group went in to clear away wrecks to make docking space available as quickly as possible. Various Army groups assisted, and in 7 days 10 LCT's and 15 barge berths were available. Service Squadron Twelve, ordinarily charged with harbor clearance, gradually made equipment and personnel available to continue the project.

The salvage group also undertook to improve tanker moorings at Hagushi Beach because of the fire hazard in supplying the island of Okinawa with aviation and motor gasoline. Fuel was transferred into smaller tankers, and from them into four non-self-propelled barges anchored near the terminus of the pipeline. The salvage group assisted in designing and constructing a terminal mooring whereby a fleet oiler could discharge directly into the pipelines. Besides lessening the fire hazard this insured a continuous supply of gasoline regardless of weather or sea conditions. At times, under the old system, the amount on hand ashore became reduced to 1 day's supply.

The task-group commander reported that difficulties arose during the operation through lack of communication facilities aboard the fleet tugs. While temporary headquarters were in the *LSD-6* at Nakagusuku Wan, communications were so difficult that carrier pigeons were employed for the speedy transmission of vital information.

Several important recommendations regarding future operations, besides the need for better communications, were made by Commander Service and Salvage Group. He stressed the importance of having suitable small craft assigned to salvage and rescue units for passing lines to ships needing assistance at the beach during assault operations. Experience showed that numerous ships suffered major hull damage only as a result of lack of proper small craft for passing of tow wires at sea as well as at the beaches. With heavy surf, amphibious trucks (DUKW's) are invaluable; at sea and with favorable sea conditions, LCVP's and LCM's may be used.

He further suggested that a number of LCM's be fitted with fire-fighting and rescue breathing apparatus and transported to the objective as fire-fighting units, as they can assist ships in shoal water and maneuver through smoke protection without endangering ships at anchor. In fire fighting, where time is vital, fleet tugs and rescue vessels are too slow in



YMS-92 stern blown off.

reaching ships needing help in an anchorage covered by smoke. Briefing all ships on the necessity of transmitting correct information regarding damage is of prime importance if proper and ample assistance is to be dispatched. In numerous cases during the Okinawa operation insufficient information resulted in the dispatch of salvage units badly needed elsewhere.

In summing up the various aspects of accomplishment at Kerama Retto it is not difficult to see why task-force commanders were unanimous in their praise of the facilities offered. Because of the unprecedented number of Kamikaze attacks the ability to accomplish battle-damage repairs in a calm anchorage near the objective saved many heavily damaged ships which, without the benefit of quick on-the-spot temporary repairs, would not have been able to reach the rear. The Japanese never suspected that we had this advantage.

While complete provisioning, fueling, and ammunitioning at sea had been proved for the fast carrier force, many more ships and personnel of the service force than were available in the Okinawa operation would have been required at sea to make replenishment an accomplished fact for all fleet forces. The logistic anchorage base at Kerama Retto was, like the use of Kwajalein lagoon in the Marshalls operation, of even greater value, in all respects, to the success of the Okinawa operation. With the securing of the island late in June after a long bloody battle of nearly 3 months, the mission of Kerama Retto was completed. Most of the service-force facilities moved to anchorage in Nakagusuku Wan (Buckner Bay), Okinawa, which was to be the principal floating-equipment base for the final stages of the war.

CHAPTER XXVIII

Expansion of "At Sea" Support by Service Squadron Six

SERVICE SQUADRON SIX was established 5 December 1944 to provide mobile support to fleet units during specific operations. It proved its worth at Iwo, and in still greater degree demonstrated an advanced phase in naval tactics. Its logistic support during the Okinawa operation was principally to the fast carrier force, though substantial deliveries were also made to other Fifth Fleet forces.

Known in operations orders as the Logistic Support Group, the squadron was composed of ships speedy enough to remain near the fleet with facilities to supply fuel oils, food, ammunition, airplanes, clothing, general stores, personnel, and towing and limited salvage services, plus suitable escort. Units of the squadron, under Rear Admiral D. B. Beary, were formed at Eniwetok and Ulithi early in February for participation at Iwo Jima. The first fueling operations were undertaken with a Task Group 58 on 13 February.

The fleet oilers were naturally the major component of Squadron Six. When the fast carriers were organized in four groups, there were usually three oilers in each fuel division; if, however, there were less than four carrier groups, then four oilers were generally utilized for each fuel division. The method of fueling task groups remained the same as formerly, but the procedure as applied to the Logistic Support Group bears some amplification here.

During the night preceding a fueling rendezvous, careful check of the wind, weather, and state of sea was kept by the group commander with a view of determining the speed and course for safe and rapid fueling. Speed of the oiler group during the night was set so as to make contact with the fueling group one or two hours prior to rendezvous. The oilers then prepared to begin fueling as soon as there was sufficient light, unless rendezvous had been previously set for a definite hour. Three or

four oilers, about 1,500 to 2,000 yards apart, formed in a single line to establish the fueling course, normally into the wind at about 10 knots speed. Carriers took aviation gasoline while taking fuel oil.

As soon after each fueling as possible the oiler-group commander reported to the logistic-group commander the amount of fuel left on board; detailed figures of issues made were submitted later. Consolidation of cargoes followed in order to return empty ships to base, an oiler being considered empty when it had less than 10,000 barrels of fuel oil which it could not discharge within 36 hours. This was regardless of Diesel oil or aviation gasoline, on board.

Commander Air Force Pacific Fleet, through his type command representatives in the forward area, was responsible for replenishing the Logistic Support Group ships with aircraft, aviation material, and aviation personnel. For this, carrier transports were assigned to the Logistic Support Group and delivered airplanes, pilots, and aircrewmembers as requested by the carrier task force or group commander. Returning pilots were usually picked up by a destroyer for delivery to the transport carrier. Ferry pilots went aboard her and planes were catapulted, carrying as much equipment for transfer as possible. Often replacement pilots flew replacement planes to the carriers to which both were destined. Otherwise, replenishment was made through ship-to-ship transfer. The transport carrier then reported back to the Logistic Support Group to effect consolidation of residual planes, pilots, and aircrewmembers, and to allow several such ships to return to base for discharge of flyable duds and for replenishment.

Ammunition ships took their positions in the second fueling line (oilers in the first) along with stores ships. All combatant types approached the ammunition ship and took position abreast. After the position lines were put over and secured, the ammunition ship steamed at about 8 to 10 knots and the ship receiving kept station on her regardless of which was the guide. Normal transfer was over the port side of the ammunition ship. Only one large ship could be rearmed at a time, but two destroyers, escorts, or small vessels could be rearmed simultaneously.

Stores ships were stationed in the second fueling line, 2,000 yards astern of the first. All ships made approach on the stores ships in order to preserve the formation. Position had to be carefully maintained to keep proper alinement between the issuing hatch on the stores ship and the receiving station on the combatant. Destroyers and small craft kept position on provisions ships. All receiving vessels maintained station on

the stores ships because the latter could not in all cases regulate their speed closer than one or two turns of the shaft. Immediately after servicing a task group, the stores ships reported the balance of items on hand to the logistic group commander, reporting detailed issues later.

Fleet tugs operated as part of the logistic train to render salvage service to damaged vessels by towing them to places where repairs could be made. Unless otherwise directed, two tugs were to be assigned to a battleship or carrier, one tug usually to any other disabled ship.

Describing operations for the capture of Okinawa, the oiler *Platte* reported on the workings of the Logistic Support Group much as has already been stated, adding "Four or five oilers formed a line normal to the fueling course and spaced 1,500 to 2,000 yards apart. Four ammunition ships and a provision ship formed a similar line 2,000 yards astern of the oilers. While these ships fueled, provisioned, and rearmed ships of Task Force 58, the other oilers of Task Group 50.8 consolidated cargo for the return of those emptied to Ulithi. Whenever an oiler became low on cargo it would not take 'fueling line,' but instead consolidate. Oilers also handled passengers, U. S. mail, patients, drum lube oil, carrier-plane belly tanks, and even Japanese prisoners of war. This vessel alone transferred and received as many as 50 passengers a day."

After Iwo the Logistic Support Group 50.8 returned to Ulithi to prepare for the next operation. From arrival, 5 March, to departure on the 13th, conferences were held with ComFifthFleet, ComServRonTen, Commander Fast Carrier Force, and various other commanders. At Ulithi the Support Group was divided into 4 task units: First Replenishment, Second Replenishment, Salvage, and Carrier Transport. Admiral Beary's flagship was the old light cruiser *Detroit*. On departure for sea on 13 March, after being replenished by Service Squadron Ten, the group totaled 1 light cruiser, 16 oilers, 4 ammunition ships, 4 fleet tugs, 2 airplane transports, 2 escort carriers, 12 destroyers, and 7 destroyer escorts. The first fueling at sea for the Okinawa operation commenced 16 March, when the support groups rendezvoused with units of fast carrier force, servicing it from 4 divisions, 3 of which had 4 oilers and an ammunition ship, the other 3 oilers and an ammunition ship.

Three days later, on the 19th, came the salvage unit's first call, when Task Unit 50.8.3, the tugs *Cree*, *Ute*, *Munsee*, and *Sioux*, with screen, was sent to the area southeast of Kyushu to help the carrier *Franklin*, seriously damaged by enemy aircraft bombs. The carrier was taken in tow by the heavy cruiser *Pittsburgh* at the scene, but by the following day had regained enough power to proceed without assistance. The

tugs reversed course, steamed away, and rejoined Task Group 50.8.

For the first complete replenishment on 22 March the carrier force had been reorganized into three groups to allow the *Wasp*, *Enterprise*, *Franklin*, and *Santa Fe* to return to Ulithi for repairs. Commander Task Force 58 reported "a very busy day was spent fueling, provisioning, replenishing ammunition, and receiving replacement aircraft and pilots." This caused the British liaison officer on the staff of Commander Task Force 58 to remark that "it was during this first replenishment period that he became fully aware of the versatility, power, and efficiency of the United States Pacific Fleet."

On the 26th the cargo ship *Mercury* arrived from Ulithi to join the group for provisions replacement. On this first day she transferred 37 tons of fresh and 17 tons of other provisions to Task Group 58.1. On rejoining Task Group 50.8 at the end of the day she received the following message from the group commander: "Your commendable performance in your initial replenishment operation is noted with pleasure." From that time until detached 12 May to return to Ulithi, the *Mercury* operated with Task Group 50.8. Transfer of cargo was slow because she was equipped with only one transfer whip on each side. Carrier-force commanding officers felt she should have had more whips. Toward the end of the Okinawa campaign increased efficiency in transferring stores under way decreased the time necessary for the replenishing ship to remain alongside. For example, the *Pittsburgh* took 21 tons of ship's stores and provisions in 55 minutes while a destroyer was taking stores simultaneously on the other side of the supply ship.

As other Fifth Fleet units approached the objective during the last week in March the Logistic Support Group ceased to operate solely with the carrier force. Two oilers, *Cowanesque* and *Atascosa*, left Ulithi with Minecraft Task Group 52.3 on 19 March. After fueling the mine vessels on the 22d, the oilers and two destroyer escorts proceeded to rendezvous with another mine group, Task Group 52.4. After fueling it, the two oilers reported to Commander Task Group 50.8 on the 24th, spent several days with the carrier force, and separated, *Atascosa* going to Kerama Retto with the first tanker group to enter the newly acquired anchorage, and *Cowanesque* joining a group leaving to fuel the escort carriers of Task Group 52.1. Both tankers reported back to Commander Task Group 50.8 on 1 April from their respective assignments and then went to Ulithi for fresh cargo. This was typical of the procedure followed throughout the operation.

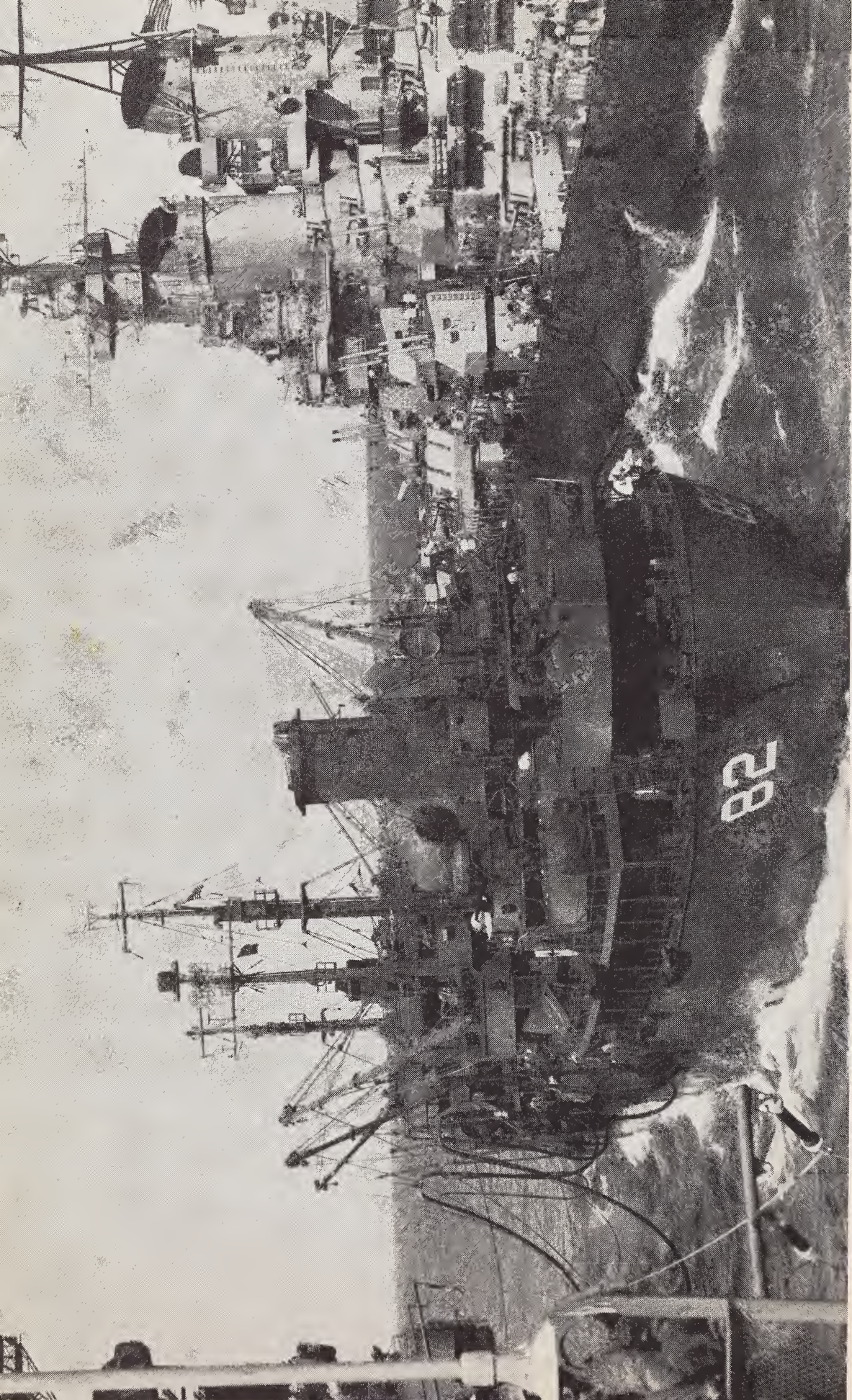
The Logistic Support Group performed additional service as a relay

and waiting station for ships of all types proceeding to the rear and from it to units in the combat area. Twelve ammunition ships came forward with the oiler shuttle units of Task Group 50.8 up to 28 May, and operated with the group until called for by Admiral Turner, Commander Task Force 51. These ships were then included in the next regular oiler shuttle unit dispatched to Okinawa. Empty ammunition and other logistics ships were routed to the rear area via Task Group 50.8, using returning shuttle units from Okinawa. Combatant ships reporting to Task Force 58 also made rendezvous with the Logistic Support Group and remained in company until they could join their assigned units on replenishment days. A total of five cruisers, one small carrier, two cruisers, and eight destroyers joined Task Force 58 this way.

Three carriers, one small carrier, two cruisers, and eight destroyers of Task Force 58, forced to withdraw by battle damage, joined with the Logistic Support Group, which serviced them as far as possible, after which they sailed under special escort to Guam or Ulithi. In one instance in which a combat destroyer had no officer left qualified to command, a relief commanding officer was supplied by the group. This was the case of the *Hazlewood*, hit by a suicide plane. Lieutenant D. N. Morey, Jr., of the *Buchanan* took her to Ulithi.

On 5 April the oilers *Escalante* and *Ashtabula*, going to Ulithi for re-loading, were both in collision with the seaplane tender *Thornton*. The oilers sustained only minor damage; the tug *Munsee* went to the tender's assistance. Next day the oiler *Neches*, on a fueling assignment at Kerama Retto, secured a direct hit on an enemy plane, which was observed to disintegrate. On the 16th the oiler *Taluga* sustained a suicide attack by a plane believed to be a "Zeke," the Japanese Navy fighter. The resulting fires were extinguished and repairs completed in the forward area. She was the only oiler to suffer battle damage during the Okinawa operation. On the 8th, approaching Kerama, the destroyer *Gillespie* of the Logistic Support Group, escorting the *Thornton*, towed by the *Munsee*, was attacked by four Kamikazes, two of which the destroyer shot down. The remaining two did not attempt to attack.

Fuels and Lubricants. The fuel required for the Okinawa operation far exceeded that consumed during any previous campaign. This large consumption was the result of the many ships employed and an increase in their endurance at sea because of under-way replenishment facilities of Service Squadron Six. During a 3-week peak period in April the services of 39 oilers were required, making total daily issues averaging 167,000 barrels of fuel oil and 385,000 gallons of gasoline to the fleet carrier force



The oiler Cababa fueling the battleship Iowa and the carrier Shangri-La on a smooth day.

alone. With the program of rotation of one group of Task Force 58 to Ulithi for 10 days availability and replenishment, commencing 27 April, and the reduction of the number of combatant ships operating with the Joint Expeditionary Force (Task Force 51) after the latter part of April, the daily over-all consumption of fuel oil was reduced from about 220,000 barrels to approximately 140,000.

Fleet oiler schedules were established prior to sortie from Ulithi. The original schedule, providing that five full oilers leave from Ulithi every 4 days, was modified to two full oilers every 3 days. Fuel supply at the objective was ample at all times. Once, toward the end of the period of highest sustained daily averages, the supply at Ulithi was exhausted, but sufficient fuel was on hand at sea in fleet oilers to prevent interruption of operations.

Aviation gasoline and aviation lubricating oil consumed was also materially greater than in any previous operation. Formerly the standard load of 20 drums of lubricating oil on each fleet oiler adequately met carrier requirements. As the operation extended, each oiler had to carry 75 drums. Continued demand for it, and an average issue of 80 drums daily over a period of 1 month prompted a directive requiring that fleet oilers leave port with an initial load of 150 drums.

The oilers carried numerous other items in addition to their regular cargoes. They provided gasoline drop tanks, depth charges, arbors, ammunition, dry stores, medical stores, mail, replacement personnel, and passengers, as previously stated. All could be transferred while vessels were alongside for fueling. At Okinawa, until supplies were available from provisions and stores ships, fleet oilers were stripped of all stores and supplies in excess of bare essentials for the return to Ulithi. From 17 March to 27 May the fuel oil, Diesel oil, and aviation gasoline issued by Task Group 50.8 for replenishment at sea and own use was 8,745,000 barrels of fuel oil, 259,000 barrels of Diesel oil, and 21,477,000 gallons of aviation gasoline. This consumption decreased from 28 May to 11 June to 1,388,000 barrels of black oil, 64,000 of Diesel, and 4,096,000 gallons of aviation gasoline.

On the 11th, after Task Group 30.6 (antisubmarine group) was serviced, Commander Task Group 30.8* retired to port. Thereafter logistic support was limited to shuttle groups from Ulithi, consisting of three fleet oilers every 5 days servicing Task Group 32.1 (carriers and aircraft of amphibious support force) and then reporting to

*On May 28th the Fifth Fleet became the Third Fleet and the numerical designations changed by substituting a "three" for the first digit "five" in the Fifth Fleet designations.

Commander Service Squadron Ten Fuel Representative for duty at the objective. On 28 June this service was assumed by Commander Service Squadron Ten, marking the end of logistic support rendered by Task Group 30.8. Commander Third Fleet's diary spoke of this in the following words: "Due to the departure of Task Force 38 from the operating area in the vicinity of Okinawa, certain units of the Logistic Support Group were also withdrawn and steps were initiated between Commander Service Squadron Ten (ComTask Group 30.9), Commander Service Squadron Six (ComTask Group 30.8), and Commander Marianas for the establishment of regular resupply convoys to care for the logistic needs of forces in the Okinawa area."

Ammunition. Of all the difficulties of logistics afloat, ammunitioning at sea is the most dangerous, but with the high degree of success achieved during the Okinawa operation, fairly complete logistic support under way had proved practical. Only the fast carrier groups received ammunition at sea from the Logistic Support Group.

In rearming at sea, where time is at a premium and unnecessary ship movements must be kept at a minimum, larger ships cannot "shop" from one ammunition carrier to another to obtain all their requirements. It was soon apparent that when only one ammunition ship accompanied the support group to service one particular task group, those ships with 50 percent or more of their allowance expended found it impossible to obtain a balanced reload. Because of variety in size and weights, and its general nature, ammunition was not adaptable to cargo consolidation in the operation area, not forgetting the danger involved, and so the carrying and issuing capacity of a single ammunition ship was often below requirements. Admiral Beary therefore considered that four ammunition ships with balanced cargoes were needed on the servicing line to render more complete rearming service.

There were frequent changes in the types of ammunition required. Alterations in the fleet issue load did not always solve this problem. For instance, initially 100-pound bombs were in great demand. This was due to heavy strikes on aircraft and airfield installations in the Empire by fighter planes. Following landing operations there was a great increase in the number of rockets issued. At all times aircraft and antiaircraft ammunition was used in considerable quantities. Main battery ammunition had to be carried by the ammunition ships of 50.8, but for the most part was restricted in use, since shore bombardment was principally the duty of the fire-support ships operating under Task Force 51. They were replenished at Kerama Retto.

During the early part of the operation a critical shortage of depth charges developed. This was met by loading approximately 100 depth charges on each of 3 transport carriers, and a standard load was established for all oilers, which carried 27 complete depth charges and 17 arbors. The frequent arrival of oilers assured adequate quantities of both. This became the most practical manner of rearming destroyers with depth charges, for at the same time tankers carried extra ammunition for limited issue to them. These "extra sides" allowed larger ships more time alongside ammunition carriers.

From past experience it was considered that attempts to service two large vessels simultaneously from one ammunition ship reduced the transfers to both ships to an undesirable point. Ammunitioning of a large ship and an antiaircraft light cruiser or destroyer at the same time proved more practical. Jeeps were delivered from the deck of an ammunition ship to a carrier. Airplane engines were also transferred. As a result, each ammunition ship carried a standard load of six.

From 22 March to 27 May the five ammunition ships of Service Squadron Six—*Wrangell*, *Shasta*, *Lassen*, *Mauna Loa*, and *Vesuvius*—in a total of 106 days servicing, delivered a daily average of 143 tons, making a total of 15,159 tons. The *Firedrake* issued small amounts of HVAR rockets only and is not included above. Likewise, *Las Vegas Victory* made some experimental issues during this period which are not included. Her rate of transfer did not compare with that of the others because of smaller handling crews and inferior equipment.

The types of ammunition issued 22 March–27 May indicate the demands: 77,482 5-inch, 38-caliber projectiles; 34,773 5-inch rockets; 119 2,000-pound bombs, G. P.; 65 1,000-pound bombs, G. P.; 280 1,000-pound bombs, G. P.; 100 500-pound bombs, S. A. P.; 3,671 250-pound bombs, G. P.; 234 1,000-pound bombs, S. A. P.; 19,297 500-pound bombs, G. P.; 18,579 100-pound bombs, G. P.; 83 torpedoes A/C; 810 depth charges; 289 arbors. In 3 days the *Lassen* issued 342 tons, the *Vesuvius* 233, and the *Shasta* 236 tons of explosives, the latter two in 4 days each. We were learning the technique of ammunitioning at sea.

Aviation Logistics. Four carrier transports (CVET's)—the *Attu*, *Admiralty Islands*, *Bougainville*, and *Windham Bay*—were assigned to the Logistic Support Group to deliver replacement planes and aircrews for the fast carrier force. During the early stages of the operation, plane requirements would have exceeded the supply available from these four had it not been that planes from carriers put out of action were used. A few shortages occurred later, but this represented a deficiency of plane

models on hand in the forward area rather than of the total number.

An important development in plane deliveries at sea was the successful transfer of several Kingfisher observation scouts. It was found that one or two of this type could be loaded aboard without interfering with catapult operations of carrier planes. When the CVET's rendezvoused with the support group, cranes lowered the planes into the water. They taxied up to the cruiser *Detroit*, which catapulted them for further delivery.

Whenever it was determined that a surplus of a particular plane model existed, ComFifth Fleet was informed, to make the planes at sea available for the best use of the fleet, and to expedite the return of the carrier transport to Guam for reloading. In this way several deliveries of excess plane models were made to the escort carriers of Task Group 52.1 operating in close support of the amphibious landings and ground action on Okinawa. Once, however, the *Attu* made a special trip and delivered 76 planes to that task group. At the beginning of the operation, aircraft supplies were carried aboard a stores ship. This soon proved impractical, and the stores were transferred to a CVET, which made them more accessible to the carriers.

Besides being carried by the CVET's, drop tanks were available from fleet oilers. Task-group commanders preferred delivery of belly drop tanks from the latter because this eliminated double transfers from transport to operating carriers by destroyers, and better use of time while fueling alongside the oilers. The carrier transports were better used for delivering certain critical types of drop tanks available at Guam where the oilers seldom went (the oilers reloaded at Ulithi) and were also used to supplement temporary shortages on oilers. Corsair pylon tanks and 150-gallon Universal tanks were scarce throughout the operation, and it became necessary for Commander Task Force 58 to allocate them between the task groups.

Delivery of aircraft engines at sea was made by the *Lassen*. Transfer of this weight (3,500 pounds) and cube (225 cubic feet) demonstrated that every aviation item except wings could be delivered at sea. Delivery of three jeeps to the *Bunker Hill* was made to replace three others lost because of a flight-deck plane crash.

Commander Fast Carrier Task Group No. 1 (Commander Task Group 58.1) reported that procurement of aeronautical spare parts presented a definite problem. Carriers generally submitted their requirements to the task-group commander the day before fueling. The list of items was then forwarded to each CVET and to Commander Logistic Support Group.

What the former could not supply, he requested from Commander Aircraft Pacific, Subordinate Command, Forward Area, but the time between originating the request and receiving the material was often too great. It was the commander of this task group who recommended that each oiler carry 75 fighter drop tanks to eliminate the transfers from a CVET via a destroyer.

Provisions and General Stores. The cargo ship *Mercury* joined the support group 26 March to provision the fast carrier force with fresh, frozen, and dry food, general stores, ship's store stock, clothing, and small stores. Her cargo proved adequate for the first part of the operation because for the first 35 days few ships needed food. The time arrived, however, when all began running low at once, and beyond the ability of one stores ship to replenish. To meet this situation oilers were deckloaded with staples for issue while on the fueling line. Admiral Beary stated that if ships had replenished to capacity whenever the opportunity presented instead of allowing dry provisions to run low and taking only when in actual need, and if in addition larger ships had topped off dry stores earlier in the operation, the *Mercury* could have provisioned in half the working days actually required. He felt it was poor policy to hold a ship carrying half fresh and half dry provisions in order to issue dry after all fresh cargo had been exhausted. At the same time it was admitted that shipping space was wasted if a vessel returned to reload fresh provisions with the bulk of its dry provisions intact. He believed that in the long run forces receiving provisions would gain by drawing fresh and dry in a more balanced measure.

The *Mercury* made issues until she was relieved by the *Aldebaran* on 9 May. Fleet oilers continued bringing provisions in limited quantities. The tonnage transferred by ship from March to 27 May was: *Mercury*, 29 service days, 275 tons refrigerated, 2,500 tons dry; *Aldebaran*, 8 days, 1,350 tons refrigerated, 560 dry; fleet oilers, 36 days, 277 tons refrigerated, 672 dry. Totals: 1,902 tons refrigerated, 3,732 dry. From 26 May to 11 June, the *Aldebaran* issued in 8 servicing days 305 tons of refrigerated and 146 dry, the fleet oilers in the same period, 59 tons refrigerated, 127 tons dry, making totals of 364 tons refrigerated and 273 dry.

Although ship's store supplies consumed were but a fraction in comparison to the total weight of provisions issued, the quantities on a man-day basis were very large, indicating the scale of our operations and forces. For instance, more than 27,000,000 packages of cigarettes and 1,200,000 candy bars were issued between 14 March and 27 May. Including the cigarettes and candy, the ship's stores stock issued during this

period was: *Mercury*, 29 servicing days, 334 tons; *Aldebaran*, 8 days, 113 tons; fleet oilers, 36 days, 58 tons. From the 28th to 11 June the *Aldebaran* gave out 57 tons and the oilers 13.

Rear Admiral Beary reported that with stores ships and oilers carrying such adequate stocks of ship's stores, the especially prepared "pack-up units" of selected items packaged for immediate transfer in 8 cubic feet, 200-pound units received little demand. Issues of these units were made chiefly when no other source was available, and to small craft at the objective before adequate bulk supplies arrived. In clothing and small stores items there was steady demand for socks, dungarees, chambray shirts, undershirts, and nainsook drawers. Prepackaged clothing units were also in small demand, as stores ships carried required items which were easily transferred during provisioning operations.

The amount of general stores available in the operating area was limited to the special load of approximately 100 items aboard the *Mercury* and quantities available from the regular allowance of oilers and carrier transports within the support group. Items not handled by these sources were ordered from Guam and Ulithi, delivery being handled in the same manner as any other freight. The 100 or so items on the cargo ships were mostly consumable goods, such as rags, soaps, toilet paper, cups, bowls, etc., with some special articles such as line, wire rope, flags, lamps, and fuses. Few large ships found it necessary to draw general stores, but there were continuing demands from destroyers. As the operation progressed, loadings of general stores were altered on the basis of requests and past experience.

Towing and Salvage. During the heavy strikes against Japan by Task Force 58, fleet tugs with fire-fighting teams aboard moved forward along the retirement course of Task Force 58 to be in a more strategic position should their services be required. In the latter stages the operating area of the Logistic Support Group was close enough to that of the task force to make this unnecessary. Fortunately the calls for tugs from the fast carrier force were few, which made possible the loan of two to Task Force 51 at the objective, where their services for towing were in demand.

Mail. All first-class, registered, and officer mail for each task group was loaded on Task Group 50.8 oilers at Ulithi, the oiler with the mail being placed on the fuel line when the proper fast carrier group or groups were serviced. Standard practice placed the mail oilers on the left end of the fuel line. The flagship of the group, serviced from that oiler, arranged for mail distribution by destroyers within the group.

Outgoing mail for other task groups and elsewhere was put aboard the oilers on the line by all ships being serviced, and the shuttle schedule of oilers between Ulithi and the fueling area provided a steady flow of mail in both directions.

After the capture of air fields on Okinawa, mail was flown in, but fleet oilers continued to deliver most of the passengers and freight. Mail handled by the air bases on Okinawa during the operation ran to figures as follows: April, incoming 322,819, outgoing 174,886 pounds; May, incoming 541,406, outgoing 564,000 pounds; June, incoming 418,161, outgoing 504,855 pounds. Parcel post and second class was not delivered at sea, though Rear Admiral J. J. Clark, commanding Task Group 58.1, felt that with the number of service ships meeting fleet units under way, the important morale-building influence of mail should not be limited to first-class and air mail.

Passengers and Replacement Personnel. Both officer and enlisted passengers ordered to specific ships and commands were transferred in much the same manner as mail, except that personnel often arrived on all the ships of a shuttle unit. This necessitated a great deal of errand running by destroyers and much rigging and unrigging of breeches buoys for "at sea" transfer until the men finally reached their destination in the fleet.

During the first 6 weeks of Okinawa, until the fast carriers began returning to Ulithi for rotation, approximately 40 unassigned enlisted personnel came out in each tanker. Most of these men held rates; the commander of the task group being serviced was notified of the number and ratings available in each oiler for transfer. The greatest demand, however, was for nonrated men, and not enough were available. Supply of replacement personnel at sea marked the beginning of what was hoped to be the culmination of an effort to keep ships engaged in extensive combat operations at full battle strength. Nonrated men, along with radio technicians, shorthand yeomen, and radiomen constituted the greatest need.

Between 14 March and 27 May fleet oilers carried to the objective 13,501 bags of mail, 1,064 officer and enlisted personnel-passengers, and 988 replacement enlisted personnel. From 28 May to 11 June the figures were 1,897 bags of mail, 176 passengers, and 44 replacement enlisted personnel.

Rear Admiral Beary, on the basis of experience gained during the Okinawa campaign, made recommendations concerning mail, passengers, replacement personnel, and freight services, indicating that the activity forwarding mail to the operating area should be made informa-

tion addressee on all dispatches concerning changes in composition of task groups of the fast carrier forces. Offices of activities handling mail, personnel, and freight must, he said, maintain close liaison with operations to avoid misdirection. Second-class mail should be forwarded for delivery at sea, as receipt of magazines and packages decidedly improves morale. Where possible, personnel under orders to specific ships or commands should be grouped aboard oilers in the same manner as mail. Finally, Service Squadron Six should be an addressee on regular dispatches to post offices concerning holding or forwarding of mail in the forward and objective areas.

Movie-Exchange Facilities. Commander Service Squadron Six did not run a movie exchange in the true sense of the term. However, he did afford ample opportunity to trade films between ships. The *Detroit*, flagship of the Logistic Support Group, carried from 15 to 25 prints available always for exchange. The stock of pictures was continually renewed and expanded by the frequent shuttles of oiler groups, together with shipments of more than 30 new prints to the support group from Service Squadron Ten. These were divided among the task groups of Task Force 58.

And thus did Service Squadron Six still further develop the Navy's logistics afloat.

CHAPTER XXIX

Support Activities at Leyte-Samar

Service Squadron Ten Main Body Moves to San Pedro Bay—Naval Bases on Leyte-Samar—Reorganization of Service Squadron Ten—Dysentery in Fleet Anchorage—Service Force Pacific Absorbs Service Force Seventh Fleet

THE WAR DIARY of Commander Fifth Fleet for 18 March 1945 contains the following notation regarding fleet support as action moved westward:

“CinCPac advised ComFifthFleet that . . . development of the Leyte-Samar Naval Base will proceed as a matter of highest priority to replace Ulithi prior to the advent of the typhoon season; a major portion of ServRonTen and principal advanced base facilities will be retained at Ulithi until May and then transferred to Leyte-Samar . . . facilities at Ulithi ashore and afloat will be maintained for the support of merchant shipping, escorts, and occasional combatant units.”

Following this, much earnest investigation, discussion, and thought were expended in determining the best anchorage area for Service Squadron Ten in the Philippines. The Gulf of Leyte was a very exposed area for the barges, boats, docks, and other paraphernalia of the squadron, yet it did not have open sea room enough for craft which would get under way to ride out a blow. Casiguran Bay on the east coast of Luzon seemed ideal in many ways. It was well protected by four- and five-hundred-foot hills to seaward—big enough, yet narrow enough, to prevent the forming of heavy swells. A survey party was sent to make a complete report on it, and as luck would have it a lone Japanese plane made a pass at the vessel. When this was known the balance of high opinion turned against

using it, and San Pedro Bay in the Gulf of Leyte was selected, notwithstanding the favoring of Casiguran by Commander Fifth Fleet and Commander Service Squadron Ten. This decision was influenced considerably by the fact that we were already committed to building a large shore base on Samar in the Gulf, and did not want to divert any Seabees to Casiguran to construct an airfield there. The squadron commander felt that a jeep carrier could furnish the necessary cover, but it was felt by the high command that none could be spared. So the fleet anchorage was to be San Pedro Bay, Leyte.

For the first half of May there was an average of slightly more than 600 ships at Ulithi. Service Squadron Ten units kept busy servicing them. Dry provisions were issued by the concrete *Lignite* and other provisions ships and from three merchant ships—the *Cape Ducato*, *Midwest Farmer*, and *Cape San Blas*. Fresh and frozen came from the merchantman *Matchless* and the *Lignite*, while the *Quartz* issued general, small, and canteen stores. Many ships were served by the ammunition department, cargoes were consolidated, torpedoes overhauled, the *Amador* and *Bluefield Victory* made available for general issues at Leyte, the *Shasta* reloaded for Task Force 58, and 11 LST's sent to Kerama with bombardment ammunition.

Maintenance work continued at its usual heavy schedule. The repair ship *Ajax* made damage repairs to the *Tennessee*, the heavy-hull repair ship *Jason* made repairs and alterations on the *Missouri*, and other maintenance vessels, including the *Mindanao*, *Tutuila*, *Vulcan*, and *Hector*, carried their usual load. Merchant tankers arrived from the coast and the Panama Canal; fueling the fleet was a continuing job in port. Navy tankers came from at-sea fueling with remnant loads to be consolidated, and to have their tanks refilled from the merchant tankers, which sailed for more as soon as empty. The drydocks docked a never-ending stream of vessels, inspecting and overhauling sea valves, making rudder repairs, adjusting and repairing sound gear, and doing miscellaneous underwater work. The units included four 3,500-ton floating docks, *ARD's-15-18-23* and *25*, the 1,900-ton *AFDL-32*, and the 1,000-ton *AFD-17*.

In the midst of all that activity, towing convoys were prepared for transporting non-self-propelled equipment from Ulithi to San Pedro Bay. This also meant adjustment in scheduling of services after the departure of that equipment. The hooking-up of tows was not so worrisome and tedious this time as it had been at Eniwetok, for now more towing bridles, wire, swivels, and the like were on hand and more tugs

were available. The first towing convoy left Ulithi 7 May in 10 strings, each tug towing two service units, all valuable. It arrived in San Pedro Bay 13 May, the convoy commander, Commander G. S. Higginbotham of the U. S. S. *Albert W. Grant*, reporting the voyage "completed without incident, the weather clear except for light squalls, wind gentle to moderate, sea calm." This was ideal weather for the ungainly tows, for though the voyage was not so long as from Eniwetok to Ulithi, it was 900 miles at about 6 knots through waters even more dangerous from typhoons and enemy.

On 19 May another towing convoy departed—9 towing vessels with 2 service units each, 18 in all; 4 hotel barges, 3 concretes, a 3,000-ton ARD, a 1,000-ton drydock, 2 repair barges, an oil barge, and 6 barges of food and other stores. All reached the new base safely. Accompanying the tows and acting as retrievers in case of breakdowns or as dispatch boats for transfer of sick or emergency purposes were 4 YTB harbor tugs. There were also 2 garbage lighters, 1 gasoline barge, 1 oil barge, and 1 degaussing vessel. All arrived safely 24 May at San Pedro Bay.

Just as our towing vessels were more numerous and towing gear more plentiful than formerly, so our mooring facilities in Leyte were better. Captain S. B. Ogden, Squadron Ten's Representative A at Leyte, reported in his war diary for 22 May "considerable harbor work done in laying moorings and boat strings to receive boats and non-self-propelled equipment of Service Squadron Ten expected to arrive this area within a few days."

On the 21st, 10 merchant provision ships arrived from Ulithi, and on the 25th, 22 supply and ammunition ships and 5 merchant vessels.

On 27 May 15 more ships arrived from Ulithi, among them several of the big tenders and repair ships. Service Squadron Ten was almost ready to take on its full load again after transfer of its main body to a new base, without ever completely stopping service.

On 24 May Commodore Carter with some of his staff left Ulithi in the *Ocelot*, the former *Yomachichi*, built at Tampa in 1919 and taken over by the Navy and commissioned 2 October 1943 as a barracks ship. Before leaving, Carter designated Captain O. A. Kneeland, commanding the destroyer tender *Prairie*, as Representative Commander Service Squadron Ten at Ulithi and Administrative Senior Officer Present Afloat, to supervise activities there.

The *Ocelot* had one of the early Diesel installations and was not too reliable. At first all went well, but on the evening of the 27th the lubricating system of her main engine broke down and she dropped speed



The Ocelot—“Spotted Cat”—Carter’s flagship.

from 10.5 to 7.6 knots. At 9:20 p. m. she had to stop to repair No. 2 cylinder of the main engine, and after 20 minutes went ahead at 8.6 knots. At 2:05 a. m. she stopped again because of loss of lubricating-oil pressure and for an hour lay to, a sitting duck for any roving Japanese submarine that might have chanced upon her.

With the exception of the 100 percent cooperation of her officers and crew, it can be said here that the *Ocelot* was hardly the vessel the squadron commander would have chosen for his flagship. Commander Service Squadron Ten had the largest staff afloat in the Pacific, with several hundred ships and floating equipment under his operational control. The ship had been fitted out for flagship duties as far as her limited space and antique design permitted. The very large amount of radio and visual signal traffic the service job required had taken up much space topside and in the superstructure for radio and coding rooms, to say nothing of the berthing space required for personnel. The squadron commander, a group of his key staff officers, and their enlisted men took up more space. The flag office was in the forward hold. While it had some extra ventilation, it was not good, and at times personnel employed there had to knock off and go up on deck for fresh air. There was no clear deck space of any consequence topside, and the berthing spaces of everyone, including the senior officers, were small and hot. Though far from adequate, she had to be used. The squadron commander had to work with the tools at hand.

To lie broken down and wallowing at sea between Ulithi and Leyte was not a situation the high planners had visualized. The squadron commander, whose quarters adjoined the main exhaust, had been getting his sleep to the "huff and puff" accompaniment of the old engine, and it was not too restful. Now that the engine had stopped for repairs, a few minutes sounder sleep seemed likely. It was at this time, however, that the messenger of the officer of the deck reported the mishap and asked for instructions. The squadron commander's satirical reply to this almost unanswerable but sleep-disturbing query was "Get out the oars!" Somehow the sweating engineers patched up the damage, and after wallowing an hour, the *Spotted Cat*, as she was dubbed because of her camouflage, got underway again, reaching San Pedro Bay the next day.

Naval-Base Plans, Leyte-Samar Area. After three days of bombardment by Navy ships and planes, the initial landings had been made on Leyte Island in the face of light enemy resistance the morning of 20 October 1944. Within 24 hours, Tacloban, provincial capital of the province, and its adjoining airstrip had been secured. On the morning of the 22d, naval

headquarters for shore-based naval activities had been established in Tacloban in buildings which, prior to Japanese occupation of the island, had been the provincial hospital. Naval personnel were temporarily housed in abandoned warehouses fronting the municipal docks, and in houses in the hospital area.

Carefully worked out plans for the naval base in the area proved useless when it was discovered that about 80 percent of the land allotted to the Navy was swamp and rice paddies. An entirely new location had to be sought. Reconnaissance on foot and from the air revealed that the beach area from Basey, Samar, west, directly across San Juanico Strait from Tacloban, contained considerable acreage of promising land. By the time negotiations were completed for securing this section from the Army, the 75th and 105th Construction Battalions had landed at Tacloban. Their removal across the Strait was necessarily slow and laborious. By early November the rainy season had set in in earnest. Soil conditions were the worst imaginable; any kind of rock or gravel surfacing material was nonexistent. Commodore Angas, in charge of the 3rd Construction Brigade, visited the area and said that the mud was "even worse than Camododo," the south coast of Milne Bay where in developing the base 400,000 cubic yards of sticky water-soaked gumbo had been moved.

By mid-November it was evident that the rains would soon bring construction to a standstill. Jeeps, trucks, bulldozers, and other mobile equipment bogged down and frequently had to be abandoned because of the mud. Up to this time the Army had been able to develop only one satisfactory airstrip on Leyte, on Cataisan Point. Rear Admiral Wagner, Commander Aircraft Seventh Fleet, present in the seaplane tender *Currituck*, was insistent that a naval airstrip capable of taking heavy bombers must be built in the Gulf area as an absolute tactical necessity. The urgency of providing proper naval air facilities prompted an engineering reconnaissance of the southeastern peninsula of Samar, the Guiuan district, which was reported to have an abundance of live coral available for surfacing and road construction. The report of this reconnaissance was so encouraging that Wagner requested that construction of the airstrip begin immediately. It was also recommended to Commander Seventh Fleet that major naval-base construction be transferred to the same area.

On 9 December Admiral Kinkaid concurred, issuing a general order to that effect. Construction in the San Antonio-Basey district of Samar was abandoned and construction battalions camped there moved to the

Guiuan Peninsula as rapidly as possible. Subsequent survey parties developed the availability of Manicani Island for ship repair facilities, and of Calicoan Island for construction of docks and warehouses.

This complete change of plans made it evident that the main naval activities would be centered in the Guiuan region, but because of the limited number of anchorages in close proximity to it, it was equally apparent that a majority of the fleet units would continue to anchor in San Pedro Bay. Because of this it was decided to build limited naval facilities in Tacloban to provide some kind of service for them.

On Christmas Day, 1944, Commander Seventh Fleet established the U. S. Naval Operating Base, Leyte Gulf, and designated Captain S. B. Robinson as temporary commandant. On the same day naval activities around Guiuan were specified as U. S. Naval Station, Samar, with Captain R. M. Fortson as commanding officer. Naval activities in the San Pedro Bay area, including San Antonio, Samar; Tacloban, Leyte; and Tolosa, Leyte; were designated as U. S. Naval Shore Facilities, with Commander R. C. McIlvaine commanding officer. The airstrip on Guiuan was officially named Naval Air Center, Captain J. M. Shoemaker commanding.

The Naval Operating Base, Leyte Gulf, was to be a major base in the Philippines, so equipped and operated as to provide effective and adequate support and service to United States and Allied naval forces operating in that theater: As a subordinate commander of Service Force Seventh Fleet, the commandant was directed to conduct and supervise in the Leyte Gulf area general services to the Seventh Fleet and attached units. To insure full coordination of all logistic facilities both afloat and ashore, they were placed under the commandant's operational control. He was designated Commander Task Group 72.7.

Support of Seventh Fleet Operations. The war diary of Commander Service Force Seventh Fleet records that "Planning for the Lingayen operation, the largest invasion in the Philippine area, was begun as early as October 1944 . . . Initially, the invasion force was to be supplied from New Guinea and the Manus bases, with resupply established on a regular schedule from Leyte, Mindoro, and Lingayen in the days immediately preceding and following the invasion. In addition it would be necessary to fuel at sea practically the entire transport groups and their screens. These plans were all predicated on a target date of 20 December. However, the target date was later changed to 9 January, causing some slight modifications to the original plans. These modifications largely resulted in greater use of Leyte as a logistic and staging center for the operation,

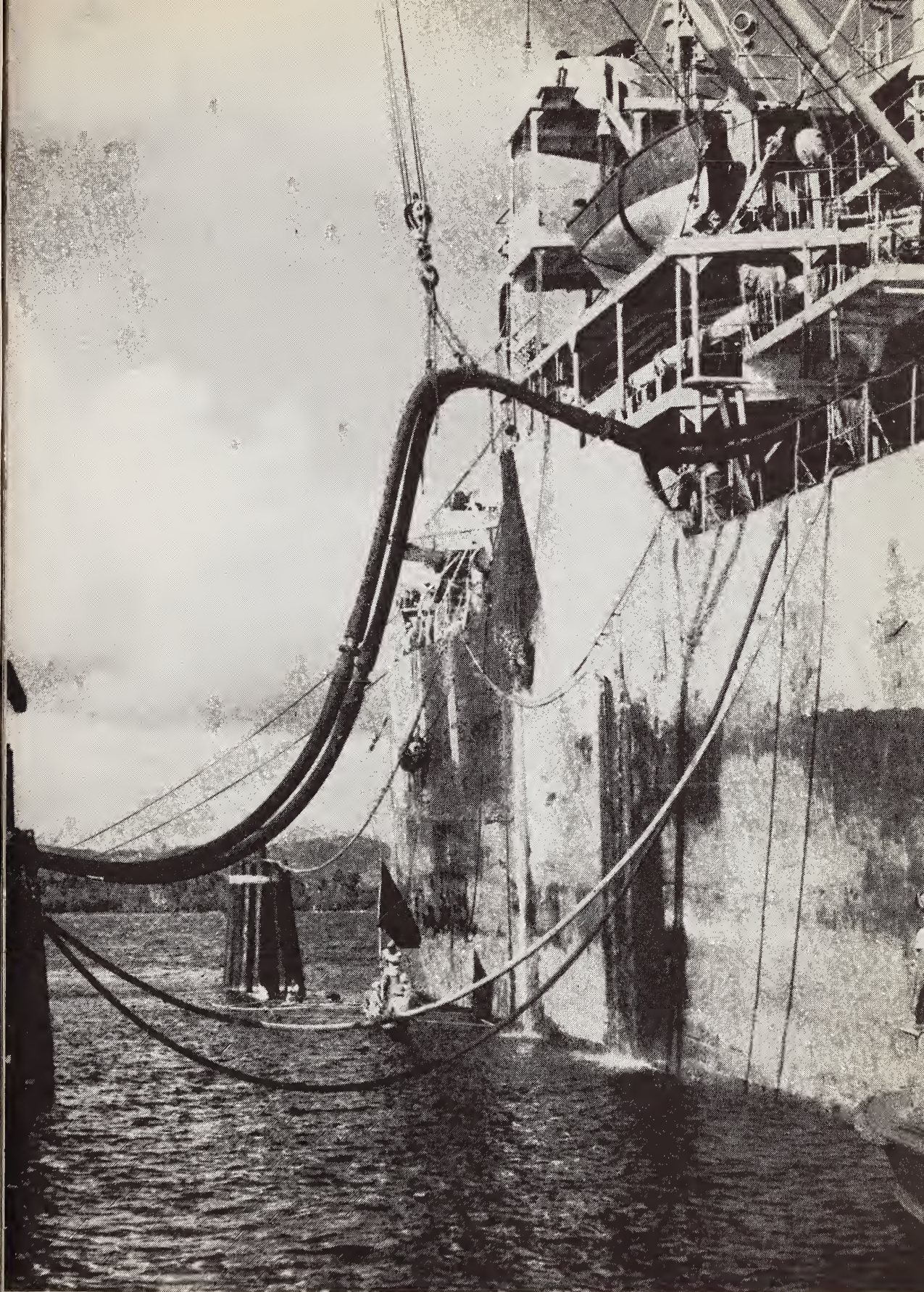
but did not affect the intactness of the service force units previously set up to handle the logistic requirements of the operation. These merely remained at anchor, completely loaded, waiting for the new date. On 5 January these units started moving within the Philippine area. On 9 January the invasion took place and its success was immediately assured."

These are quotations to be remembered, for it is quite apparent that notwithstanding the plans for big base development and its mission, at the end of 2 $\frac{2}{3}$ months after the Leyte landings the facility was still of so little use to the fleet in its greatest amphibious operations to date as to be negligible. Had entire dependence for logistics rested upon the shore base facilities, the assault would have had to be postponed to a much later date. Fortunately the floating mobile logistics were available.

On 22 February 1945, Captain J. H. Jacobson—promoted to commodore 14 April—assumed command as Commandant, Naval Operating Base, Leyte Gulf. During the month, construction throughout the Gulf had pushed ahead though handicapped by weather, lack of construction-battalion personnel, and insufficient material and equipment. Progress on the airstrip was satisfactory. Transient personnel, as well as ship's company personnel, continued to present a problem in housing, but makeship arrangements made it possible to provide some sort of shelter for all coming ashore. Assignment of the barracks ships *APL-17* and *APL-19* to Leyte Gulf proved of great aid in relieving the berthing situation at this critical time.

Welfare and Recreation. The fleet recreation facilities in Leyte Gulf were used to the full during June. The presence of numerous units of the Third Fleet—battleships, cruisers, carriers, and escort forces—increased the liberty parties beyond all previous records. At both San Antonio and Osmena Fleet Recreation Centers the fleet, to avoid congestion and yet give as many men as possible an opportunity to get off their ships, scheduled liberty parties in two shifts. The first arrived at 9 a. m. and left the area at noon; the second arrived at 1 p. m. and left at 5 p. m. San Antonio averaged 18,000 men daily, Osmena 26,000. The peak load at the new commissioned officers mess at Macarata was 4,000 officers.

Water. Ships watered at Balusao, on the northern coast of the Gulf. Here the fresh-water line was run out on piling to deep water, where a set of mooring dolphins permitted mooring for vessels loading water. The water itself was good and plentiful, but getting it was frequently attended by maneuvering difficulties. When getting clear of the dolphins with an offshore wind the tendency was for the stern to foul the



The Ponaganset loading fresh water at Balusoa Water Point, Samar.

dolphins or catwalks as the bow blew off. Nevertheless, in the week of 6 July 1945, 9,000,000 gallons of water were furnished from this source.

Construction of naval facilities throughout the area continued. There were 3,111 officers and 49,424 men shore based on 15 April and 4,055 officers and 58,167 men on 1 May. In May the big floating drydock *ABSD-5*, stationed at Manicani Island, began limited operations. On 10 June LST's 630 and 597 were the first ships docked at Samar in the *YFD-21*.

At Naval Station Samar, where Captain S. B. Robinson relieved Captain R. M. Fortson as commandant on 25 March, during June 88,977 long tons of cargo were discharged from War Shipping Administration vessels and 24,672 tons from Navy ships, a total of 113,649 long tons, while 74,309 long tons were loaded into ships and craft of all types. At Tacloban 2,106 tons were discharged and 544 loaded, a total handling for the area of 190,608 long tons.

When June ended there were 3,783 officers and 67,793 enlisted men at shore-based activities in the area, of which 2,831 officers and 58,604 men, including Seabees, were at the Naval Station, Samar. The anchor section had 645 officers and 2,626 men. Other naval shore facilities, including some Seabees and Receiving Station, took the remainder—307 officers and 6,563 men. The number of men ashore was not, however, a factor of usefulness. The Leyte Gulf development, most of which, as planned, was to be at Samar, on Manicani, and Calicoan islands and vicinity, was never of great usefulness to the fleet, which depended principally on floating facilities. In all fairness it should be said that this great shore development might have been worth its cost many times over if the war had continued and the Japanese had fought the invasion of their homeland foot by foot for another year or more. Might have been! If enemy action, typhoons and other unforeseen disasters had been great and the floating facilities suffered from them, the huge base and repair facilities might have developed to high worth. The plans included a huge supply depot requiring many acres of covered and open storage, needing three cargo piers 500 feet long, one 500-foot pontoon pier for seven cargo ships, and a jetty for five LCT's. The cold storage included twenty-four 6,800-cubic-foot refrigerators.

Facilities included a major destroyer repair base, ship repair department, wharves, berths for large floating drydocks, and a system of both fresh- and salt-water lines on Manicani Island. Near Guiuan was a large 3,000 bed hospital, a large receiving station, and the biggest motor-torpedo-boat base yet built. In addition to all these and many lesser

facilities, there were the airfield—which was always worth its cost—a very large amount of harbor improvement, and an advance base construction depot covering 80 acres for material to be used in still more bases. A tremendous amount of road was constructed, together with miles of piping and wiring for sanitary and electric systems.

Of all these facilities, involving so many men and so much effort and money, perhaps the one most necessary—or to put it more positively, the only one positively necessary except the airfields—was the great ABSD, the floating drydock for our biggest ships. After the battleship *Mississippi*—anchored off Hagushi Beach to bombard the Okinawa Japanese—was hit on the starboard quarter above the blister, she was put into the dock for repairs; a 33,000-ton fighting ship expertly repaired, almost at the scene of action, many thousand miles from her home port. Nearly 40 years had elapsed since such a thing had been done in the Philippines. The last time was when the old battleship *Wisconsin* (10,000 tons) was cared for in the famous Dewey drydock, and whose tow out to the Far East made naval history early in the century.

Reorganization of Service Squadron Ten—Service Force Pacific Absorbs Service Force Seventh Fleet

In preparation for strikes to be made in November 1945 against the Japanese homeland it was planned to base major fleet units at Eniwetok and in Leyte Gulf. The former had been a rear operating base ever since the fleet had based at Ulithi, but now with the prospective raiding and harrying of Japan's home coasts it was decided that Eniwetok was the place on which to base the fast carrier force, since it was not only just as near the objectives as Leyte but would relieve the strain of large concentrations there, was pretty well out of the typhoon belt, and would make a shorter haul for commercial tankers from California and Panama. A new and larger service detachment was set up at Eniwetok in July 1945 to take care of this carrier force. A considerable expansion of its floating logistic activities was cut short by the enemy's surrender.

Many of the landing and assault vessels were to be staged and based in the Marianas and at Okinawa.

The projected November operations were on such a vast scale, and the amounts and needs of the fleet were becoming so great, that it was first proposed that in addition to Service Squadron Six for at-sea supply,

A
B
C

two new service squadrons be established in the forward areas. These were to be independent in their assigned responsibilities and in dealing directly with any fleet commander in their fields of action. Consideration was also given to a northern invasion and a basing in the Kuriles. It was felt by some that the distance separating northern from southern activities would be too great for the commander of the service squadron to administer logistics properly in both spheres simultaneously; therefore another service squadron should be formed for the northern zone and put under an independent commander.

The Commander Service Force Pacific pointed out that some of the detachments of Service Squadron Ten were already separated by hundreds of miles but nevertheless operated successfully. Accordingly, the scheme was dropped for what appeared to be a better plan; namely, keeping Squadron Ten as over-all administrative organization with cognizance of all service-force activities afloat in the forward areas, but establishing subordinate operating units to be known as service divisions in place of the detachments then under Squadron Ten. There were four as a starter, with provision for additional ones if needed later. It was decided that Commander Service Squadron Ten should have besides his personal staff, administrative officers for supply, squadron operations, personnel, ammunition, medical, maintenance, and communications. Internal organization of each service division was to follow the general plan outlined for the squadron, each division commander having a staff consisting of a chief staff officer, supply, operations, personnel, ammunition, medical, maintenance, and communications officers, and a flag secretary. With such an arrangement Commander Service Squadron Ten instead of being tied to one specific location would be free to move, in his own flagship if he wished, from one anchorage or port to another, thus more closely following the logistics of all areas. This was the main advantage of the new organization which, after freeing the squadron commander from administrative duties at any one location, did not greatly differ from the previous organization except in names and titles.

The over-all mission of the squadron remained unchanged. On 1 July 1945 the new organization went into effect and the service divisions were actuated. Prior to this, Representatives A, B, C, and D had been located respectively at Leyte, Kerama Retto, Saipan, and Ulithi. Upon the arrival at Leyte from Ulithi of the main body of the squadron under Commodore Carter, the detachment under Representative A had been absorbed by the main body, and some members of the representative's staff had been detailed to form a nucleus staff for the detachment being

built up at Eniwetok. Captain. J. V. Query had been chosen as chief staff officer there.

The term "representative" had not been in wide favor. It had been adopted to give the officer in charge of a detachment a mail address. The alphabetical designation, though not perfect, was better than one involving a geographical location or Navy mail number, for as the war progressed and the representative and his detachment moved from place to place, a geographical identity or mail number might have involved confusion or delays in routing mail and freight. A place name in the title was also undesirable from a security standpoint. Though "representative" sufficed as an early term, it was not a proper title for a naval unit; the term "service division" was. The directive from Commander Service Force U. S. Pacific Fleet, dated 4 June 1945, ordered the new organization put into being, and it continued under his over-all administrative command. It was under the immediate supervision and operational control of Commander Service Squadron Ten, who in turn was a task-group commander under the fleet commander to whom he was assigned by Admiral Nimitz. The four Service Divisions were 101, 102, 103 and 104. The detachments, excepting the one at Ulithi, were changed to divisions as previously stated, each with a flag officer, his staff with needed additional personnel and equipment absorbing and complementing the current organizations.

Service Squadron Ten in July 1945 in preparation for its coming gigantic logistic mission was constituted as follows: Commodore W. R. Carter in the *Ocelot*; Commander Service Division 101 (Commander Task Unit 30.9.1), Commodore E. E. Duvall, Jr., also in the *Ocelot* in Leyte Gulf; Commander Service Division 102 (Commander Task Unit 30.9.2), Commodore J. T. Acuff, who assumed duty 5 July 1945, in the *Argonne* at Eniwetok. Commander Service Division 103 (Commander Task Unit 30.9.3), Captain H. A. Houser, acting, in the *Luzon* at Saipan) Commodore Henry Hartley relieved him 21 July); and Commander Service Division 104 (Commander Task Unit 30.9.4), Commodore T. J. Keliher, in the *Hamul* at Okinawa. No service division was assigned to Ulithi, and the title "Senior Officer Present Service Squadron Ten," with code word for Ulithi, was given the commanding officer of the *Prairie*, Captain F. S. Gibson, who was acting in logistic matters for Commander Service Squadron Ten.

One of the first problems under the new organization was to get the squadron commander a flagship and separate his staff from that of Service Division 101, for the principal officers of each occupied the same

flagship, which handicapped both organizations by limited facilities and crowded space. Furthermore, the squadron commander was not yet free to go where he felt he was needed, which was one of the principal purposes of the reorganization. Some trained key men had to be drawn from Service Squadron Ten for use in Division 101, and in order to maintain efficiency some corresponding departments in both had to be held united until each had sufficient personnel and space to operate effectively alone. Coming at a time when such big efforts were in the making, this was particularly annoying to the squadron commander, who was anxious to have a smoothly working routine well started before it was necessary to support the fleet in Operation Olympic, the intended invasion of Japan.

The flagship problem was not confined to the squadron commander. Two of the division commanders occupied vessels handicapped in their servicing by the congestion caused by the presence of the staffs; and because of the congestion, the staffs were not at proper efficiency. Exactly how this situation would have been overcome had the war continued was never answered. Doubtless a solution would have been found. At the time of the surrender the old submarine tender *Holland* was being made ready as one flagship, though not an ideal one. She was really too valuable as a ship supplying services to be given over entirely to administrative duties. Other ships probably would have been chosen and assigned in time to meet conditions, even though at first some fretting was done.

In addition to the heat, normal logistic work and preparation for the "big show," the summer of 1945 brought more worry in the form of an outbreak of dysentery on ships in San Pedro Bay. A survey reported on 5 July that 956 cases had been treated during the previous 2 weeks and apparently cured, but that 715 were still under treatment, a total of 1,671 cases in 92 ships, with one death on the hotel barge *APL-18*. All vessels were put on a strict regimen. The following were some requirements: chlorination of all unboiled water for drinking or washing; sanitary control by medical officers over food and food handlers; no use of harbor water for cleaning purposes (which included washing down decks); and no swimming from alongside the ships.

On 1 August at Leyte 29 ships reported 839 cases of gastroenteritis. Although diminishing, this was still 8 times more serious than the estimated norm of 100 cases. Six days later, with 1,400 ships present, 29 reported 599 dysentery cases. This relieved anxiety over a condition which had appeared on some of our large ships such as the large cruiser

Alaska and the *Mississippi*. The former reported 423 cases of this painful inflammation of the lining of stomach and intestines. The *Mississippi* had been quarantined 31 July and released 12 August. Between these dates she continued her training under way in exercises in the Gulf and Philippine Sea for radar calibration and drone and sleeve target practice. It was logical that the better the training and the more men trained, the better a shortage due to illness could be borne. On 19 August there were 451 cases on 29 vessels, indicating a continued downward trend. By the end of the month, while still present in the Leyte area, dysentery was apparently under control. There were no more deaths.

During the first part of August the water of San Pedro Bay was foul. Large areas were covered by a mixture of garbage, trash, oil, and boxes, the latter a potential danger to propellers and the hulls of lightly constructed craft. This condition probably had some relationship to the epidemic of dysentery. Of the 1,400 ships of various types present it is estimated that 1,050 required garbage and trash service; that is, if the refuse was not to be dumped overboard. This service could not be supplied, and consequently large amounts did go overside. Though the anchorage was very large, the relatively slight tidal movement of the water was not much help in carrying away the stuff. Only 3 garbage lighters and 3 LCT's were available, and as each had to make a 100-mile round trip per load, the situation for a time was uncontrolled. An estimate of the essential service called for 14 additional garbage lighters and 10 additional LCT's which were not available.

The digression made here on the subject of dysentery is because of the influence of health on military operations. The spread of the disease during July and August, and the possibility that it might adversely influence future operations, concerned fleet and unit commanders. Everyone remembered the case of the repair ship *Ajax* during the previous summer, with 195 of her men affected and two deaths. She was sent on 9 September 1944 to Kwajalein, where she remained until 10 October, her services lost to the fleet. Fortunately this was not serious at that time. Later at Okinawa the situation called for every repair facility available, yet still we could not keep up with the battle-damage rate. The coming invasion operations would use every man and resource available, and any serious loss through dysentery or any other epidemic might be more disastrous than enemy action.

Service Force Pacific Absorbs Service Force Seventh Fleet. Following the reorganization of Service Squadron Ten, the Service Force Seventh Fleet was reconstituted as Service Squadron Seven of Vice Admiral W. W.

Smith's Service Force Pacific Fleet, while remaining under Admiral Kinkaid's Seventh Fleet operational control. At this time Service Squadrons Three, Four, and Nine, formerly echelons of Service Force Seventh Fleet, were dissolved and reestablished as Service Divisions Seventy-one, Seventy-two, and Seventy-three, respectively, under the newly constituted Service Squadron Seven.

CHAPTER XXX

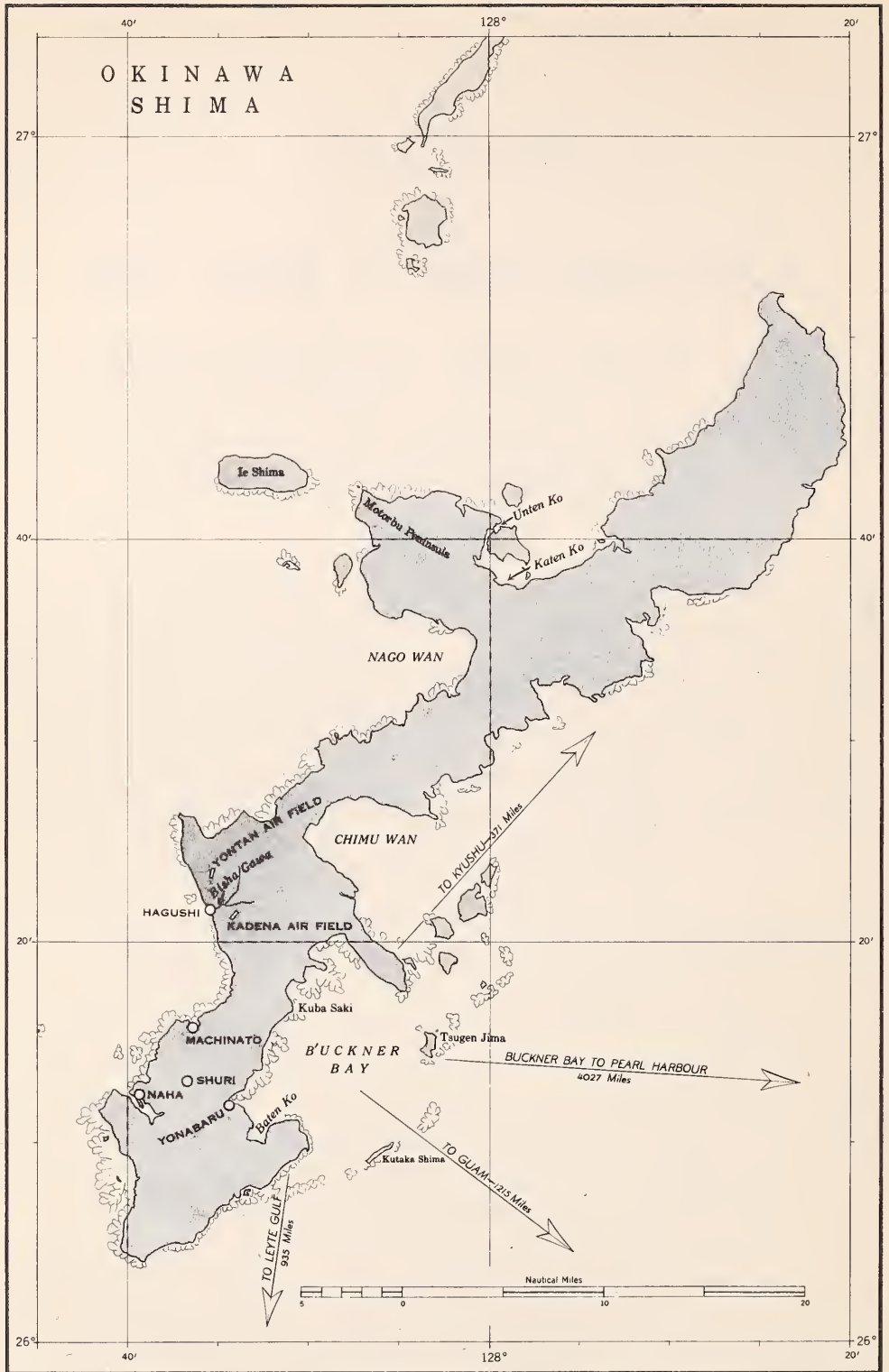
Okinawa After 1 July 1945

Operations Under Service Squadron Twelve—The Move to Buckner Bay and Service Activities There the Remaining Days of the War

ON 1 JULY 1945 the new organization previously mentioned was inaugurated within Squadron Ten, whereupon Captain Rhoads at Kerama Retto ceased to be known as Representative B and became Commander Service Division 104. Rhoads, who had been Representative B of ComServRon Ten since June 1944, had been recommended for command of the division but the powers could not see it, and Commodore Keliher was ordered to the job. Meanwhile Rhoads, in the destroyer tender *Hamul*, his flagship, continued administering the logistics of the division until relieved by Keliher at Buckner Bay on 13 July. This bay was Nakagusuku Wan, east side of Okinawa, renamed in July for Lieutenant General Simon Bolivar Buckner, killed in the fighting.

Between 1 July and the abandonment of Kerama Retto as the main floating base of Service Division 104, activities in the Okinawa area were interesting and varied. Unloading of aircraft mines from the cargo ship *Mayfield Victory*, Lieutenant Commander N. H. Olsen, was completed in 3 days, 3 to 6 July. Relatively few ships received ammunition during the first week of July, tapering off to three on the 8th and none on the 9th, as service division ships moved to Buckner Bay.

Besides the many repair jobs continuing by dock, barge, and ship, new ones were added. The *Zaniab*, Lieutenant Commander Henry Mayfield, made voyage repairs to a destroyer, did boiler work on the tanker *Whippet*, and battle-damage repairs for the destroyer escort *Halloran*. The landing-craft repair ship *Poseidon*, Lieutenant E. M. Davis, made bow-door repairs on *LCI-807*, and other work, principally voyage repairs, on *LCI's*, *LCS's*, and a *PC*. The *Hamul*, Captain G. C. Hoffner, repaired



Okinawa Shima.

destroyer, escort, mine-layer, and seaplane-tender classes, including extensive battle-damage repairs to the destroyer *Badger*. Battle-damage repair ship *Aristaeus*, Lieutenant Commander J. K. Killen, repaired battle damage to the destroyer *Shubrick*. By smart execution of repairs on destroyers, escorts, light mine-layers, LSM's, IX's, the *Waco Victory*, and the *Luxembourg Victory*, the destroyer tender *Cascade*, Captain H. K. Gates, made her usual splendid contribution. Lieutenant Commander S. N. Davis' battle-damage repair ship *Nestor* made voyage repairs for a destroyer, an LST, an AK, PC's, and an AM, in addition to repairing battle damage to the seaplane tender *Kenneth Whiting*, Captain R. R. Lyons, which had been attacked 21 June at Kerama Retto by a suicide plane that crashed about 40 feet from the port side of the ship. The plane disintegrated violently upon impact, and its engine was hurled into the side of the ship, causing some damage, though not serious enough to force the tender to cease operations.

Provisions and Dry Stores. On 1 July the light cruiser *St. Louis* and escorts, on a brief visit to Kerama Retto, were supplied with provisions and stores. The same day the food ship *Athanasia*, Lieutenant D. M. Paul, discharged in a 15-hour period chilled, frozen, and dry cargo amounting to 756.5 tons to 11 units, including the cruiser and the large seaplane tender *St. George*. On the 2d she issued 411.9 tons to the *Cascade*, *Hamul*, and *Wythe*, and the 3d 110.8 tons to various ships including 11 LSM's, 5 LCI's, and 11 LCS's. The merchant ship *Musa* had arrived 1 July with 2,100 tons of fresh provisions and on the 2d the *Polaris*, Commander J. A. Stansbury, brought 1,650 tons of fresh and 2,000 tons of dry provisions, 150 tons of ship's store stock, and 75 tons of medical supplies. On the 3d Captain Rhoads' diary shows that the battleship *Nevada*, escorts, and screen were supplied with provisions and dry stores. The *Nevada's* account states that she fueled from the *Elk*, Lieutenant R. H. Weeks, completing her oiling and replenishment within 6 hours and leaving the same day. By the 6th the *Athanasia* had discharged all but 11 tons of dry provisions in her cargo, and left for Pearl Harbor to reload, returning via Ulithi with fresh, frozen, and dry provisions for fleet issue, reaching Buckner Bay 4 September.

From 1 to 5 July the ships daily present in the Kerama Retto anchorage numbered slightly more than 300. This tapered off with the approaching move to Buckner Bay. On the 9th only 90 ships remained. From the 4th to the 8th, Task Force 39, Rear Admiral Sharp's mine-craft, was busy mine-sweeping and training, and some of the units received logistic services. Besides his local duties at Kerama Retto, Captain

Rhoads records in his war diary the dispatch of the *Athanasia* on the 3d to Hagushi, of the general stores ship *Castor* on the 4th to Buckner Bay with approximately 25 percent of her original cargo, and the *Musa* to Ie Shima with 1,408 tons of fresh provisions.

Fuel and Water. Four tankers—the *Elk*, Lieutenant R. H. Weeks; *Camel*, Lieutenant M. H. Parson; *Whippet*, Lieutenant Commander C. R. Stuntz; and *Arethusa*, Lieutenant R. L. Barrington—took active part in delivering oil and gasoline at Kerama Retto. Fresh water and petroleum products were also being supplied at Hagushi and Buckner Bay. The gasoline tanker *Kishwaukee*, Lieutenant J. V. Scott, on the 1st was at Buckner Bay issuing Diesel and lubricating oil, and on the 5th went to Hagushi on the same mission. Water was most important, especially to small craft which had no distilling apparatus. The gas tanker *Tombigbee*, Lieutenant A. O. Ashland, on the 1st delivered 84,000 gallons of fresh water to LCI, LCS, SC, and LCT types at Hagushi and on the 3 succeeding days 92,700, 141,650, and 39,350 gallons. After reloading from the water-carrying oiler *Soubarissen*, Commander W. H. Fogarty, by taking 536,698 gallons on the 8th, she returned to Hagushi. Captain Rhoads' diary for 2 July records that "1 BB, 8 DD, 3 DM, 2 DE, 2 APD, and 6 smaller type vessels were fueled. U. S. S. *Niobrara* arrived with cargo of 67,000 barrels of Navy special fuel, 5,000 barrels of Diesel and 375,000 gallons of avgas and the usual deck cargo loads of drummed lube, cylinder gases, ammo, provisions, and medical supplies." On the 8th the move of facilities to Buckner Bay began with the sailing of the station ships *Camel*, *Narraguagas*, *Wabash*, and *Arethusa*.

Service Squadron Twelve; Bowditch Survey. Another important activity was that of Service Squadron Twelve, and particularly that of the *Bowditch*, a survey vessel. She prepared Buckner Bay for use by our forces. Commodore L. S. Fiske, commanding Squadron Twelve, had the task-group designation of Commander Task Group 94.2, a subdivision of Commander Task Group 94, Vice Admiral Hoover, Commander Forward Area Central Pacific. Commodore Fiske's operation plan in part was phrased: "This force will survey, clear, and develop harbors, seaplane runways, and anchorages in the Central and Western Pacific as required in order to accommodate berthing of vessels and seaplanes supporting island and fleet activities."

U. S. S. *Bowditch*. Assisting the *Bowditch*, Commander H. C. Behner, were the YP's 41 and 56 and other small craft. On 29 March she anchored at Kerama Retto, and though engaged in the ordinarily peaceful occupation of surveying, on 1 April she was in battle readiness, actually

firing on enemy planes on the 2d, 3d, and 7th. Between these encounters she continued her surveying, her attendant craft, boats, and shore parties conducting tide and current investigations and installing aids to navigation, her office force producing temporary charts of the immediate locality and making preparations for surveying the general Okinawa area.

On 18 April she left Kerama and 6 hours later anchored in Nakagusuku Wan, which henceforth will be referred to as "Buckner Bay." On the 19th she went to Chimu Wan to conduct surveys to develop that anchorage, including a detailed survey of possible landing beaches and pontoon dock sites. Certain navigation aids were constructed, the artisans of survey vessels being highly skilled in that sort of work. But it was not all peaceful work. On the 29th the record shows she "splashed" a Japanese plane referred to as a "Judy" (single-engine Navy torpedo bomber), and later she was in combat with other enemy planes on three occasions. During peacetime, survey ships were painted white, had no armament, and their sole mission was to determine accurately and plot correctly the rocks and shoals—in short, to make the sealanes safe for navigators. But here we have the survey ship armed with all the guns she could carry while still doing her work, with the same mission, the same desire to do a precise job, but doing it while defending her very existence and that of her brood.

On 12 May the *Bowditch* arrived at Buckner Bay and began the survey there by building navigation beacons, carrying the triangulation network from Chimu Wan to these stations. A tie was made to a Japanese marker on Kutaka Shima for which a geodetic position to the nearest hundredth of a second was available. A company of Marines landed with and protected the survey party on Kutaka Shima, as that island was then not occupied by friendly forces. During June, surveys at Okinawa continued, with the *Bowditch* unit on the east and the *Pathfinder* unit, commanded by Lieutenant Commander F. L. DuBois, on the west coast. On 3 June while anchored in Buckner Bay the *Bowditch* shot down another Japanese plane, bringing the total to four for this operation, and on the 4th sank a small boat carrying four Japanese, killing one and capturing three. These combat incidents occurred in the midst of building signals and the actual triangulation of Buckner Bay and wire dragging of Chimu Wan. The writer cannot refrain from recalling his own experiences as commander of a survey ship during peacetime, and noting the disparity of the conditions. During this month of June the ship's office accomplished considerable chart work. Besides printing and distributing 2,000

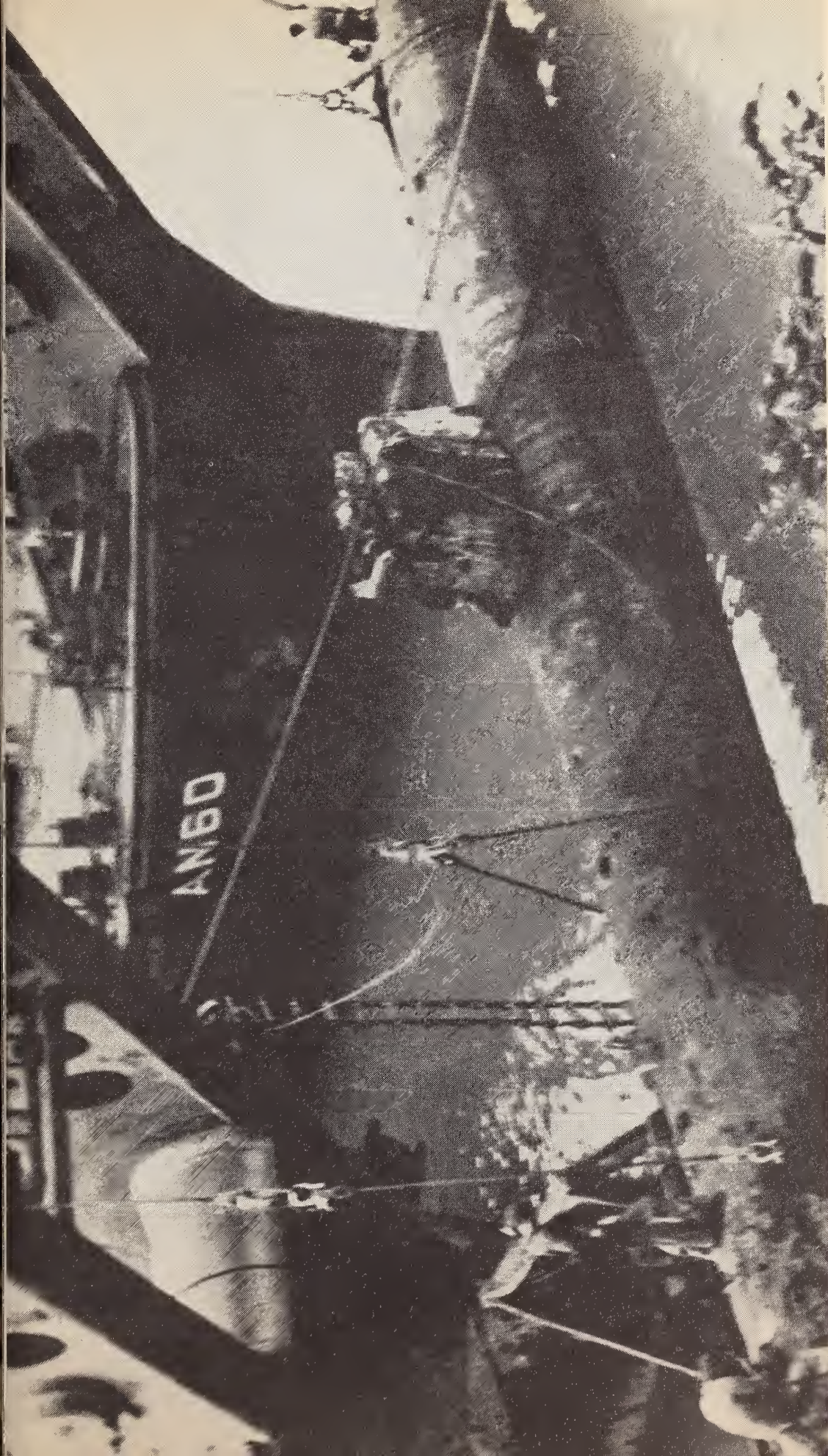
copies of Hydrographic Office Field Chart 2031 of Buckner Bay, the *Bowditch* printed field charts of Chimu Wan, Kerama Retto, Okinawa, and adjacent islands, and tide diagram, a total of 14,500 charts. She made a fine war record for a survey ship.

In July the priority project, second only to that of Chimu Wan, was the hydrographic development by wire dragging and sounding of an area in northeastern Buckner Bay, north of Tsuken Shima, the site of the proposed seaplane base. Rough water, the presence of numerous coral heads, and rapidly changing tides made it difficult to drag the area at the specified depth of minus 10 feet.

Dredging and Navigation-Aid Operations. Commodore L. S. Fiske, Commander Service Squadron Twelve, reported working conditions at Okinawa as fair in June. Few difficulties were experienced with bad weather, but many hours were lost because of heavy swells, preparation against expected typhoons, and frequent alerts for air raids. The transport *William Ward Burrows*, Commander H. A. Ellis, reached Okinawa at the beginning of June, discharging more than 3,500 tons of equipment and working stores for the naval construction battalion. The battalion personnel immediately began construction of the main camp near Baten Ko, on the southern extremity of Buckner Bay. On the 20th the 20-inch steam suction dredge *Sacramento* arrived under tow and was "unboxed" and made ready for operating. Besides these vessels there also arrived in June three LCT's, one rescue tug, the salvage tug *Anchor*, four dredge barges or scows, and two buoy tenders—the *Balsam*, Lieutenant H. T. Hendrickson, USCG, and the *Woodbine*, Lieutenant J. A. Anderson, USCGR.

Three clamshell dredges, the *YD-69* and two pontoon Whirleys, began work 1 June and during the month removed 88,921 cubic yards of material. Of this total the *YD-69* took 51,200 cubic yards from the site of a fuel pier at Katchin Hanto in the Bay. Whirley No. 3 worked there also, removing 21,849 cubic yards from the site of Boat Pool A Section Base. Number 15 Whirley, operating on the western side, dredged 15,872 cubic yards from the small-boat channel at Bishi Gawa.

Sounding sketches of the Baten Ko and Yonabaru areas of Buckner Bay were made and distributed, and a channel on the southeast shore was surveyed and buoyed for emergency discharge of LST's and other landing craft. The net layer *Sweetbriar*, Lieutenant Paul Lybrand, buoyed channels and shoals in Buckner Bay, Chimu Wan, and Naha Harbor on the west coast. Buoyage of Buckner Bay was 90 percent completed by the planting of 20 additional buoys. In the middle of the month the



Raising a Jap midget by net layers.

Sweetbriar went to the west side of Okinawa, completed temporary buoyage of Naha Harbor, and returned to Buckner Bay with a full load of Japanese buoy material salvaged from Naha. It was through the painstaking efforts of the *Bowditch* and her survey crews, with the subsequent work of Service Squadron Twelve in clearing, dredging, and installing navigational aids, that the safe entry into the normal occupancy of Buckner Bay was possible as one of the new fleet anchorages and the location of the floating logistics of Service Squadron Ten's Division 104.

The Move to Buckner Bay. Captain F. A. Rhoads, since 17 May charged with logistics at Kerama Retto, began to move his service ships by sending four fuel units—the *Camel*, *Narraguagas*, *Wabash*, and *Arethusa*—to Buckner on 9 July, continuing next day with the *Whippet*, *Ponchatoula* YW-88, and *Cuyama*. Because of the transfer of activities to the new anchorage, no ships were rearmed on either the 9th or 10th. On the latter date the food ship *Polaris*, which had been resupplying forces afloat at Kerama Retto since the 2d, moved to Buckner Bay with the destroyer tender *Hamul*, Captain Rhoads' flagship, and all other vessels with the exception of seaplane tenders. Transfer of Division 104's fueling units was completed with the departure of the *Elk*, *Brazos*, YO-112, and the water tanker *Soubarissen* for Buckner Bay. The *Alkes* went to Hagushi to discharge dry provisions to forces there. The *Bridge*, with 893 tons of fresh provisions and 836 of dry, and the *Palisana*, with 1,720 tons of fresh, arrived in Buckner Bay. The *Athanasia* left for Pearl to reload provisions and the gasoline barge *Tombigbee* arrived to load water from the *Soubarissen*. The ammunition department serviced two ships, balanced the load of the *Mayfield Victory*, and unloaded the LST's 868 and 865 into the *Luxembourg Victory*. For the maintenance department repair ships, a destroyer tender, floating drydock, battle-damage, and a landing-craft repair ship undertook voyage, battle damage, and incidental repairs. The ships present on 10 July under operational control of Commander Service Division 104 numbered 78. Operations at the new location had commenced.

Service at Buckner Bay During Remainder of War. With the transfer of the main body of service units from Kerama Retto and the establishment on 10 July of the new logistic base in Buckner Bay, Service Division 104 continued to contribute very substantial support to current operations under trying conditions. Though Okinawa was officially declared to be "secure" as of 21 June, it was still harassed by the enemy from the air and our ships were continually molested by alarms of air raids or actually damaged by suicide attacks. The typhoon menace, with

its hindrance of logistic operations or actual storm casualties, was ever present.

Our task forces were still rampaging in the general vicinity in covering, sweeping, antishipping, and bombardment operations. For such forces it was highly desirable that they be supported nearby instead of returning to Ulithi or Leyte. No detailed account of the incessant activity is necessary, for the fueling, provisioning, watering, and other supply accomplishments have all been told before, with vessels of all types shuttling back and forth and combat units dashing in and out as operations required. In the midst of this an expected typhoon caused Commodore Keliher to warn all ships to prepare to go to sea to ride it out, and on 18 July he issued a detailed typhoon sortie plan. Next morning at 5:48 the sortie began. After the storm passed the ships came back into Buckner Bay, and on the 21st a busy period began in satisfying their logistic needs.

Vice Admiral Oldendorf's Task Force 32 entered with its gunfire and covering force, and mine craft and supply activities, especially fueling, reached a peak of efficiency. Commodore Keliher reported in his war diary one of the busiest fueling days in the area. More busy days followed. One rather unusual service was rendered by the *Enoree*, Lieutenant Commander E. L. Jurewicz. Early in July she had gone to Ulithi, reloaded alongside the merchant tanker *Skullbar*, and returned to Buckner Bay to service the large cruiser *Guam* and other fleet units. On the 26th, besides her fueling duties, she unloaded five 27-ton pontoon barges for the *LSM-329*. Her 160-ton derrick enabled her to do this easily. The *Niobrara* was similarly equipped, so besides being fine tankers both ships were very useful in making heavy lifts. Later—5 August—the *Enoree* lifted the 105-ton *LCT-591* from the deck of the *LST-534*.

On the 24th the cruiser *Denver* came in and went alongside the tanker *Celtic*, Lieutenant A. N. Michaelson, for fuel, and next day took ammunition from 2 Victory ships (*Mayfield Victory* and *Monroe Victory*) and *LST-555* before departing for another antishipping sweep off the China coast. Five days later, on the 29th, the cruiser *Montpelier* came alongside the *Chotauk* and took 159,778 gallons of fuel. Her commander, Captain W. A. Gorry, reported for 30–31 July that the nights at anchor were disturbed by intermittent "flash reds" from SOPA and OTC (Officer in Tactical Command); "All ships ordered to commerce making smoke in an effort to blanket the harbor." The atmosphere of working conditions in Buckner Bay is also expressed in the diary of the internal-combustion-engine repair ship *Mona Island*, Commander K. F. Horne, which

contained the entry that "during July 834 job orders were completed on 138 vessels," and that work had been interrupted by 21 air raids.

One of Commodore Keliher's branch activities was at Hagushi on the west coast of Okinawa. Here the tanker *Armadillo*, Lieutenant J. B. Hewgley, relieved after 24 July by Lieutenant Commander M. R. Myer, acted as station tanker for fueling and supplying water and lubricating oils to small craft in the area. Her fore and aft peak tanks, with a total capacity of 70,000 gallons, were used for water, so necessary when servicing small crafts. Her cargo capacity for Diesel fuel was 65,000 barrels. Commander Service Division 104 maintained a fuel representative in her. His responsibility was administration of all local fuel, water, and lubricating-oil matters.

At Buckner Bay a special activity made necessary by suicide-plane attacks was the making of smoke to obscure ships at anchor. As has already been pointed out, this became so important and widely used that fog oil and smoke generators formed significant items in logistic planning. Maintaining generators in proper working order became so essential that at Buckner Bay during July the battle-damage repair ship *Nestor*, Lieutenant Commander S. N. Davis, was assigned the collateral duty of acting as smoke-generator repair unit. She was also very active in her principal duties, her record for July showing voyage repairs to 80 ships; battle-damage repairs to an attack transport, the *Marathon*, and the merchantman *Allison*; collision repairs to *LST-107*; and installation of new engines in submarine chaser *SC-632*.

Nearing the End. Though the threat of enemy suicide planes was always present, the number of interruptions due to this menace was diminishing. However, the forces of nature were still to be reckoned with, and August began with the weather imposing its will upon current operation in the form of a typhoon. In obedience to a typhoon plan issued by the senior officer present, ships sortied from Buckner Bay on 1 August to avoid or ride out the storm in the lesser danger of the open sea. Some of those interrupting their work and leaving port were: the repair ship *Aristaeus*, Lieutenant Commander J. K. Killen, which suspended voyage and battle-damage repairs; the gasoline tanker *Wabash*, Lieutenant Micklethwaite, which stopped fueling light mine units; the tender *Hamul*, flagship of Commander Service Division 104, which cast off destroyer types (alongside undergoing repair); the cargo vessel *Rutilicus*, Lieutenant Commander H. O. Matthiesen, ceased discharging fleet issue cargo; the oiler *Enoree*, did no more fueling of larger ships and got under way and took position in a group of 37 vessels cruising in 3 columns;



News of the surrender of Japan.



Celebrating the good news.

the tender *Cascade*, interrupted her overhaul work to sortie, with the U. S. S. *Supply*, U. S. S. *Nestor*, and 7 merchant ships protected by 5 escorts.

Typhoon sorties were made at other Okinawa anchorages. The *Bridge* suspended cargo operations and left Hagushi. From Chimu Wan sailed the seaplane tender *Norton Sound*. On 3 August the majority of the ships which had cleared because of the typhoon returned, and service units immediately resumed their logistic tasks. The *Niobrara*, Commander R. C. Spaulding, having loaded 12,898 barrels of Diesel oil at Ulithi from the *Spring Hill* and 527,392 gallons of aviation gasoline from the *Kern*, Lieutenant Commander R. G. Malin, entered Buckner Bay. On the 5th she fueled the destroyers *Dale*, *Dewey*, and *Farragut*. On the 6th she gave 50,059 barrels of fuel oil to the station tanker *Celtic*. The same day she pumped into the escort carriers *Makin Island* and *Lunga Point*, respectively, 3,223 barrels of fuel plus 25,992 gallons of aviation gasoline, and 3,611 barrels of Diesel oil. The food ship *Latona*, Lieutenant Commander N. W. Landis, entered Buckner Bay on the 4th, began fleet issue of provisions, and continued until the 7th, when she commenced unloading her cargo into the *BRL-3071*, a 1,000-ton refrigerated provision storage barge.

The Memorable Tenth of August. Activities in the various anchorages and areas of the Pacific were continuing as usual when 10 August (eastern longitude date) rolled around, looking like any other day. Then, after supper time, radios blared out the news that all our people in the Pacific had hoped for but which few had dreamed would come so soon—news of the Japanese surrender. The enemy was willing to accept the terms of the Potsdam treaty. This news was repeated by a San Francisco radio station many times without change of wording, so that there could be no doubt that those overseas would be informed. The effect was electrifying! Jubilation spread almost instantaneously. There was unrestrained raiding of the pyrotechnic lockers at fleet anchorages. In San Pedro Bay, Leyte Gulf, where more than 1,200 ships were anchored, countless rockets—red, blue, white, and green—were joyfully and freely shot into the night sky. Probably never before had there been anything to compare with the illumination.

This was the end of the war! There might be a few more suicide attacks, possibly, as some thought, from failure of the peace news to reach all enemy units through the badly crippled Japanese communications system. Precautions were taken against possible acts of treachery also. Captain J. B. Griggs, of the light cruiser *St. Louis*, in his war diary

reported that "each night, 13-16 August, in accordance with Commander Task Group 95.3 dispatch, the task group got under way to avoid any surprise enemy attacks, and retired to eastward of Okinawa, returning to Buckner Bay each morning."

With the month of August came an end of more than 3 years and 8 months of arduous and sometimes desperate fighting in the Pacific. The end of hostilities was officially ordered on 15 August.

Termination of hostilities brought a change in logistic requirements, which for a time tended to increase rather than decrease the work of the supporting units. Fuel and food were still needed, plus a larger demand than before for heavier clothing for occupation forces to be sent to Japan. The tremendous supply of ammunition was no longer drawn upon, but there was immediate demand for paint, polish, scrubbing gear, and boats. So, at Buckner Bay and elsewhere, the Service Divisions carried on. Though enemy action no longer threatened, there was still the threat of weather to be reckoned with in the daily scheme of things. The typhoons came and did a lot of damage, particularly at Buckner Bay, where it had been foreseen that the risk would be great. Storms struck on 16 and 28 September and on 9 October at this appropriately named "typhoon crossroads." While considerable information about Okinawa typhoons was available before Buckner Bay was chosen as a fleet anchorage, the necessity for a staging point for the planned Japan invasion, and the size of anchorage required to accommodate the tremendous number of ships to be used, turned the scale in favor of Okinawa and its risks. The typhoon of 9 October was very damaging to both floating and shore equipment. The elaborate land-based facilities—hospitals, ammunition and fuel storage, repair shops, receiving station, operating base, and recreation base—were well advanced when the gales roared in and practically none escaped heavy damage. In the harbors several ships were lost, among them the old Service Squadron Ten flagship *Ocelot*, previously damaged on 16 September. The October storm took the remaining lives of the "old Spotted Cat."

CHAPTER XXXI

The Giant Takes off His Armor

Surrender—Changes in Logistic Services—Getting Back Toward Peace Routine—Pipe Down

AUGUST 1945! Orders to cease fire were transmitted to the Pacific Fleet and to all other units under the command of Admiral Nimitz almost immediately after President Truman's announcement on the 15th that Japan had accepted our surrender terms. On the 16th Nimitz sent a dispatch assigning Service Squadron Ten, with Service Divisions 103 and 104, to the Fifth Fleet, Service Division 101 to the Seventh Fleet, and Service Division 102 to the Third Fleet. With Japan's surrender some changes were to be expected, but this sudden overnight split-up to three different fleets—what could it mean? The answer was merely the preliminary assignment as task groups to the three fleets concerned in the invasion plans. It had ground through regular channels and come out almost simultaneously with the "cease fire!"

On the 25th Admiral Nimitz modified these orders slightly by designating Service Squadrons Ten and Six to operate under Commander Service Force Pacific Fleet for the occupation. Service Squadron Ten was further directed to provide mobile services to the Ryukyus, Marianas and Marshalls-Gilbert area, and Leyte. This did not differ greatly from what it had been doing most of the time. Service Squadron Six was directed to provide replenishment at sea. Commanders of Service Divisions 101, 102 and 103, with their staffs and vessels, could be moved forward at the discretion of the commanders of the Seventh, Third, and Fifth Fleets respectively.

Commodore Carter had been ordered by the Bureau of Naval Personnel to a continental hospital as a possible cancer case. The orders were very displeasing to Carter, who having been in the Pacific war during and ever since the Pearl Harbor attack wanted to stay and see the

job through. But in spite of his objections based upon his disbelief in the suspicion (later, back in the United States, it was determined that the original suspicion was erroneous as several specialists in the Pacific had also held), the transfer was effected, and on 29 July Rear Admiral Allan E. Smith relieved Carter as Commander Service Squadron Ten.

Despite the impairment of all its functions and that of the service divisions by reason of their lack of suitable flagships, all staffs, on abandonment of Operation Olympic for invasion, concentrated upon organizing for occupation of Korea, China, and Japan. Service Division 101, to go forward to Korea in accord with orders from Commander Seventh Fleet, turned over its duties and responsibilities at Leyte to Service Division 72, Captain J. D. Beard. On the 20th the heavy repair ship *Jason*, Commander E. F. Beck, of Service Division 101, was sent to Jinsen, Korea, via Buckner Bay, and was followed in a few days by the Division Commander, Commodore E. E. Duvall, Jr., in the destroyer tender *Sierra*. About the end of the month other units of Service Squadron Ten began to move forward to zones to be occupied in accordance with assigned tasks of the different fleets. On the 28th Commander Service Division 102 departed from Eniwetok with his staff and many of his vessels to take up his duties in Tokyo Bay.

So began a wide spread in logistic facilities to meet the requirements at many occupation points. Rear Admiral Smith, in the *Ocelot* at Leyte 1-9 September, went to Buckner Bay and on the 18th shifted his flag to the cargo transport *Antares*, shifting again on the 25th to the old submarine tender *Holland*, in which he went to Tokyo Bay where he found Commodore J. T. Acuff, Commander Service Division 102, with his flag in the destroyer tender *Piedmont*. Later Acuff shifted back to the *Argonne*.

Commodore Henry Hartley, Commander Service Division 103, in the command control ship *Campbell*, was a few days in Leyte getting established aboard before going to Buckner Bay, where he spent 12 days, then went to the Wakayama area.

Commander Service Division 104, Commodore Keliher, in the destroyer tender *Hamul*, remained at Buckner Bay, which was a place of much activity on the part of fleet units of all types.

The problems of the next few months were troublesome. First came demobilization and the problem of how to carry on in spite of the loss of the most experienced and valuable men. The high-point officers and men were those of longest service and consequently the best qualified to fulfill the post-war mission in occupied areas, but they were the first to be sent home. Logistic support vessels had to be sent through and

operated in regions where typhoons were frequent and violent, with winds of 86 miles an hour and barometer readings as low as 28.44. Officers and men had to be assigned to naval base occupation units, special Japanese yen currency for Korea had to be obtained and distributed to naval personnel, and the types and schedules of supply loads had to be changed and shifted about to fit the occupation plan.

On 1 October Service Squadron Six was dissolved and its duties and responsibilities taken over by Service Squadron Ten. The latter's commander, Rear Admiral Smith, was hospitalized on 5 October and relieved by Rear Admiral F. C. Denebrink, who broke his flag in the *Holland* 20 October.

Five days later Admiral Denebrink began a tour of the important places where Service Divisions 103, 101, and 104 had logistic facilities, to make a thorough examination of each division's problems, with adjustments on the spot so that maximum service could be provided with a minimum of men and ships. On these visits he and his staff obtained first-hand knowledge of existing trends and of anticipated deficiencies.

On 29 October the locations and operations of the four service divisions were:

(a) 101 furnished logistic support for the Seventh Fleet and fulfilled normal obligations to assigned forces ashore in the jurisdictional areas of that fleet. Its major bases were Jinsen (Korea), Shanghai and Hong-kong; its minor bases were Fusan (Korea), Taku and Tsingtao, both in northern China.

(b) 102 furnished logistics at the main fleet base in Tokyo Bay. Some smaller facilities remained at Eniwetok for the replenishment and repair of ships in transit. Eniwetok, however, was in process of being rolled up.

(c) 103 supported units in Japanese waters west of Tokyo and south of latitude 40° N. The major facilities were fairly well divided between Sasebo and Wakayama, while minor ones were operated at Nagoya, Matsuyama, and Kure.

(d) 104 at Okinawa was assigned approximately one-half of the total repair and supply facilities of Service Squadron Ten to handle local and fleet logistics, including typhoon damage and salvage work.

Service Squadron Ten also maintained minor units at Ominato, Saipan, Ulithi, and Leyte. The one at Ominato was originally allocated to Commander North Pacific Forces, but authority was requested and obtained to make these a component of Service Squadron Ten, as they should have become when the North Japan Force (ex-North Pacific) became a

component of the Fifth Fleet. At Leyte a reduced activity was maintained to carry out ammunition directives, while facilities at Ulithi were gradually being rolled up.

Some of the high points of the continuing problems may be illustrated by the activities of Service Division 101. The maintenance department was seriously handicapped by the reduction of skilled personnel in not only its own repair units but in fleet units as well. This reduced the output of the tenders and repair ships to an estimated 30 percent of the peak wartime standard. Less than one-third as much work could be done. Of course there was no battle damage to repair, but the handicap was great nevertheless. About half the loss was due to the lowered efficiency of the skilled mechanics of tenders and repair ships. The other half was the result of a combination of factors, such as the shortage in numbers of skilled men, the great scattering of the ships, and some delay in material supply because the urgency of war was gone. An added load to normal supply was the urgent requirement of replenishment for the mine-sweeping vessels of the Fifth and Seventh Fleets operating in the Formosa-South China area. Before that was completed Commander Service Division 101 was informed of plans involving the shifting of Chinese armies from Shanghai and South China ports to North China for the occupation of Manchuria. This necessitated the conversion of six LST's into horse transports. On the whole, the horse lift can be called successful. Of 2,000 horses transported, only 3 died. As one healthy colt was born en route, the net loss was 2. When occasion arises, American sailors can be horse wranglers, or just plain wranglers. Re-deployment of supply, fuel, and water equipment was required at Tsingtao, Shanghai, and Hongkong to meet the logistic requirements of the vessels transporting Chinese troops, horses, and equipment.

Then up came the problem of obtaining quickly the winter clothing to outfit vessels diverted to North China. Another problem was a supply of anti-freeze fluids. However, after a bookful of dispatches, quantities of these items were received, and by the end of a month the supply was ample.

Personnel. The port of Shanghai was a very important place in personnel traffic, the focal point from which replacements of men and officers were distributed to all ships operating in Japanese Empire waters. During November 300 officers and about 3,000 enlisted men were transferred to the United States for separation from the Navy. Every ship leaving the China area for home was loaded to capacity with passengers, which resulted in very few being on the waiting list.

There was difficulty in obtaining qualified replacements for men eligible for discharge. Nearly three-fourths of the replacements being sent out to China were nonrated men; of the rated remainder there were insufficient repair and engine-room ratings. This made it advisable to urge all ships to start intensive training programs to prepare these non-rated men to fill jobs left vacant by discharges. All personnel transactions were handled afloat, as there were no shore-based facilities for doing this work. With the shortages came a drop in efficiency, as already stated. It was distressing to those in command positions, used to doing things in prompt and thorough fashion, to see the deterioration of fine equipment from neglect and improper use. Equipment costing much money to provide in the first place, and much to repair or replace, was being wasted. But the harsh years of war with their death and destruction were over, the giant was doffing his armor, and to Americans it seemed time for family reunions regardless of gear and equipment. "To hell with it! We'll make some more and better if we ever need it. Home and family and friends again! That's different. Every day lost from them is lost forever. We are no Roman legions to stay away a hundred years; no, not even a hundred minutes longer for all the equipment in the Navy if I can catch the next transport!"

Thus was Denebrink, fortunately for the Navy one of its ablest officers, left holding the bag. To his everlasting credit, he did an outstanding logistic job at a time when the bottom was nearly out of the bag. But service, nevertheless!

Pipe Down

The broader meaning of logistic service afloat had for years been repeatedly brought up in naval circles, but the attention given by the majority of the influential during peace had been slight. Then came war! With hostilities spread over such tremendous areas of the Pacific, it seemed almost as if with the change of name of the *Base Force* to *Service Force* in those early tough-going days of the war, that the broader concept of logistics service began to sprout. But, whatever the reason, sprout it did, and it grew, first under the cultivating guidance of "Uncle Bill"—Vice Admiral William L. Calhoun, Commander Service Force Pacific Fleet—and later under that of Commodore Alan G. Quynn, his chief of staff. It grew until finally the question of what facilities a port or anchorage had was not vital. If we wanted to use that place, we sailed

in with the necessary logistics afloat ready for service. Even with the demobilization handicap which confronted Denebrink, the Navy carried on in those far distant places, so well had we learned the lesson of "beans, bullets, and black oil," afloat.

List of Commanding Officers

THE following is a list of commanding officers of the principal vessels which were engaged in logistic work under Commander Service Force Pacific. Numerous tugs and other small craft did routine service in a very satisfactory manner. The names of their commanding officers however are not included. Patrol Craft (PC's, SC's, PCE's, etc.) are not listed here. They were under the administrative command of the Service Force Pacific and were detailed from time to time to operations connected with the fleet. In those protective duties they were very valuable.

Many sources were searched in compiling this listing and every effort made to have it as accurate as possible.

Floating Drydocks (Large) *(ABSD)*

- 1 CAPT A. R. Mack
CAPT R. C. Parker
- 2 COMDR J. J. Rochefort
COMDR W. R. Lawrence
- 3 COMDR A. B. Kerr
- 4 COMDR A. L. Karns
- 6 COMDR G. B. Wait
- 7 CAPT E. F. Robinson

Destroyer Tenders (AD)

- 3 DOBBIN
CAPT H. N. Williams
CAPT S. Y. Cutler
CAPT J. T. Warren

4 WHITNEY

- COMDR N. M. Pigman
- COMDR C. Campbell
- CAPT G. B. Parks
- CAPT C. D. Swain
- COMDR K. H. Nonweiler

9 BLACK HAWK

- COMDR G. L. Harriss
- COMDR E. H. McMenemy
- COMDR C. J. Marshall

14 DIXIE

- CAPT G. H. Bahm
- CAPT R. H. Hillenkoetter
- CAPT G. H. Lyttle
- CAPT A. L. Hutson

15 PRAIRIE

- CAPT O. A. Kneeland
- CAPT F. S. Gibson

16 CASCADE

- CAPT S. B. Ogden
- CAPT H. K. Gates

- 17 **PIEDMOND**
 COMDR M. D. MacGregor
 COMDR F. L. Robbins
- 18 **SIERRA**
 CAPT P. B. Koonce
 CAPT E. R. Runquist
- 19 **YOSEMITE**
 CAPT G. C. Towner
- 20 **HAMUL**
 COMDR C. C. Hoffner
- 21 **MARKAB**
 CAPT L. B. Farrell
 CAPT A. L. Prosser
- 34 **ALCOR**
 COMDR J. W. Millard

Ammunition Ships (AE)

- 1 **PYRO**
 CAPT N. Vytlačil
 CAPT R. L. Boller
 COMDR A. B. Dickie
 COMDR S. J. Reiffel
- 2 **NITRO**
 CAPT F. Trimble
- 3 **LASSEN**
 CAPT S. Mills
 CAPT D. R. Osborn, Jr.
 CAPT K. W. Palmer
 COMDR J. E. Wade
- 4 **MOUNT BAKER**
 COMDR F. D. Hamblin
 COMDR E. B. Perry
- 5 **RAINIER**
 CAPT W. W. Meek
 COMDR R. B. Miller
 COMDR F. S. Conner

- 6 **SHASTA**
 COMDR F. A. Smith
 COMDR W. L. Ware
 LTCOMDR W. H. St. George
- 8 **MAUNA LOA**
 COMDR G. D. Martin
 LTCOMDR K. L. Rawson
- 9 **MAZAMA**
 COMDR P. V. R. Harris
- 10 **SANGAY**
 CAPT W. D. Ryan
 LTCOMDR H. C. Taylor
- 11 **MOUNT HOOD**
 COMDR H. A. Turner
- 12 **WRANGELL**
 CAPT H. C. Todd
- 13 **AKUTAN**
 COMDR R. C. Brown
- 14 **FIRE DRAKE**
 COMDR A. Elb
- 15 **VESUVIUS**
 LTCOMDR F. J. George

Stores Ships (AF)

- 1 **BRIDGE**
 COMDR W. B. Jackson, Jr.
 COMDR E. P. Sherman
 LTCOMDR R. R. Stevens
 COMDR T. N. Saul
 LT O. G. Wickre
- 7 **ARCTIC**
 COMDR C. E. Olsen
 COMDR L. B. Stuart
 LTCOMDR C. R. Frasier
 LTCOMDR L. O. Peterson
 LTCOMDR C. R. Frasier
 LTCOMDR A. A. Fischer
 LTCOMDR L. O. Peterson

- 8 BOREAS
COMDR R. K. Davis
COMDR E. E. Burgess
COMDR C. E. Taylor
LTCOMDR B. G. Dennis
- 9 YUKON
COMDR E. R. Runquist
COMDR A. L. McMullan
- 10 ALDEBARAN
COMDR R. W. Abbot
CAPT J. L. Wyatt
COMDR E. E. Burgess
COMDR S. L. M. Cole
- 11 POLARIS
COMDR H. J. Olsen
COMDR J. A. Stansbury
- 14 URANUS
LTCOMDR E. J. Hackett
LT S. H. Presper
LT A. F. Anderson
- 15 TALAMANCA
CAPT N. W. Bard
COMDR R. C. Moureau
LTCOMDR R. L. Howland
- 16 PASTORES
COMDR H. J. Olsen
COMDR J. D. Matheny
- 18 CALAMARES
LTCOMDR D. R. Phoebus
LTCOMDR L. F. Kengle
LTCOMDR A. R. Myers
- 19 ROAMER
COMDR M. B. De Leshe
LTCOMDR R. P. Oates
- 23 CYGNUS
LTCOMDR W. W. Williamson
LTCOMDR J. T. Baldwin
- 24 DELPHINUS
LT O. M. Mikkelson
LT E. H. F. Buckner
LTCOMDR G. L. Armstrong
LTCOMDR C. R. Armbrust
- 25 TAURUS
LTCOMDR E. T. Collins
LTCOMDR J. M. Gallagher
LTCOMDR A. M. Drake
- 26 OCTANS
LTCOMDR O. J. Stein
COMDR E. H. Doolin
LTCOMDR C. T. Fitzgerald
- 28 HYADES
COMDR M. C. Wheyland
LTCOMDR F. B. Doherty
- 29 GRAFFIAS
LTCOMDR B. P. Caraher
COMDR E. H. Doolin
- 30 ADRIA
LTCOMDR L. W. Borst
LT C. R. Paul
- 32 CORDUBA
LT A. G. Wood, Jr.
- 33 KARIN
LT R. C. Mallon
- 34 KERSTIN
LT H. C. Prichard
- 35 LATONA
LTCOMDR N. W. Landis
- 36 LIOBA
LTCOMDR J. L. Boisdore
LT W. H. Talley
- 37 MALABAR
LT C. S. Rogers
- 38 MERAPI
LT W. W. Wood

- 39 PALISANA
LT R. Weber
- 43 GORDONIA
LT I. V. Chapman, Jr.
- 44 LAURENTIA
LT J. Janus
- 45 LUCIDOR
LT E. L. Lavoy

Floating Drydocks (AFD)

- 3 LTJG C. N. Griswold
- 9 LTJG R. Burns
- 13 CAPT G. H. Lyttle
- 14 LTJG E. L. Jackson
- 15 CARP O. L. Kleckner
ENS E. M. Smith
LTJG R. H. Keidel
CHCARP K. N. Burchfield
CHBOSN R. H. Eckholdt
- 17 CHCARP I. H. Kissinger
- 18 ENS R. N. Bates
- 19 LTJG H. F. Heaton
- 20 CARP R. E. Crow
- 21 LT C. H. Leonard
- 25 ENS H. L. Berube
LTJG L. Barger
- 26 LTJG F. V. Watson
- 27 LT M. W. Rosen
- 28 LTJG C. D. Moore
- 29 LTJG R. I. Fowler

Floating Drydock (AFDL)

- 7 LT H. S. Kellam
- 22 LT H. B. Kinnison
- 23 LT C. W. Robbins
- 32 LT H. W. Teague

Miscellaneous Auxiliaries (AG)

- 12 GOLDSTAR
COMDR D. M. MacKey
COMDR J. U. Lademan, Jr.
LTCOMDR T. J. Shultz
COMDR H. Rawle
- 31 ARGONNE
CAPT W. H. Roberts
CAPT H. A. Houser
COMDR T. H. Escott
- 32 SUMNER
COMDR I. W. Truitt
LTCOMDR I. M. Johnson
COMDR T. C. Brownell
LT D. C. Nutt
- 33 KAULA
LTCOMDR B. L. Rutt
LTCOMDR W. A. Kanakanoi
LTCOMDR E. L. McManus
LTCOMDR E. Hassel
LT D. L. Lindhout
- 41 PANAY
LT C. M. Sturgeon
- 42 CAMANGA
LT F. A. Muller
LTCOMDR J. W. Baldwin
- 44 MALANAO
LTCOMDR J. P. Gately
LTCOMDR H. L. Liberg
LT N. W. Littlefield
- 45 TAGANAK
LTCOMDR V. H. S. G. Holm
LT G. H. Fallesen
LTCOMDR E. G. True
- 46 TULURAN
LTCOMDR F. Isbell
LT A. B. Giles

- 49 ANACAPA
 COMDR A. M. Wright
 LTCOMDR W. C. Ball
 LT D. A. Campbell
 LT R. R. Ford
- 50 KOPARA
 LTCOMDR J. S. Kapuscinski
 LT M. F. Root
 LTJG C. H. Childress
- 68 BASILAN
 COMDR L. A. Parks
- 69 BURIAS
 Lt W. M. Aye
- 70 ZANIAH
 LTCOMDR Henry Mayfield
- 71 BAHAM
 COMDR F. D. Hurd

Surveying Ships (AGS)

- 1 PATHFINDER
 CAPT B. H. Thomas
 LTCOMDR F. L. DuBois
- 2 HYDROGRAPHER
 COMDR W. M. Scaife
 COMDR W. M. Gibson
- 3 OCEANOGRAPHER
 COMDR M. W. Graybill
- 4 BOWDITCH
 CAPT J. H. Seyfried
 COMDR H. C. Behner
- 5 SUMNER
 COMDR I. W. Truitt
 LTCOMDR I. M. Johnson
 COMDR T. C. Brownell
 Lt D. C. Nutt

Hospital Ships (AH)

- 1 RELIEF
 CAPT P. M. Moncy
 COMDR J. B. Bliss
 COMDR J. C. Sever
- 5 SOLACE
 CAPT B. Perlman
 COMDR C. L. Waters
 COMDR E. B. Peterson
- 8 MERCY
 CAPT T. A. Esling
- 9 BOUNTIFUL
 LTCOMDR G. L. Burns
 LTCOMDR P. W. Mallard
- 10 SAMARITAN
 COMDR C. W. Scribner
 COMDR W. A. McCreery
 LTCOMDR A. E. Uber
- 12 HAVEN
 CAPT T. T. Patterson
- 13 BENEVOLENCE
 COMDR C. C. Laws
- 14 TRANQUILLITY
 CAPT M. D. Mullen
- 15 CONSOLATION
 COMDR P. S. Tambling
 CAPT P. G. Beck
- 16 REPOSE
 CAPT W. O. Britton

Cargo Ships (AK)

- 14 REGULUS
 COMDR J. H. Doyle
 COMDR E. Kirby-Smith, Jr.
 LTCOMDR H. B. Johansen

- | | | | | | |
|----|-----------|--|----|------------|---|
| 15 | SIRIUS | COMDR F. A. Rhoads
COMDR H. G. R. Johnson
LTCOMDR V. F. Lucas | 74 | CARINA | LTCOMDR J. I. MacPherson
LTCOMDR B. Koerner |
| 16 | SPICA | COMDR J. W. Long
LTCOMDR F. M. Kiley
LT F. R. Brooks | 75 | CASSIOPEIA | COMDR W. E. Carlson
LTCOMDR R. J. Brooke |
| 17 | VEGA | LTCOMDR W. B. Dell
LTCOMDR F. C. Rice
LTCOMDR V. C. Branan
LTCOMDR D. O. Burling | 76 | CELENO | LTCOMDR N. E. Lanphere
LTCOMDR H. H. Breed
LTCOMDR J. P. Gately
LTCOMDR A. S. Haines, Jr. |
| 22 | FOMALHAUT | COMDR H. C. Flanagan
COMDR P. L. F. Weaver
COMDR C. A. Printup
CAPT R. V. Mullany | 77 | CETUS | LTCOMDR N. T. Gansa
LTCOMDR E. J. Grey
LT C. B. Johnson |
| 41 | HERCULES | COMDR W. H. Turnquist | 78 | DEIMOS | COMDR W. L. Sorenson |
| 42 | MERCURY | LTCOMDR G. W. Graber
LTCOMDR N. D. Salmon | 79 | DRACO | LTCOMDR E. L. Evey
LTCOMDR R. M. Drysdale, Jr. |
| 51 | ARIES | LTCOMDR W. H. Barckmann | 80 | ENCELADUS | LT M. M. Coombs, USCG
LT W. A. Greene, USCG
LT L. R. Freeman, USCG
LTCOMDR V. A. Johnson,
USCG
LT B. R. Mess, USCG |
| 70 | CRATER | LTCOMDR H. H. Hansen
LTCOMDR J. W. Baldwin
LTCOMDR E. L. Evey
LTCOMDR L. W. Borst | 82 | HYDRA | LT E. R. McCotter, USCG
LT E. A. McCammond, USCG |
| 71 | ADHARA | CAPT W. W. Ball
LTCOMDR A. W. Callaway | 91 | COR CAROLI | COMDR O. C. B. Wev, USCG
LTCOMDR F. E. Morton, USCG
LTCOMDR J. A. Lewis, USCG |
| 72 | ALUDRA | LTCOMDR D. E. Collins | 94 | MINTAKA | COMDR L. S. Burgess, USCG
LTCOMDR W. C. Hart, USCG
LTCOMDR M. L. Johnson,
USCG |
| 73 | ARIDED | LTCOMDR J. B. Blain
LTCOMDR A. Elb
LTCOMDR J. J. Hughes | | | |

- 95 MURZIM
LTCOMDR J. E. King, USCG
LTCOMDR D. S. Walton, USCG
LTCOMDR A. DeZeeuw, USCG
- 96 STEROPE
LTCOMDR J. B. Krestensen,
USCG
LTCOMDR L. P. Toolin, USCG
LTCOMDR F. T. Scheidell,
USCG
- 97 SERPENS
LTCOMDR M. J. Johnson
- 98 AURIGA
LTCOMDR J. G. Hart
COMDR W. L. Travis
- 105 NAOS
LTCOMDR N. E. Wilcox
LT P. O. Bornander
LTCOMDR A. M. Alcott
- 106 CAELUM
LTCOMDR E. Johnson
LTCOMDR J. J. Dineen
- 108 ROTANIN
LTCOMDR W. L. Howard
LTCOMDR J. B. Blain
LTCOMDR G. H. Lehleitner, Sr.
- 110 ALKES
COMDR W. H. Wight
LTCOMDR C. L. Wickman
- 111 GIANSAR
COMDR G. J. King
- 112 GRUMIUM
LTCOMDR F. W. Dutton
LTCOMDR B. J. Parylak
- 113 RUTILICUS
LTCOMDR H. O. Matthiesen
- 114 ALKAID
COMDR E. G. Gummer
LTCOMDR A. O. Johansen
- 115 CRUX
COMDR C. R. Beyer
LTCOMDR P. H. Paulsen
LTCOMDR A. L. Steele
- 116 ALDERAMIN
COMDR E. Fluhr
LTCOMDR A. J. Oxley
LTCOMDR H. F. Gumper
- 117 ZAURAK
LTCOMDR J. S. Kapuscinski
- 118 SHAULA
LTCOMDR E. B. Waters
- 119 MATAR
LTCOMDR E. E. Smith
LT H. A. Weston
- 121 SABIK
LTCOMDR H. Corman
LT F. Grime, Jr
LTCOMDR H. Ryder
- 123 MENKAR
LTCOMDR N. P. Thomsen,
USCG
LTCOMDR J. B. Krestensen,
USCG
- 124 AZIMECH
LTCOMDR E. P. Gaither
- 125 LESUTH
LTCOMDR B. H. Bassett
LT R. C. Gilkerson
- 126 MEGREZ
COMDR J. E. Dow
- 127 ALNITAH
COMDR E. J. Youngjohns
- 128 LEONIS
LTCOMDR A. J. Barkowsky
- 129 PHOBOS
LTCOMDR E. R. Winckler
- 136 ARA
LTCOMDR W. B. Hudgins
LT W. H. Jacobs

- | | | | |
|-----|---|-----|---|
| 137 | ASCELLA
LTCOMDR A. Kusebauch
Lt J. B. Blee | 197 | MUSCATINE
Lt W. F. Heyer |
| 138 | CHELEB
LTCOMDR M. S. Clark
Lt A. E. McKimmey | 210 | SCREVEN
Lt I. Stein
Lt J. P. Marzano |
| 139 | PAVO
LTCOMDR M. W. Verran | 221 | KENMORE
LTCOMDR O. H. Pitts |
| 140 | SITULA
LTCOMDR D. F. Anderegg
LTCOMDR L. H. Higenbotham | 222 | LIVINGSTON
COMDR L. J. Alexanderson
LTCOMDR F. W. Dutton
LTCOMDR R. F. Menge |
| 156 | ALAMOSA
LTCOMDR K. C. Ingraham
LTCOMDR G. Zimmerman
LTCOMDR W. C. Ball
Lt F. M. Hillman | 223 | DE GRASSE
LTCOMDR F. W. Schultz |
| 158 | AMADOR
Lt F. W. Beyer
Lt G. W. Hodges, Jr. | 224 | PRINCE GEORGES
LTCOMDR W. J. Lane
LTCOMDR L. O. Hess |
| 160 | AUTAUGA
LTCOMDR G. L. Eastman
LTJG J. A. Riningar | 225 | ALLEGAN
LTCOMDR J. S. Hulings, Jr. |
| 162 | BELTRAMI
Lt G. W. Rahill
Lt D. J. Woodard
Lt J. R. Lyden | 226 | APPANOOSE
LTCOMDR V. H. S. G. Holm |
| 164 | BREVARD
Lt P. J. Wild | 227 | BOULDER VICTORY
LTCOMDR F. E. Church |
| 166 | CABELL
Lt E. J. McCluskey | 228 | PROVO VICTORY
LTCOMDR J. E. Johansen |
| 169 | CHATHAM
LTCOMDR N. C. Harrison, Jr. | 229 | LAS VEGAS VICTORY
LTCOMDR W. F. Lally |
| 170 | CHICOT
LTCOMDR L. F. Marshall | 230 | MANDERSON VICTORY
LTCOMDR J. Larsen |
| 183 | GLACIER
Lt C. L. Hitchcock | 231 | BEDFORD VICTORY
LTCOMDR D. A. Durrant |
| 185 | GWINNETT
Lt H. K. Golway | 232 | MAYFIELD VICTORY
LTCOMDR N. H. Olsen |
| 186 | HABERSHAM
LTCOMDR M. A. MacPhee | 233 | NEWCASTLE VICTORY
LTCOMDR J. T. Edwards |
| | | 234 | BUCYRUS VICTORY
LTCOMDR F. A. Geissert |
| | | 235 | RED OAK VICTORY
LTCOMDR J. S. Sayers |
| | | 236 | LAKEWOOD VICTORY
LTCOMDR E. H. Petrelius |

AKS (General Stores-Issue Ships)

- 1 CASTOR
COMDR H. B. Herty
CAPT F. C. Huntoon
- 3 ANTARES
COMDR H. J. Bellingham
LTCOMDR E. P. Skolfield
LTCOMDR J. E. Kendall
LTCOMDR N. T. Gansa
- 6 KOCHAB
LTCOMDR R. E. King
- 7 LUNA
LTCOMDR J. A. F. Knowlton, II
- 8 TALITA
COMDR H. Hanley
COMDR E. F. Cochran
COMDR W. V. Simmons
- 9 VOLANS
LTCOMDR S. Perie
LTCOMDR M. Scudder
- 10 CYBELE
LTCOMDR J. H. Church, Jr.
- 11 GRATIA
LT W. Joneli
- 12 HECUBA
COMDR N. H. Castle
- 13 HESPERIA
LTCOMDR W. G. Dutton

Cargo Ship and Aircraft Transport (AKV)

- 1 KITTYHAWK
COMDR E. C. Rogers
CAPT E. E. Duvall
COMDR J. W. Windle
LTCOMDR N. I. Lee, Jr.

- 2 HAMMONDSPORT
COMDR P. R. Glutting
COMDR C. J. Ballreich
LTCOMDR H. Ryder
LTCOMDR B. C. Modin

Oilers (AO)

- 1 KANAWHA
COMDR K. S. Reed
COMDR J. G. Cross
LTCOMDR B. N. Bock
- 3 CUYAMA
CAPT P. R. Coloney
LTCOMDR E. W. Glines
LTCOMDR C. R. West
- 4 BRAZOS
COMDR T. J. Kelly
COMDR R. P. Glass
LTCOMDR R. S. Hanson
COMDR J. M. Field
LTCOMDR G. A. Haussler, Jr.
- 6 PECOS
COMDR E. P. Abernethy
- 12 RAMAPO
COMDR H. A. Carlisle
COMDR A. J. Homann
LTCOMDR W. H. Fogarty
LTCOMDR J. H. Bale
- 13 TRINITY
COMDR W. Hibbs
COMDR W. W. Angerer
LTCOMDR G. E. Nold
COMDR W. M. Darlington
- 18 RAPIDAN
LTCOMDR H. L. Hassell
- 19 SALINAS
LTCOMDR W. E. Reed
LTCOMDR C. A. Brodine

- 20 SEPULGA
 COMDR V. B. Tate
 COMDR A. C. Larsen
 LTCOMDR J. W. Home
 LT G. S. Hayward
 LTCOMDR Angell Johnson
- 21 TIPPECANOE
 COMDR A. Macondray
 COMDR R. O. Myers
 COMDR F. E. Vensel, Jr.
 COMDR G. D. Arntz
 LTCOMDR H. R. Banister
- 22 CIMARRON
 CAPT R. M. Ihrig
 CAPT J. P. Cady
 LTCOMDR J. Clague
 COMDR A. H. Kooistra
 COMDR H. G. Schnaars, Jr.
- 23 NEOSHO
 COMDR J. S. Phillips
- 24 PLATTE
 CAPT R. H. Henkle
 COMDR H. Keeler, Jr.
 COMDR C. H. Sigel
 COMDR F. S. Gibson
 COMDR L. M. Fabian
- 25 SABINE
 COMDR H. L. Maples
 COMDR W. F. Riggs, Jr.
 CAPT A. F. Junker
 LTCOMDR H. C. von Weien
- 26 SALAMONIE
 CAPT L. J. Johns
 COMDR J. A. Holbrook
- 27 KASKASKIA
 CAPT W. L. Taylor
 CAPT J. T. Acuff
 LTCOMDR W. F. Patten
 LT T. D. Arthur
- 32 GUADALUPE
 COMDR H. R. Thurber
 COMDR H. A. Anderson
 LTCOMDR C. A. Boddy
 COMDR R. N. Gardner
- 34 CHICOPEE
 LTCOMDR C. O. Peak
 COMDR B. F. Brandt
 LTCOMDR T. M. Lehland
 CAPT G. Bannerman
- 35 HOUSATONIC
 COMDR P. L. Mather
 LTCOMDR J. R. Ducat
- 37 MERRIMACK
 CAPT W. E. Hilbert
 CAPT V. Bailey
- 39 KANKAKEE
 CAPT W. H. Mays
 COMDR A. M. Harvey
 CAPT E. V. Raines
 LTCOMDR W. G. Frundt
- 40 LACKAWANNA
 CAPT A. L. Toney
 COMDR A. J. Homann
 LTCOMDR E. N. Eriksen
- 42 MONONGAHELA
 CAPT T. M. Dell, Jr.
 COMDR F. J. Ilsemann
- 43 TAPPAHANNOCK
 CAPT A. O. R. Bergensen
 COMDR C. A. Swafford
 COMDR H. Corman
- 44 PATUXENT
 COMDR B. Davis
 COMDR F. J. Firth
 LTCOMDR F. P. Ferrell
 LTCOMDR K. R. Hall
 LTCOMDR E. C. Hagen

- 47 NECHES
CAPT C. D. Emory
LTCOMDR H. G. Hansen
- 48 NEOSHO
CAPT F. L. Worden
COMDR D. G. McMillan
LTCOMDR F. P. Parkinson
- 49 SUAMICO
CAPT R. E. Butterfield
COMDR A. S. Johnson
LTCOMDR N. C. Bishopp
- 50 TALLULAH
COMDR J. B. Goode
LTCOMDR W. F. Huckaby
- 51 ASHTABULA
COMDR L. J. Modave
LTCOMDR W. Barnett
LTCOMDR M. K. Reece
- 52 CACAPON
LTCOMDR G. Eyth
COMDR G. D. Arntz
- 53 CALIENTE
COMDR H. J. Schroeder
LTCOMDR A. E. Stiff
LTCOMDR F. N. Lang
COMDR G. L. Eastman
- 54 CHIKASKIA
LTCOMDR L. J. Hasse
LTCOMDR G. Zimmerman
LTCOMDR G. G. Boyd
- 56 AUCILLA
LTCOMDR C. L. Cover, Jr.
- 57 MARIAS
COMDR J. G. Olsen
- 58 MANATEE
COMDR J. B. Smyth
- 59 MISSISSINEWA
COMDR P. G. Beck
- 60 NANTAHALA
CAPT P. M. Gunnell
COMDR A. C. Larsen
- 61 SEVERN
LTCOMDR O. Rees
- 62 TALUGA
LTCOMDR H. M. Mikkelsen
- 63 CHIPOLA
COMDR E. G. Genthner
- 64 TOLOVANA
COMDR C. G. Long
- 65 PECOS
COMDR P. M. Gunnell
LTCOMDR G. W. Renegar
COMDR H. G. R. Johnson
- 66 ATASCOSA
COMDR M. H. Bassett
COMDR H. L. de Rivera
- 67 CACHE
COMDR P. Andersen
COMDR M. C. Thompson
LTCOMDR C. R. Cosgrove
- 68 CHIWAWA
COMDR A. F. Block
- 69 ENOREE
COMDR B. F. Brandt
LTCOMDR E. L. Jurewicz
- 70 ESCALANTE
CAPT W. I. Stevens
- 71 NESHANIC
CAPT A. C. Allen
- 72 NIOBRARA
COMDR J. W. Marts, Jr.
COMDR R. C. Spaulding
- 73 MILLICOMA
COMDR G. E. Ely
LTCOMDR J. W. Home

- | | | | |
|----|--------------------------|----|--------------------------|
| 74 | SARANAC | 86 | PONAGANSET |
| | COMDR J. G. Cross | | COMDR J. R. Sanford, Jr. |
| | COMDR H. R. Parker | 87 | SEBEC |
| | LTCOMDR C. G. Strom | | LTCOMDR H. M. Elder |
| 75 | SAUGATUCK | 88 | TOMAHAWK |
| | COMDR H. B. Edgar | | CAPT B. W. Cloud |
| | COMDR F. S. Kirk | | COMDR W. L. Eagleton |
| | LTCOMDR J. F. Ardagh | 93 | SOUBARISSEN |
| | LTCOMDR R. P. Le Viness | | COMDR W. H. Fogarty |
| 76 | SCHUYLKILL | 94 | ANACOSTIA |
| | CAPT F. A. Hardesty | | LTCOMDR T. H. Hoffman |
| | COMDR J. B. McVey | 95 | CANEY |
| 77 | COSSATOT | | COMDR R. S. Hanson |
| | LTCOMDR C. H. Glenwright | 96 | TAMALPAIS |
| 78 | CHEPACHET | | LTCOMDR A. J. Church |
| | COMDR H. R. Adams | | |
| | LTCOMDR H. K. Wallace | | |
| 79 | COWANESQUE | | |
| | COMDR L. S. McKenzie | | |
| | LTCOMDR E. A. Turpin | | |
| 80 | ESCAMBIA | | |
| | LTCOMDR J. M. Paulsson | | |
| | LTCOMDR R. Googian | | |
| 81 | KENNEBAGO | | |
| | COMDR B. N. Bock | | |
| | LTCOMDR C. W. Brockway | | |
| 82 | CAHABA | | |
| | COMDR E. H. Danesi | | |
| | LTCOMDR J. Burnbaum | | |
| 83 | MASCOMA | | |
| | COMDR C. C. Eden | | |
| | LTCOMDR J. F. Wickham | | |
| | LTCOMDR H. P. Timmers | | |
| 84 | OKLAWAHA | | |
| | COMDR W. L. Sorenson | | |
| | LTCOMDR R. C. Foyt | | |
| 85 | PAMANSET | | |
| | COMDR D. J. Houle | | |
| | LTCOMDR C. B. Gjedsted | | |

Gasoline Tankers (AOG)

- | | |
|---|------------------------|
| 1 | PATAPSCO |
| | LTCOMDR A. J. Church |
| | LTCOMDR J. H. Bale |
| | LT M. L. Miles |
| | LTCOMDR F. L. Lee |
| 2 | KERN |
| | COMDR L. Williams |
| | LTCOMDR A. G. Popkin |
| | LT G. B. Johnson |
| | LTJG R. G. Molin |
| 3 | RIO GRANDE |
| | LTCOMDR D. Dillon, Jr. |
| | LT T. P. Lawton |
| | LTJG N. S. Cooper |
| 4 | WABASH |
| | LT J. F. Ardagh |
| | LT G. E. Verge |
| 5 | SUSQUEHANNA |
| | LTCOMDR H. V. Bamberg |
| | LT A. F. Anderson |
| | LT J. C. Brown |

- | | | | |
|----|--|----|--|
| 6 | AGAWAM
Lt J. W. Foster | 33 | OCHLOCKONEE
Lt A. W. Walker, USCG |
| 8 | GENESEE
Lt C. R. Heath | 34 | OCONEE
Lt J. T. Collins, USCG |
| 9 | KISHWAUKEE
Lt J. V. Scott
Lt F. M. Hillman | 36 | ONTONAGON
Lt R. S. Logan, USCG |
| 10 | NEMASKET
LTCOMDR G. G. Boyd
Lt C. R. Hampton
Lt F. L. Dandrew | 37 | YAHARA
Lt F. E. Hilton |
| 11 | TOMBIGBEE
Lt A. O. Askland | 38 | PONCHATOULA
Lt W. G. Peyton |
| 17 | METTAWEE
LTJG B. R. Everson
Lt J. F. Shine | 39 | QUASTINET
Lt L. A. Snider |
| 18 | PASQUOTANK
Lt A. R. Norris | 40 | SACANDAGA
Lt S. K. Miller
Lt E. W. Heister |
| 19 | SAKATONCHEE
Lt F. C. Steinmetz | 41 | TETONKAHA
Lt P. J. Hall |
| 21 | SEQUATCHIE
Lt B. W. Richelt | 46 | WAUPACA
Lt W. G. Brown |
| 22 | WAUTAUGA
Lt R. E. McAllister | 48 | CHEHALIS
Lt E. G. Rifenburgh |
| 23 | AMMONUSUC
LTJG L. F. Baker | 51 | MAQUOKETA
Lt L. R. Stahl |
| 24 | SHEEPSCOT
Lt G. A. Wagner, USCG | 61 | SAKONNET
LTCOMDR R. P. LeViness
Lt F. W. Ayers |
| 25 | CALAMUS
Lt W. Hord
Lt G. R. Robinson, USCGR | 62 | CONEMAUGH
Lt W. A. Jump, Jr. |
| 27 | ESCATAWPA
Lt H. T. Nottage, USCG
LTJG J. L. White, Jr., USCG | | |
| 29 | HIWASSEE
Lt R. Rawcliffe, USCG | | |
| 31 | KANAWHA
Lt G. T. Frost, USCGR | | |
| 32 | NARRAGAUGUS
Lt R. F. Elder | | |

Hotel Barges (APL)

- | | |
|----|--|
| 2 | Lt A. F. Legare |
| 10 | CASA MARINA
Lt D. S. Sykes
Lt H. L. Wright |
| 11 | NEW YORKER
Lt R. S. Myers |

- 12 BILTMORE
 LT L. R. Brandt
- 13 LT R. H. Wallace
- 14 RITZ CARLTON
 LT H. E. Reice
- 15 LT T. Morrison
 LT J. B. Kerr
 LT J. G. Schaffer
- 18 ASTOR
 LT J. A. Davies
 LT W. E. Lee
- 20 LT W. H. Plympton
- 21 LT M. H. Powell
- 23 LT A. S. Powell
- 27 LT W. E. Pinnegar
- 28 LT J. K. Baillie, Jr.
- 29 LT R. W. Minear
- 30 LT W. R. Stead
- 31 LT J. D. Petree
- 32 STATLER
 LT E. W. Shuntill
- 33 LT J. F. Hazen
- 41 WALDORF ASTORIA
 LT M. T. O'Ferrall
- 42 LT M. A. Campbell
- 43 LT R. H. Keehn
- 47 LT O. C. Gordon

Repair Ships (ARs)

- 1 MEDUSA
 CAPT A. E. Schrader
 COMDR J. F. P. Miller
 CAPT P. E. Kuter
 COMDR R. R. Ransom

- 3 PROMETHEUS
 CAPT R. P. Briscoe
 COMDR L. T. Young
 COMDR C. C. Laws
 COMDR H. E. Barden
- 4 VESTAL
 CAPT C. Young
 COMDR W. T. Singer
 CAPT J. B. Goode
 COMDR N. W. Gambling
 CAPT H. J. Pohl
- 5 VULCAN
 COMDR R. S. Caldwell
- 6 AJAX
 COMDR J. L. Brown
 COMDR G. C. Weldin
 COMDR E. M. Grimsley
- 7 HECTOR
 COMDR J. W. Long
 COMDR R. P. Noisat
- 9 DELTA
 COMDR C. F. Swanson
- 11 RIGEL
 CAPT R. Dudley
 CAPT J. G. Huntoon
 COMDR V. M. Davis
- 12 BRIAREUS
 COMDR J. F. Warris
 COMDR C. T. Corbin
 COMDR C. Wilkes
- 19 XANTHUS
 COMDR S. G. Nichols
- 20 LAERTES
 COMDR L. H. Hawkinson
- 21 DIONYSUS
 COMDR S. D. Simpson

*Battle Damage Repair Ships
(ARB)*

- 1 ARISTAEUS
LTCOMDR R. M. G. Swany
COMDR J. K. Killen
- 2 OCEANUS
LTCOMDR W. B. Studley
Lt T. P. Lawton
Lt D. Fluss
- 3 PHAON
Lt G. F. Watson
LTCOMDR A. T. Ostrander
Lt C. L. Husted
- 4 ZEUS
Lt W. C. Groves
- 6 NESTOR
COMDR F. W. Parsons
LTCOMDR S. N. Davis
- 7 SARPEDON
Lt W. H. Farrar
- 9 ULYSSES
Lt J. L. Johnstone

Heavy Hull Repair Ship (ARH)

- 1 JASON
CAPT A. O. R. Bergesen
COMDR E. F. Beck

Floating Drydocks (ARD)

- 1 COMDR A. L. Karns
COMDR T. Shine
COMDR C. S. Williams
- 2 COMDR R. C. Parker
COMDR R. R. Hayes

- 5 COMDR C. S. Williams
COMDR T. W. Sheridan
COMDR H. Frericks
LTCOMDR M. B. Crossman
- 6 COMDR J. H. Wiley
LTCOMDR H. L. Carpentar
LTCOMDR S. W. Hanns
- 8 COMDR C. A. Rancich
Lt K. B. Diffenbach
- 11 COMDR W. Hartenstein
COMDR A. T. Swanson
- 12 COMDR A. T. Swanson
- 13 LTCOMDR W. L. Travis
- 14 LTCOMDR P. E. Troup
- 15 LTCOMDR W. E. Keller
- 16 LTCOMDR G. T. January
- 17 LTCOMDR A. Andersen
- 18 LTCOMDR J. L. Jacobson
LTCOMDR T. Wollcott
- 19 LTCOMDR A. P. Moffat
- 21 LTCOMDR J. G. Bevelander
- 22 LTCOMDR L. H. DeSanty
- 23 LTCOMDR N. H. Geisenhoff
- 24 COMDR L. Sederholt
- 25 COMDR T. F. Gorman
COMDR O. Knudsen
- 26 LTCOMDR I. B. Smith
Lt I. Roswell
- 27 LTCOMDR F. J. Silvernail
- 28 COMDR W. Hartenstein
- 29 Lt H. Phillips
- 30 LTCOMDR C. J. Dyer

*Internal Combustion Engine
Repair Ships (ARG)*

- 1 OGLALA
LTCOMDR H. K. Bradford
LTCOMDR A. Nelson

- | | | | | | |
|----|-------------|--|----|-----------|--|
| 2 | LUZON | COMDR E. R. Runquist
CAPT W. B. Tucker | 13 | ANCHOR | LT R. M. Brunner
LTJG G. E. Joyal
LT J. L. Hill |
| 3 | MINDANAO | COMDR G. B. Evans
COMDR J. A. Ivaldi | 14 | PROTECTOR | LTCOMDR M. E. McFarland
LT A. T. Pickett
LT J. J. O'Donnell, Jr. |
| 4 | TUTUILA | COMDR G. T. Boldizsar
COMDR A. R. Ridgely | 15 | EXTRACTOR | LT L. C. Oaks
LTJG H. M. Babcock |
| 5 | OAHU | COMDR C. Lovelace
COMDR A. M. Loker | 16 | EXTRICATE | LT J. H. Ferguson |
| 6 | CEBU | COMDR G. W. Stott
COMDR D. B. Candler | 19 | CABLE | LTCOMDR H. Pond |
| 9 | MONA ISLAND | COMDR K. F. Horne
COMDR D. T. Baskett | 22 | CURRENT | LTCOMDR J. B. Duffy, Jr.
LT R. W. Swift, Jr. |
| 10 | PALAWAN | COMDR P. Andersen | 23 | DELIVER | LT A. W. Anderson |
| | | | 25 | SAFEGUARD | LT J. F. Simmons |
| | | | 26 | SEIZE | LT H. B. Conrad |
| | | | 28 | VALVE | LT W. D. Mooney
LT J. L. Walker |
| | | | 29 | VENT | LT H. H. Bothell
LT A. C. Boncutter |
| | | | 33 | CLAMP | LTCOMDR L. H. Curtis
LTCOMDR S. D. Frey |
| | | | 34 | GEAR | LT J. F. Simmons
LT R. L. Morrissey
LT J. T. Moritz |
| | | | 35 | WEIGHT | LT F. J. Leamond
LT A. V. Hagstrom |

Salvage Ships (ARS)

- | | | |
|---|-----------|---|
| 6 | ESCAPE | LT W. T. Williams |
| 7 | GRAPPLE | LT R. Fisher
LT R. K. Thurman
LT J. N. Smith |
| 8 | PRESERVER | LTCOMDR A. T. Ostrander
LT L. B. Frank
LT A. W. Anderson
LT C. J. Boyers |
| 9 | SHACKLE | LT C. G. Jenkins, Jr.
LT J. F. Marshman
LT R. M. Van Horne |

38 BOLSTER
LT W. F. Lewis

Ocean Tugs—Fleet (ATF)

64 NAVAJO
LTCOMDR H. B. McLean
COMDR J. A. Ouellet
LTJG F. Rigley

65 SEMINOLE
LTCOMDR W. G. Fewel

67 APACHE
LT C. S. Horner
LT A. L. Larson

68 ARAPAHO
LT C. B. Lee
LT A. H. Gunn

73 MENOMINEE
LTCOMDR E. C. Genereaux, Jr.
LT J. A. Young, Jr.

74 PAWNEE
LTCOMDR F. J. George
LT F. C. Dilworth
LT J. S. Lees
LT H. C. Cramer

75 SIOUX
LT B. B. Johnson
LT L. M. Jahnsen
LT O. L. Crandall

76 UTE
LT W. F. Lewis
LT O. L. Krick
LT V. P. Musto

81 BANNOCK
LT J. M. Geortner

83 CHICKASAW
LT J. F. King
LTJG G. W. McClead
LT L. C. Olson

84 CREE
LT D. B. Howard

85 LIPAN
LT F. W. Beyer
LT N. R. Terpenning

86 MATACO
LT W. G. Baker
LTJG C. O. Hall
LT A. B. Billig

88 NARRAGANSETT
LT W. K. Gillett

92 TAWASA
LT F. C. Clark
LT R. K. Thurman
LT H. E. Knox
LT L. C. Oaks

93 TEKESTA
LT J. O. Strickland
LT J. D. Hutts

94 YUMA
LT W. R. J. Hayes
LT T. T. White

95 ZUNI
LT R. E. Chance
LT J. S. Malayter
LT R. R. Williams

96 ABNAKI
LT D. Wally

98 ARIKARA
LT J. Aitken
LT C. N. Jensen

100 CHOWANOC
LT R. F. Snipes

101 COCOPA
LTCOMDR J. C. Hutcheson

103 HITCHITI
LT H. A. Guthrie

104 JICARILLA
LTCOMDR W. B. Coats

- | | | | |
|-----|---|------------------------------|--|
| 105 | MOCTOBI
Lt T. Brashear | 152 | CAHUILLA
Lt A. C. Schoelpple |
| 106 | MOLALA
Lt R. L. Ward | 153 | CHILULA
LTJG O. L. Guinn |
| 107 | MUNSEE
LTCOMDR J. F. Pingley
Lt C. H. Silvia, Jr. | <i>Ocean Tugs, Old (ATO)</i> | |
| 108 | PAKANA
Lt W. E. White | | |
| 109 | POTAWATOMI
Lt C. H. Stedman | 12 | SONOMA
LTCOMDR J. A. Ouellet
Lt J. F. Pingley
LTJG G. I. Nelson
Lt W. R. Wurzler |
| 111 | SARSI
Lt H. J. Perry, Jr.
Lt J. C. Blakeney | 13 | ONTARIO
Lt R. C. Schulke
Lt H. F. Gordon
Lt H. H. Branyon |
| 112 | SERRANO
Lt G. E. Cook | 28 | SUNNADIN
LTCOMDR N. B. Hopkins
Lt J. A. Smith
Lt J. D. Howell, Jr. |
| 114 | TAWAKONI
LTCOMDR C. L. Foushee | 29 | MAHOPAC
Lt F. R. Davis
Lt C. A. Leonard
Lt A. G. Willestoft
LTJG H. G. Labo
LTJG D. S. McLeod |
| 115 | TENINO
Lt F. L. Van Camp | 33 | PINOLA
Lt A. A. Griese
Lt H. E. Kiser
Lt Z. T. Helm |
| 116 | TOLOWA
LTCOMDR E. G. Sheasby | 38 | KEOSANQUA
LTCOMDR P. M. Boltz
Lt N. G. Neault
LTJG F. J. Donovan
Lt I. M. Kidd |
| 117 | WATEREE
Lt G. E. Perry | | |
| 118 | WENATCHEE
Lt W. C. Beatie, Jr. | | |
| 148 | ACHOMAWI
Lt R. H. Teter | | |
| 149 | ATAKAPA
Lt G. I. Nelson
Lt E. C. Doty
Lt E. A. McCammond | | |
| 150 | AVOYEL
LTCOMDR W. R. Brown | | |
| 151 | CHAWASHA
LTCOMDR H. K. Smith | | |

131 BOBOLINK

LT J. L. Foley
 ENS F. G. Reed
 LT H. L. Sigleer
 LT E. L. A. Rau
 LTJG E. L. Givins

134 GREBE

LTCOMDR E. D. McEathron
 LT H. S. Bogan
 ENS W. L. Sloan
 LT C. M. Lewis

135 KINGFISHER

LTCOMDR C. B. Schiano
 LTJG R. L. Ward
 LTJG A. B. Billig
 LTJG J. T. Moritz
 ENS D. C. Enyeart
 LTJG W. W. Collins
 LTJG H. A. Brown

139 RAIL

LTCOMDR F. W. Beard
 LTJG L. C. Oaks
 LTJG H. K. Smith
 LTJG T. P. Pierce
 LTJG E. D. White
 LT D. F. Allen

140 ROBIN

LTCOMDR D. G. Greenlee, Jr.
 LT J. J. Branson
 LTJG E. C. Avery
 LTCOMDR A. J. Roy

142 TERN

LTJG H. J. Perry, Jr.
 LTJG G. F. Carey
 LTJG W. E. Hummel

143 TURKEY

LTCOMDR T. F. Fowler
 LT S. B. Neff
 LT R. J. Melchor
 LTJG R. A. Botsford
 LT J. M. C. Tighe

144 VIREO

LTCOMDR F. J. Ilsemann
 LT J. C. Legg
 LTJG C. H. Stedman
 LTJG P. R. Ekberg
 LTJG S. O. Northrop
 LTJG M. E. Seymour
 LT B. J. Barber

Ocean Tugs, Rescue (ATR)

- 9 LT L. H. Reybine
 LT F. K. Davis
 10 LT R. P. Griffing, Jr.
 LT P. E. Pellusch
 11 LT S. M. Meyer
 LT R. H. Matheson
 12 LTJG B. F. Gerttula
 13 LTJG G. N. Hammond
 LTJG J. A. Milliken
 16 LT D. R. Luckham
 26 LTJG J. H. Kelly
 LTCOMDR I. B. Smith
 LT H. R. Macletchie
 27 LTJG C. E. Kemmerer
 LTJG L. L. Reynolds
 LTJG M. A. Carr
 28 LT E. Swanson
 33 LTJG E. R. Weaver

34 LTJG A. Zito
 35 LTJG L. C. Gunn
 LTJG E. A. Penland
 LTJG G. C. Battle
 36 LT R. D. Raikes
 LTJG L. R. Vacovsky
 38 LT P. W. Dodson
 39 LTCOMDR A. W. Wilde
 LT J. J. Phillips
 40 LTJG P. A. Tyndall
 LT A. J. Roberts
 44 LT M. L. Wright
 45 LT J. L. Hostinsky
 46 LT R. K. Thurman
 47 LT H. L. Lane
 50 LTJG A. B. Billig
 LT A. P. Woronick
 LTJG G. W. Kingston
 51 LTJG A. L. Larson
 LT L. C. Gunn
 LT G. W. Becker
 LT J. W. Jenkins
 52 LT C. A. Miller
 53 LT B. M. Stevenson
 58 LT G. B. Barry
 59 LT F. H. Matthews
 LT J. M. Wysolmerski
 62 LT J. M. Brown, Jr.
 LT E. E. Leseur
 63 LT R. W. Coffey
 LT C. Richards
 65 LT H. A. Preston
 LT J. R. Strong
 66 LTJG B. J. Begue
 69 LT W. F. Reinkin
 70 LT W. L. Sloan
 LT T. B. Taylor
 71 LTJG J. B. Walker
 72 LTJG C. B. Hiner
 LT P. V. Evans

73 LTJG E. L. Givins
 LTJG R. J. Melchor
 75 LT E. A. McCammond
 LTJG L. J. Hanan
 76 LT D. J. Myers
 77 LT W. A. Jewett
 78 LTJG J. A. Macdonald
 79 LT D. J. McMillan
 80 LT J. P. Dubrule
 LT J. W. Foster
 LT T. D. Shihadeh, Jr.
 81 LT M. P. Smith
 83 LT M. T. Dalby
 LT D. J. Coughlin
 84 LT R. R. Williams
 LTJG M. J. Schwartz

Distilling Ships (AW)

3 PASIG
 COMDR W. G. Fewel
 LTCOMDR C. M. Williams
 4 ABATAN
 LTCOMDR E. N. Eriksen
 LT J. D. Gaboury

Destroyer Mine Sweeper (DMS)

3 BOGGS
 COMDR H. R. Prince
 LTCOMDR W. K. Chisholm
 LTCOMDR R. L. R. Johnson
 14 ZANE
 LTCOMDR W. T. Powell, Jr.
 LTCOMDR R. H. Thomas
 LT L. C. McFarland
 16 TREVER
 LTCOMDR M. Adams, Jr.
 LT A. S. Brengle

Unclassified Vessels (IX)

- | | | | |
|-----|-------------------------|-----|------------------------|
| 71 | KAILUA | 112 | BEAGLE |
| | Lt N. H. Castle | | LTCOMDR R. E. Rew, Jr. |
| | Lt C. A. Markham | 113 | CAMEL |
| | Lt C. R. Bower | | Lt D. Dunham, Jr. |
| 91 | PALOMAS | | Lt M. J. Parsons |
| | Lt J. McCarty | 114 | CARIBOU |
| 94 | RONAKI | | Lt A. J. Nall |
| | LtJG R. C. McGrath | | Lt R. A. Davies |
| 95 | ECHO | | Lt J. B. Humphrey |
| | LtJG M. C. Riddle | | Lt H. G. Owens |
| 100 | RACER | 115 | ELK |
| | Lt W. J. Barnes | | LTCOMDR W. T. Stannard |
| 102 | MAJABA | | Lt R. H. Weeks |
| | LTCOMDR M. Shaw | 116 | GAZELLE |
| | Lt F. J. George | | Lt J. P. Marshall |
| | CHMACH R. C. Andrews | | Lt J. B. Koeller |
| | MACH D. S. Lee | 117 | GEMSBOK |
| 103 | E. A. POE | | COMDR A. H. Kooistra |
| | COMDR W. F. Ives | | Lt E. W. Smith |
| | LTCOMDR J. F. Kennedy | | Lt J. J. Moriarty |
| | LTCOMDR A. B. Beattie | 118 | GIRAFFE |
| 104 | P. H. BURNETT | | LTCOMDR F. F. Daly |
| | Lt D. Ruos | | LTCOMDR H. E. Thayer |
| | Lt H. N. Olsen | 119 | IBEX |
| | Lt E. F. Cutler | | LTCOMDR J. L. Frazer |
| 107 | ZEBRA | 120 | JAGUAR |
| | Lt J. E. Kendall | | LTCOMDR T. F. Marvin |
| 109 | ANTELOPE | | Lt A. H. Branson |
| | Lt L. G. Ellsell | 121 | KANGAROO |
| | Lt J. Loughlin | | Lt G. D. Lawson |
| | LtJG P. G. Rick | 124 | MOOSE |
| 110 | OCELOT | | Lt G. E. Spencer |
| | Lt M. S. Samuels | 127 | RACCOON |
| | LTCOMDR J. M. Hartfield | | Lt M. E. Vallario |
| 111 | ARMADILLO | | Lt J. F. Moore |
| | LTCOMDR M. R. Meyer | 129 | WHIPPET |
| | Lt J. B. Hewgley | | LTCOMDR R. Parmenter |
| | | | Lt F. F. Mullins, Jr. |
| | | | Lt C. R. Stuntz |

- | | | | |
|-----|--|-----|---|
| 131 | ABARENDA
Lt B. F. Langland, USCG
LTCOMDR D. H. Williams,
USCG | 153 | ASPHALT
LTCOMDR M. K. Reece
COMDR G. M. Street |
| 133 | ANTONA
Lt J. P. Marshall
Lt J. J. Karugas | 154 | BAUXITE
Lt A. R. Robertson |
| 135 | ARETHUSA
Lt W. J. Tross
Lt R. L. Barrington | 156 | CITY OF DALHART
LTCOMDR C. M. Lokey
LTCOMDR F. de S. Gorman |
| 137 | CELTIC
LTCOMDR J. S. Loring
Lt A. E. Michaelsen | 157 | ORVETTA
COMDR G. L. Armstrong
LTCOMDR F. de S. Gorman |
| 138 | MALVERN
Lt H. C. Pollock | 158 | LIMESTONE
Lt W. T. Bresnahan |
| 139 | OCTORARA
LTCOMDR A. G. Munro | 159 | FELDSPAR
Lt F. Harris
LTJG R. K. Sherwood |
| 140 | QUIROS
Lt E. A. Gray
LTJG V. E. Harris
Lt D. Baker | 160 | MARL
Lt E. A. Mooney
ENS R. O. Buck |
| 141 | MANILENO
COMDR E. L. McManus
LTCOMDR W. S. Ginn | 161 | BARITE
Lt H. B. Stiehl |
| 142 | SIGNAL
Lt W. J. Tross | 162 | LIGNITE
Lt F. E. Lucier |
| 143 | SILVER CLOUD
LTCOMDR H. R. Will | 163 | CINNABAR
Lt W. E. Loughborough |
| 146 | FORTUNE
LTCOMDR K. H. Carlson | 164 | CORUNDUM
Lt F. Brinton, Jr.
LTCOMDR W. H. Thompson |
| 149 | TREFOIL
Lt N. King | 188 | CHOTAUK
LTCOMDR W. D. Baker |
| 150 | QUARTZ
LTCOMDR P. M. Runyon
Lt W. J. Sharp, Jr. | 189 | MARMORA
Lt G. R. Olsen |
| 151 | SILICA
Lt J. D. Neal
Lt O. A. Seavey | 190 | NAUSETT
Lt J. O. Karlberg
Lt J. McCormick |
| 152 | CARMITA
Lt C. E. Burch, Jr. | 191 | VANDALIA
Lt R. P. Morrison |
| | | 192 | FLAMBEAU
Lt R. S. Green |

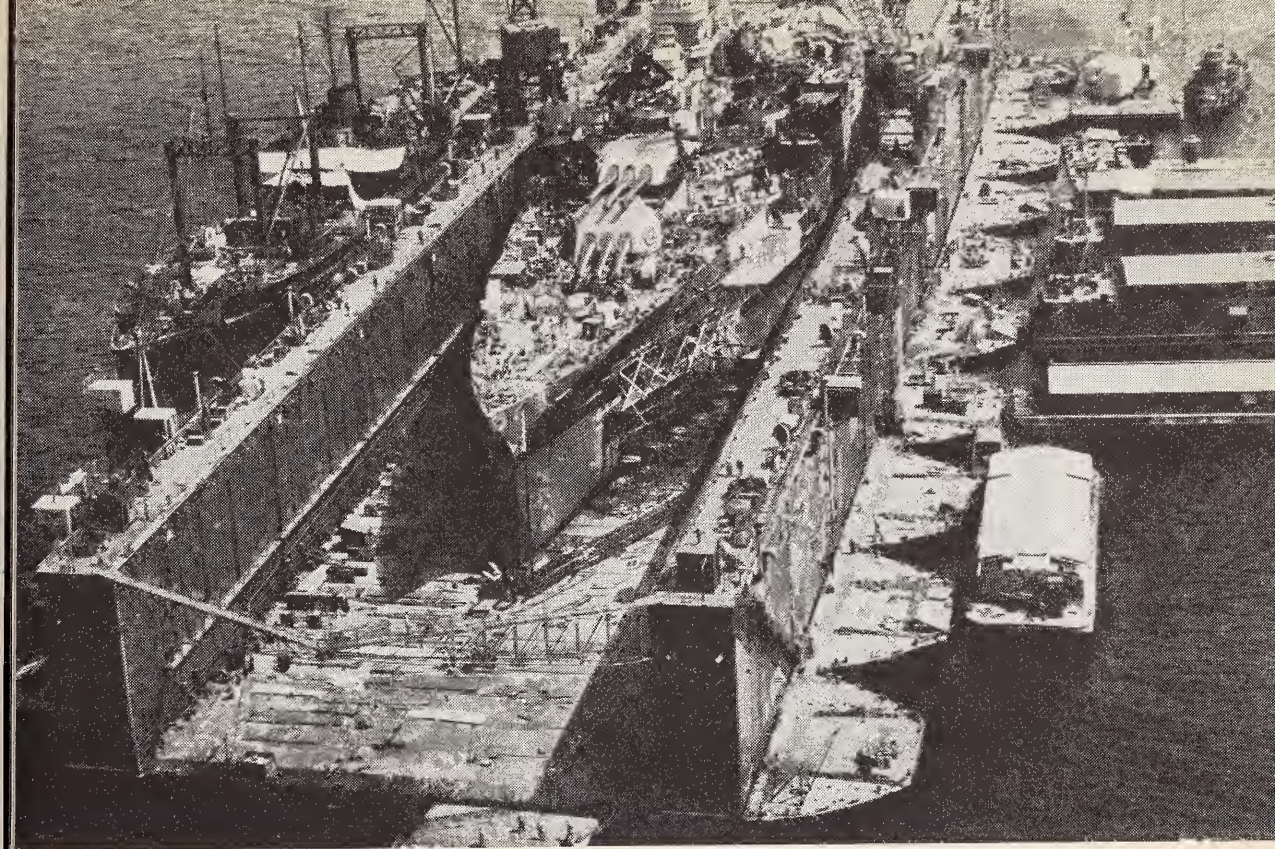
- 193 MEREDOSIA
Lt T. E. Doey
- 198 COHASSET
Lt G. R. Oglesby
Lt M. J. Wakefield
Lt D. J. Crawford
- 204 ALLIOTH
LTCOMDR H. L. Sigleer
- 210 SEA FOAM
Lt W. W. Beck
- 128 GUARDOQUI
Lt H. L. Tysinger

- 222 PEGASUS
Lt A. E. Jackson, Jr.
Lt A. B. Melcher

Repair Barges (YR)

- 23 MACH A. E. Balog
46 MACH J. H. Brenchick
49 LTJG R. S. Nelson
50 LTJG E. A. Sicard
61 CHMACH W. Vannatter
67 CHMACH G. C. Macham
69 MACH T. R. Rice

*Representative types of vessels and small craft
engaged in logistic support activities under
Commander Service Force Pacific*



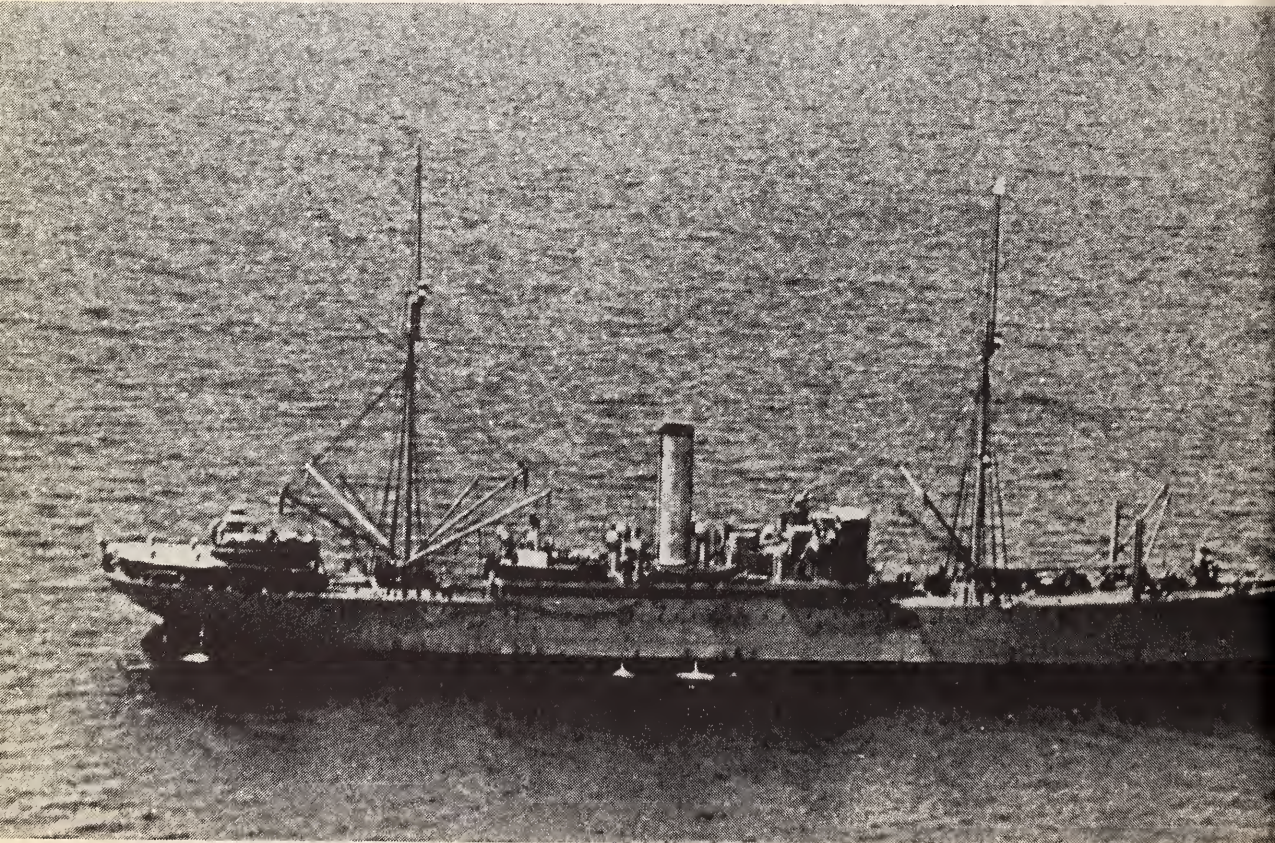
ABSD Advanced Base Sectional Dock #1 (Battleship California inside)



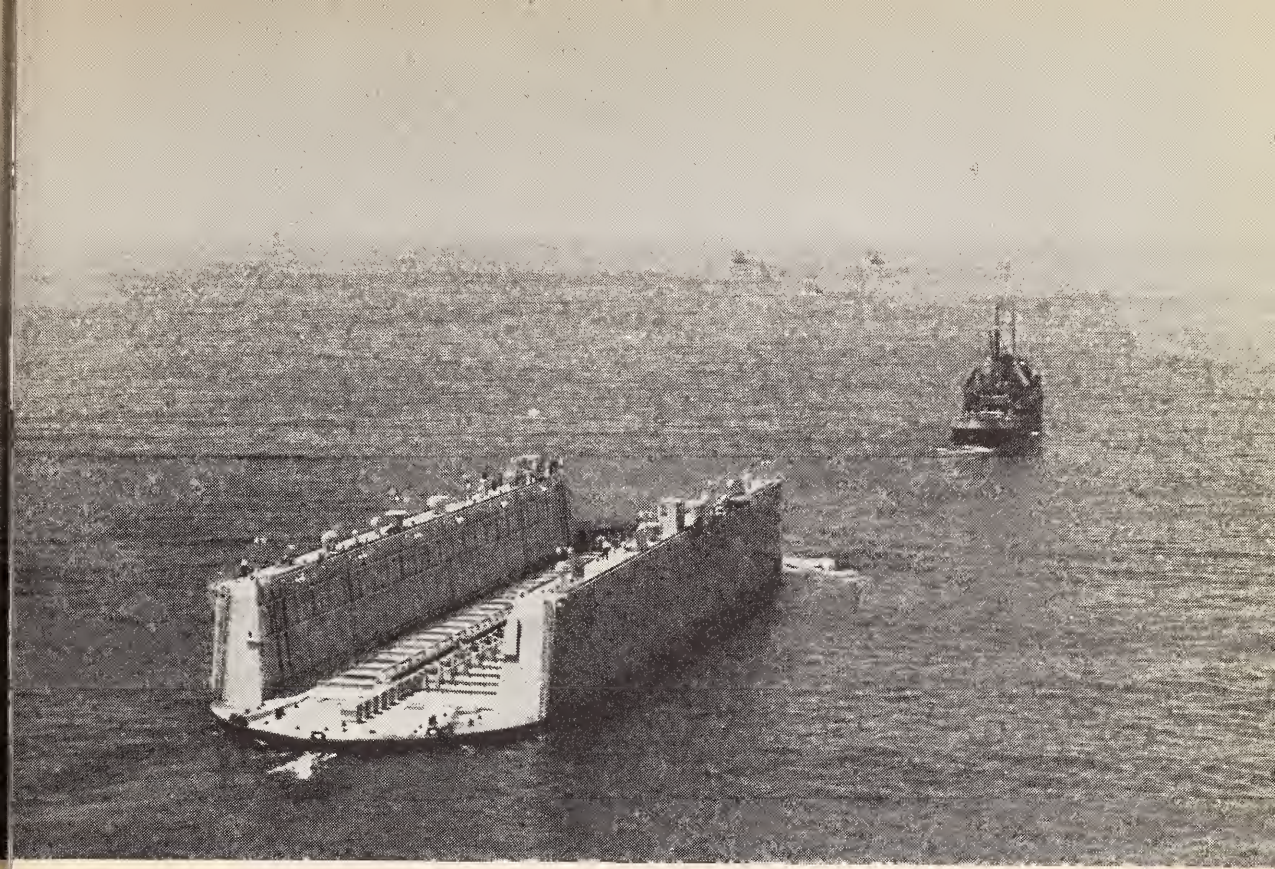
AD Destroyer Tender (USS Prairie AD-15)



AE Ammunition Ship (USS Shasta AE-6)



AF Provisions Storeship (USS Bridge AF-1)



AFDL Mobile Floating Drydock Large (Under tow) 1900 tons



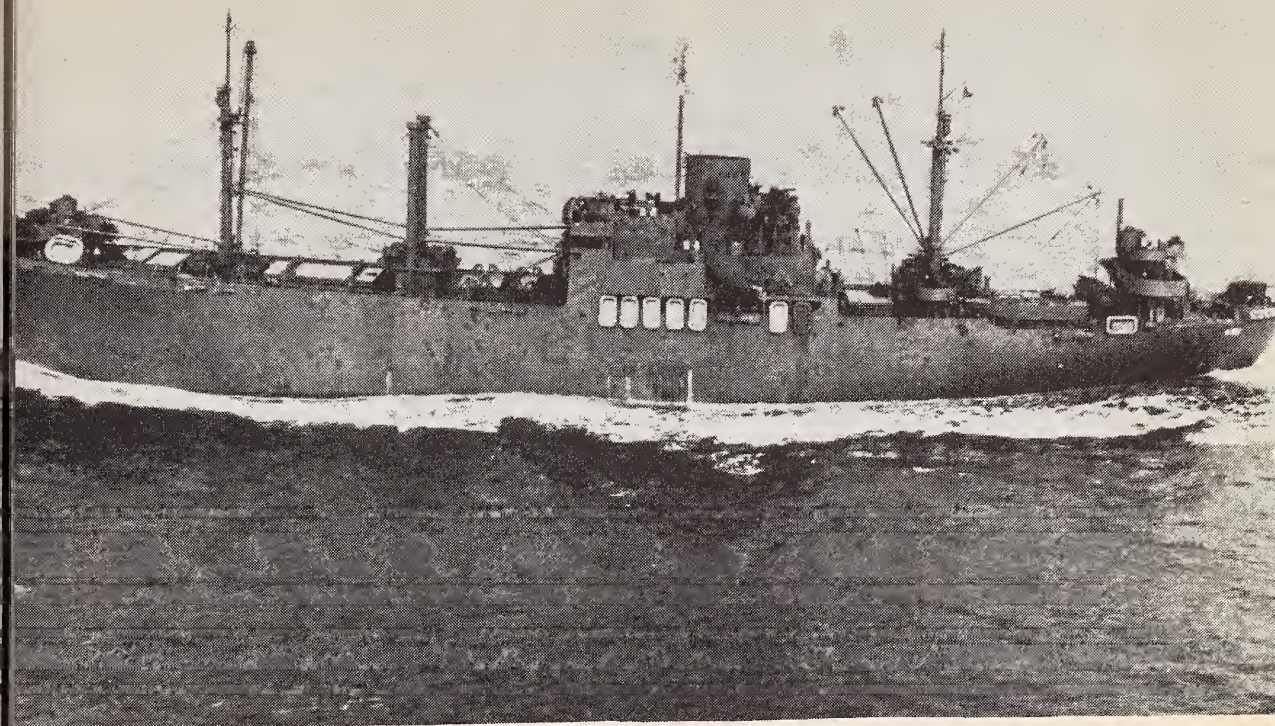
AFD Mobile Floating Drydock (AFD-5) 1000 tons



AGS Surveying Ship (USS Bowditch AGS-4)



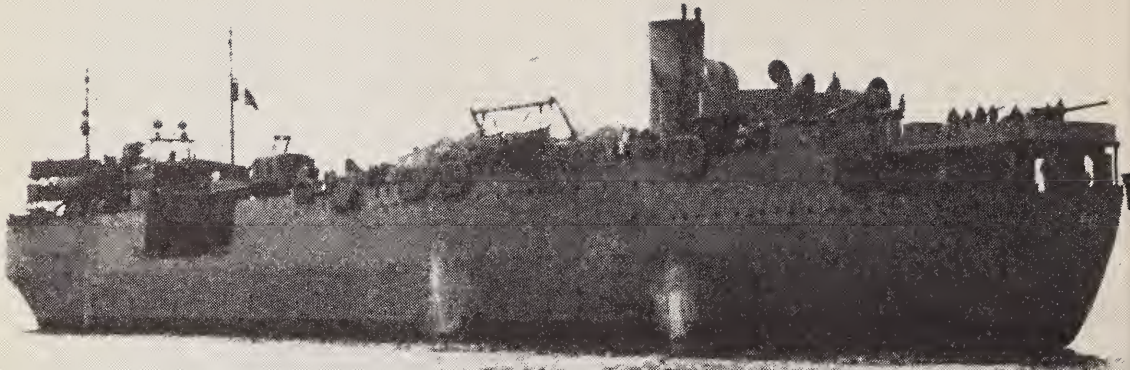
AH Hospital Ship (USS Bountiful AH-9)



AK Cargo Ship (USS Formalhaut AK-22)



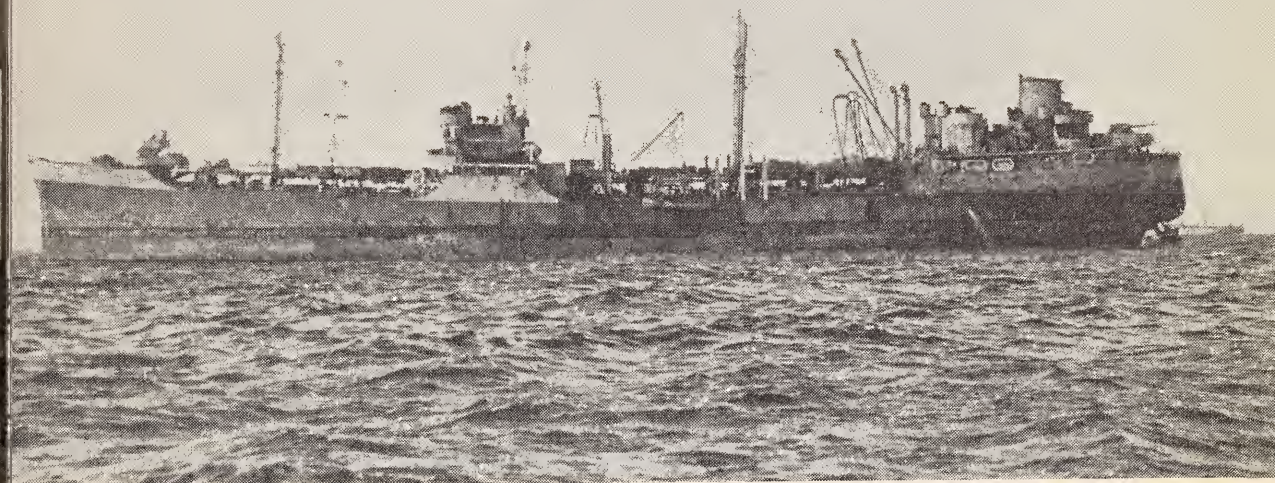
AKS Stores Issue Ship (USS Kochab AKS-6)



AKV Aircraft Transport (USS Kitty Hawk AKV-1)



AN Net Tender



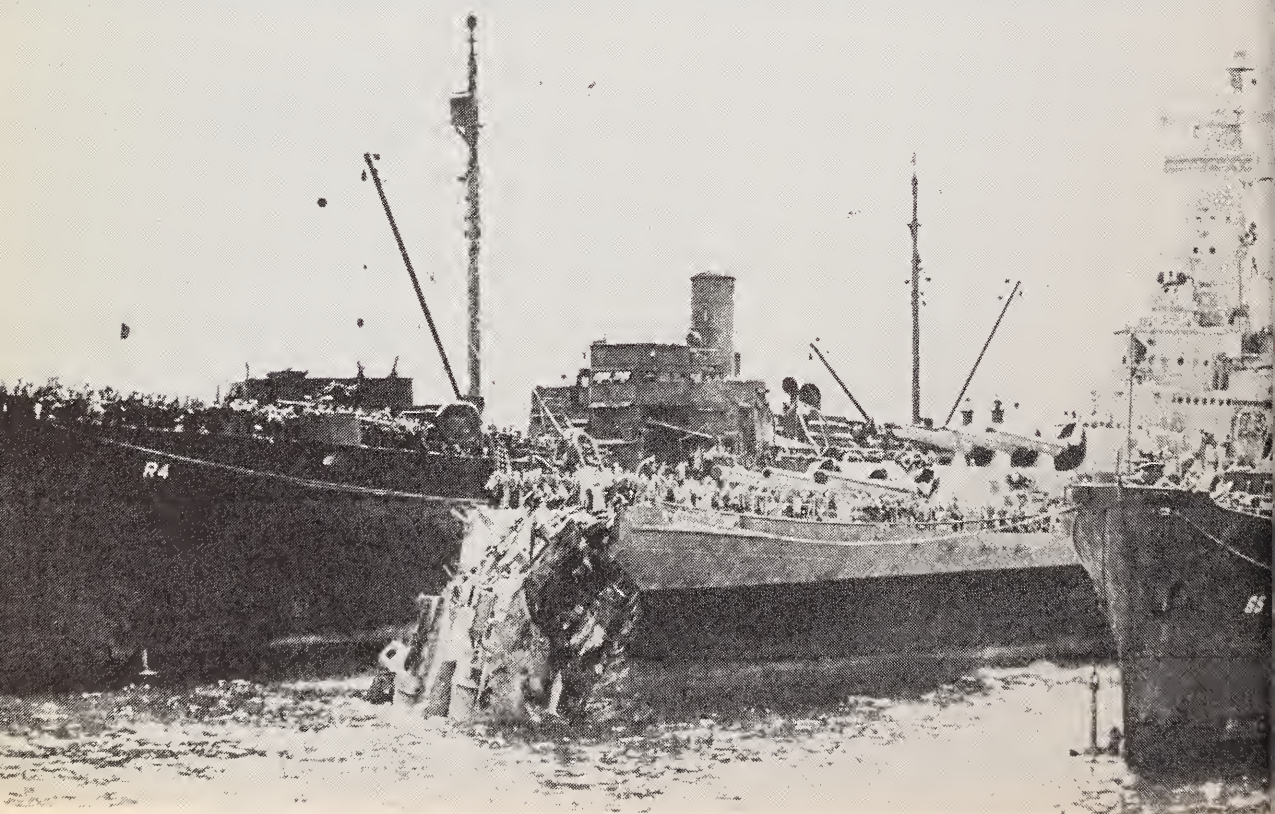
AO Fleet Oiler (USS Housatonic AO-35)



AOG Gasoline Tanker (USS Patapsco AOG-1)



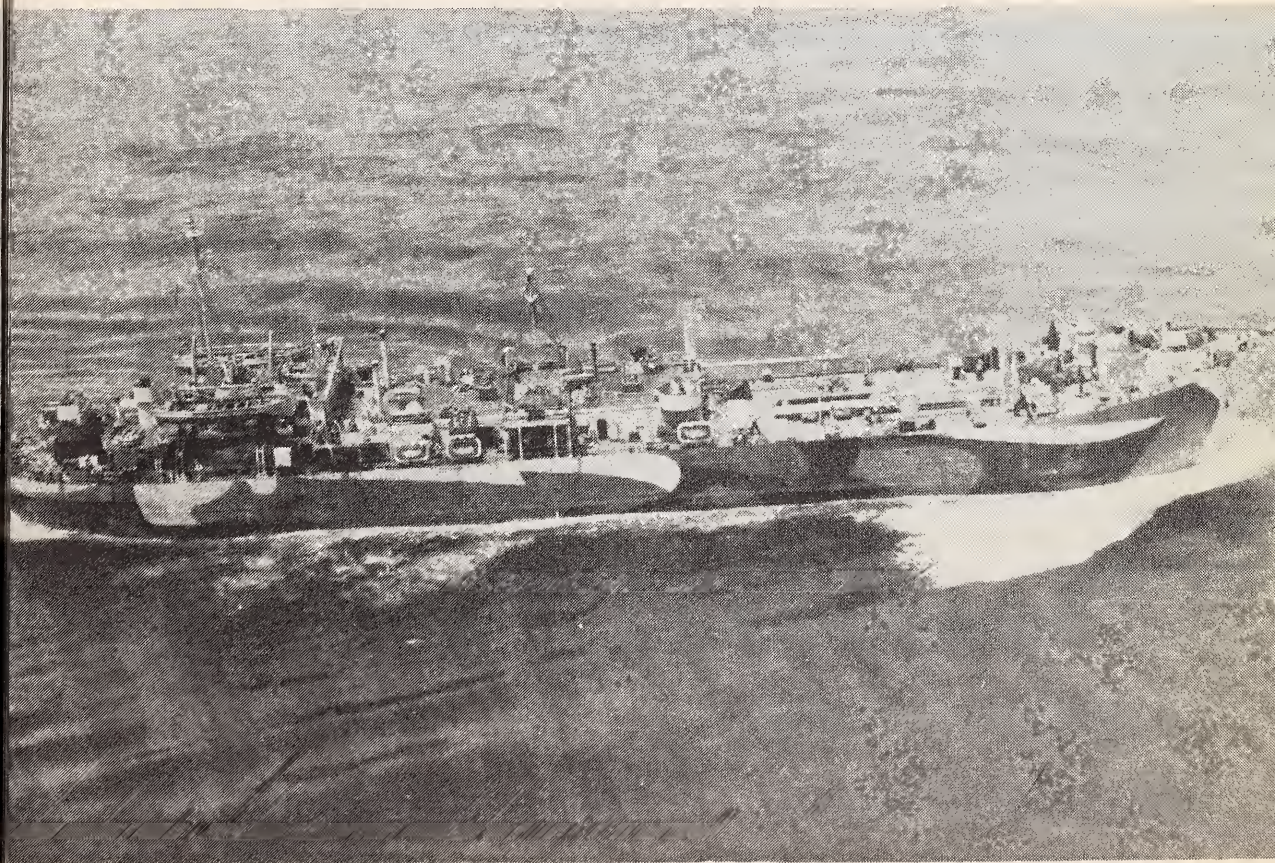
APL Barracks Ship (Hotel Barge APL-18)



AR Repair Ship (USS Vestal AR-4 alongside damaged battleship)



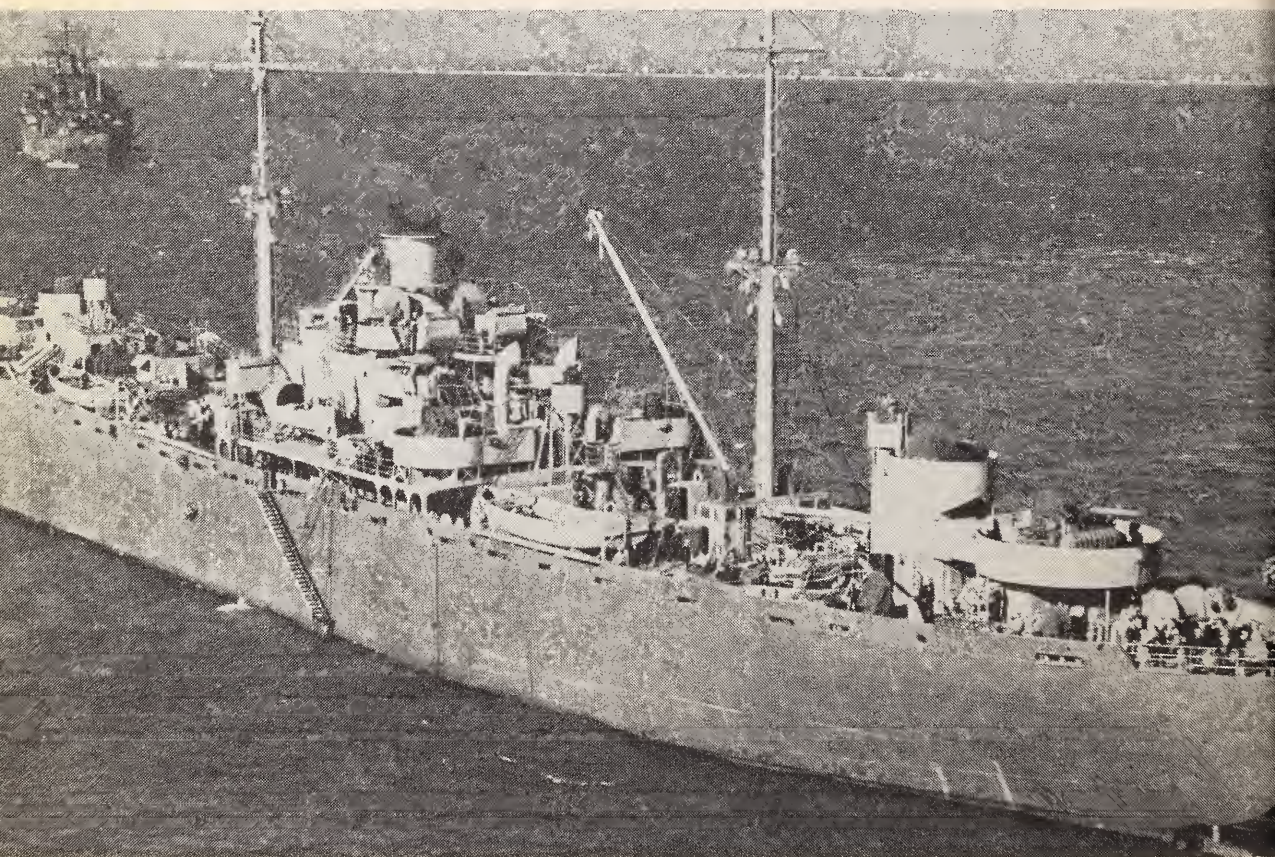
AR Repair Ship (USS Ajax AR-6)



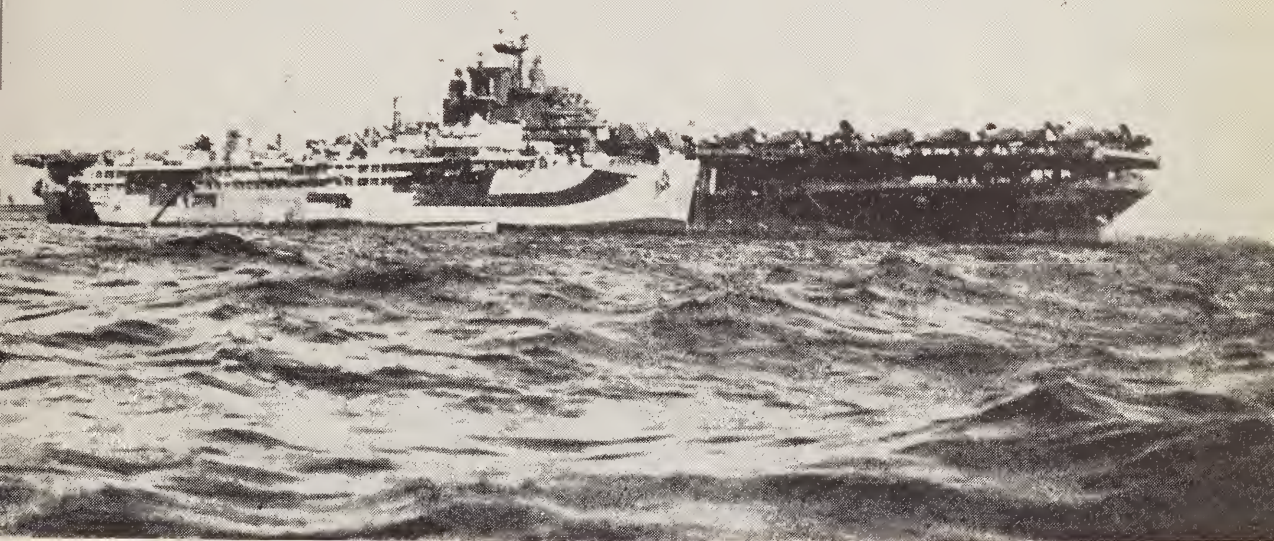
ARB Repair Ship, Battle Damage (USS Midas ARB-5)



ARD Floating Drydock (3500 tons) (USS ARD-23)



ARG Repair Ship, Internal Combustion Engine (USS Mindanao ARG-3)



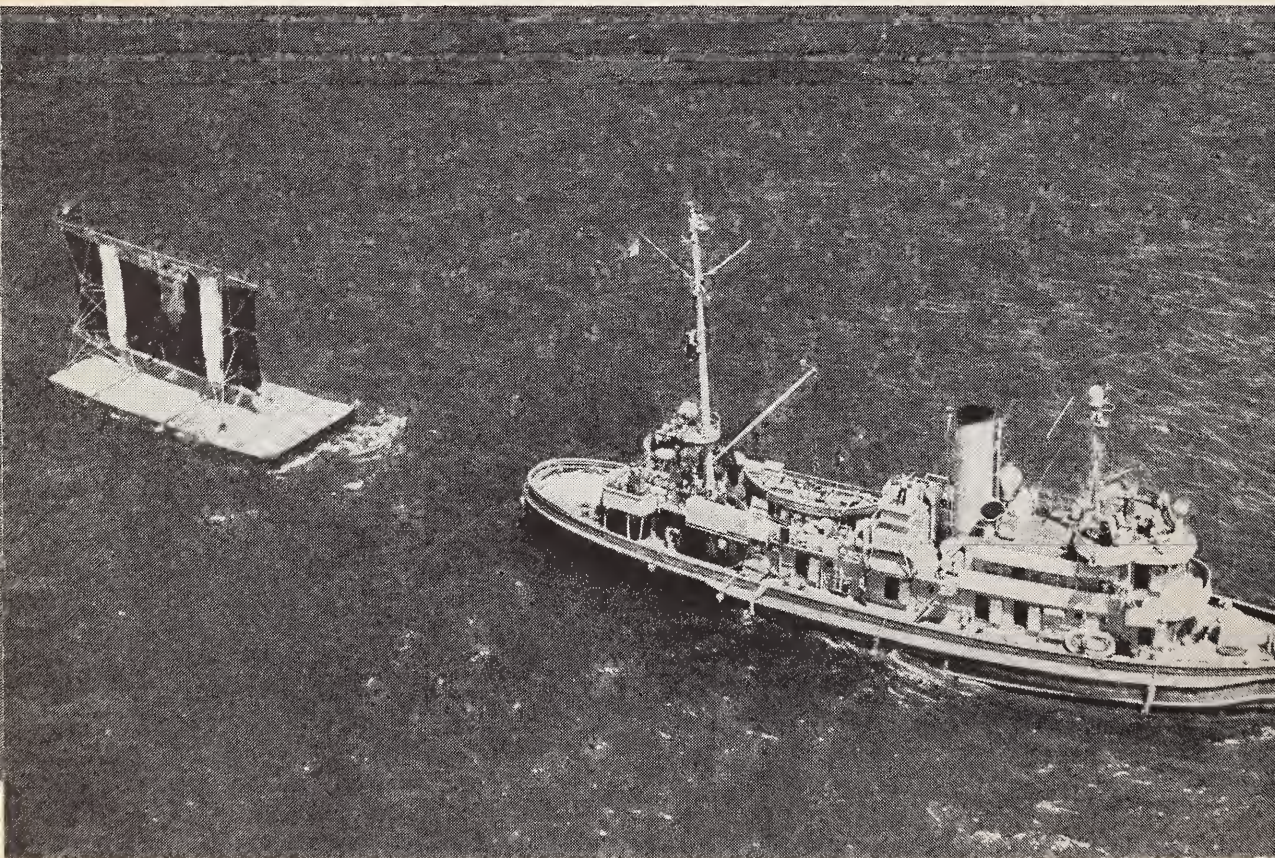
ARH Heavy Hull Repair Ship (USS Jason ARH-1 alongside carrier Hancock)



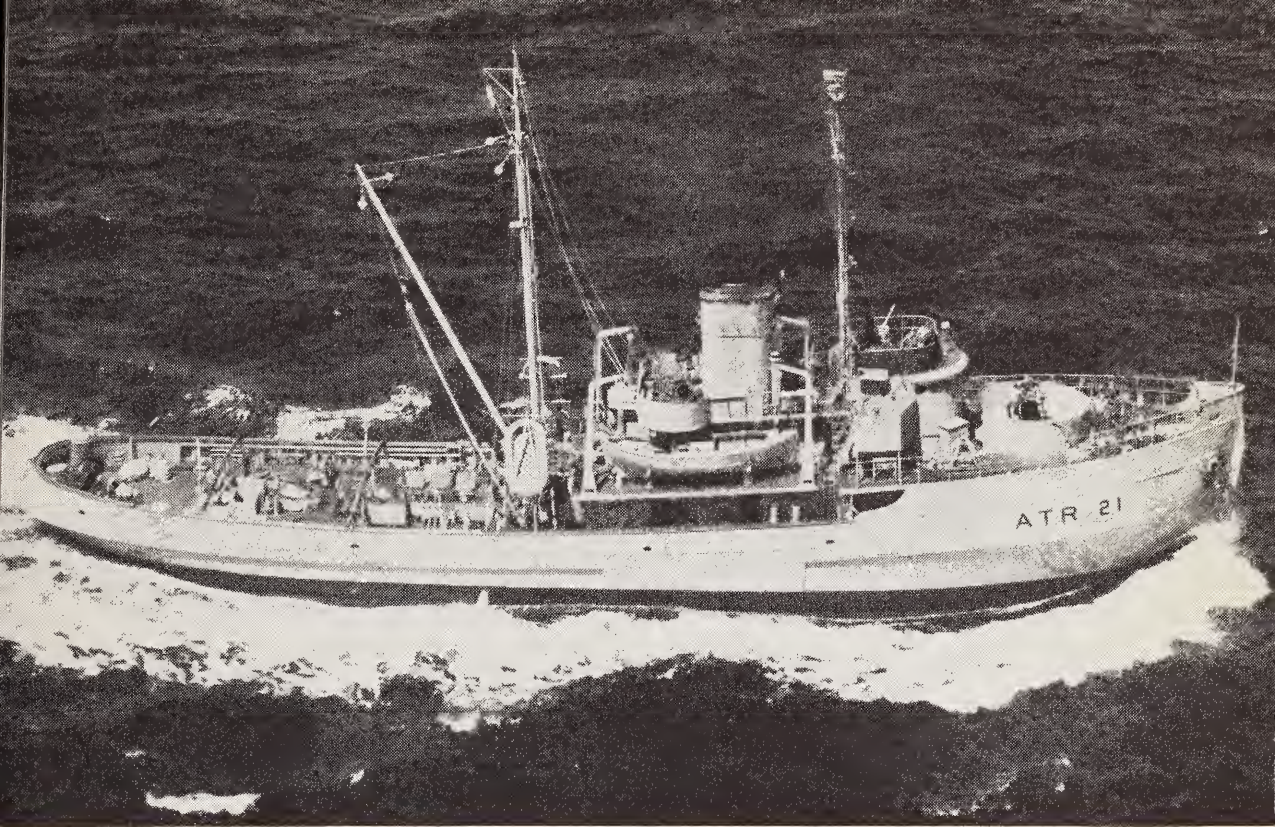
ARS Salvage Vessel (USS Current ARS-22)



ATF Ocean Tugs, Fleet (USS Apache ATF-67)



ATO Ocean Tug, Old (ATO-24 with target in tow)



ATR Ocean Tug, Rescue (USS ATR-21)



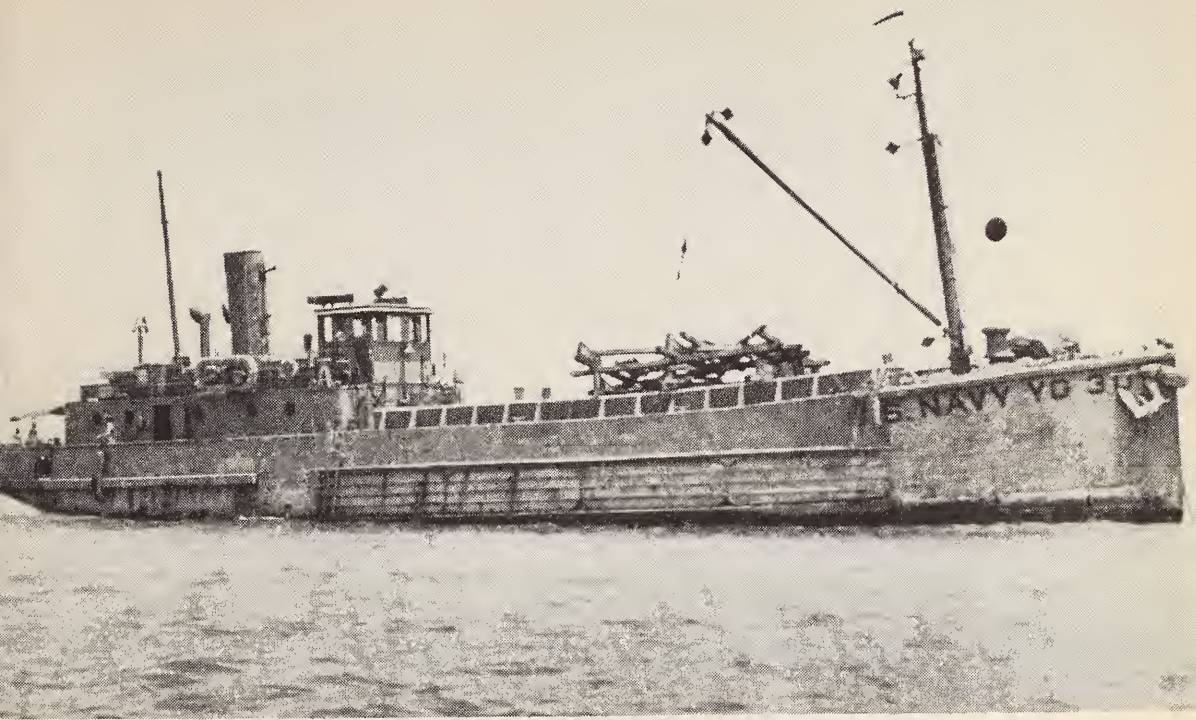
AW Distilling Ship (USS Abatan AW-4)



YF Covered Lighters (YF-696 used for ammunition storage)



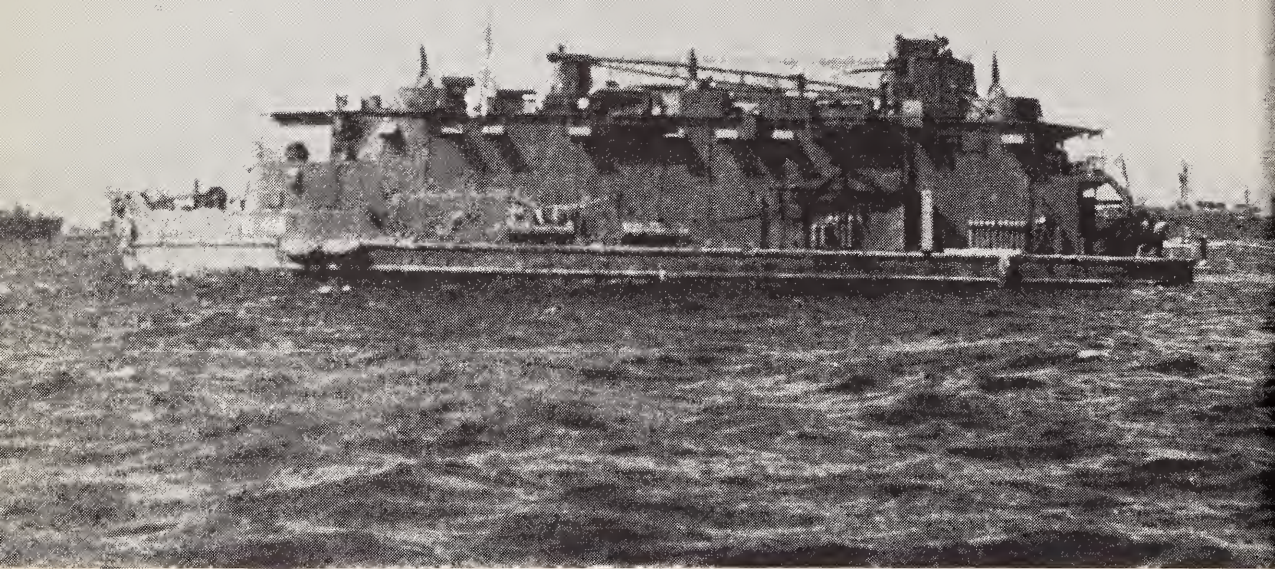
YF Yard Freight Barge (YF-512 stowage and issue of fleet freight)



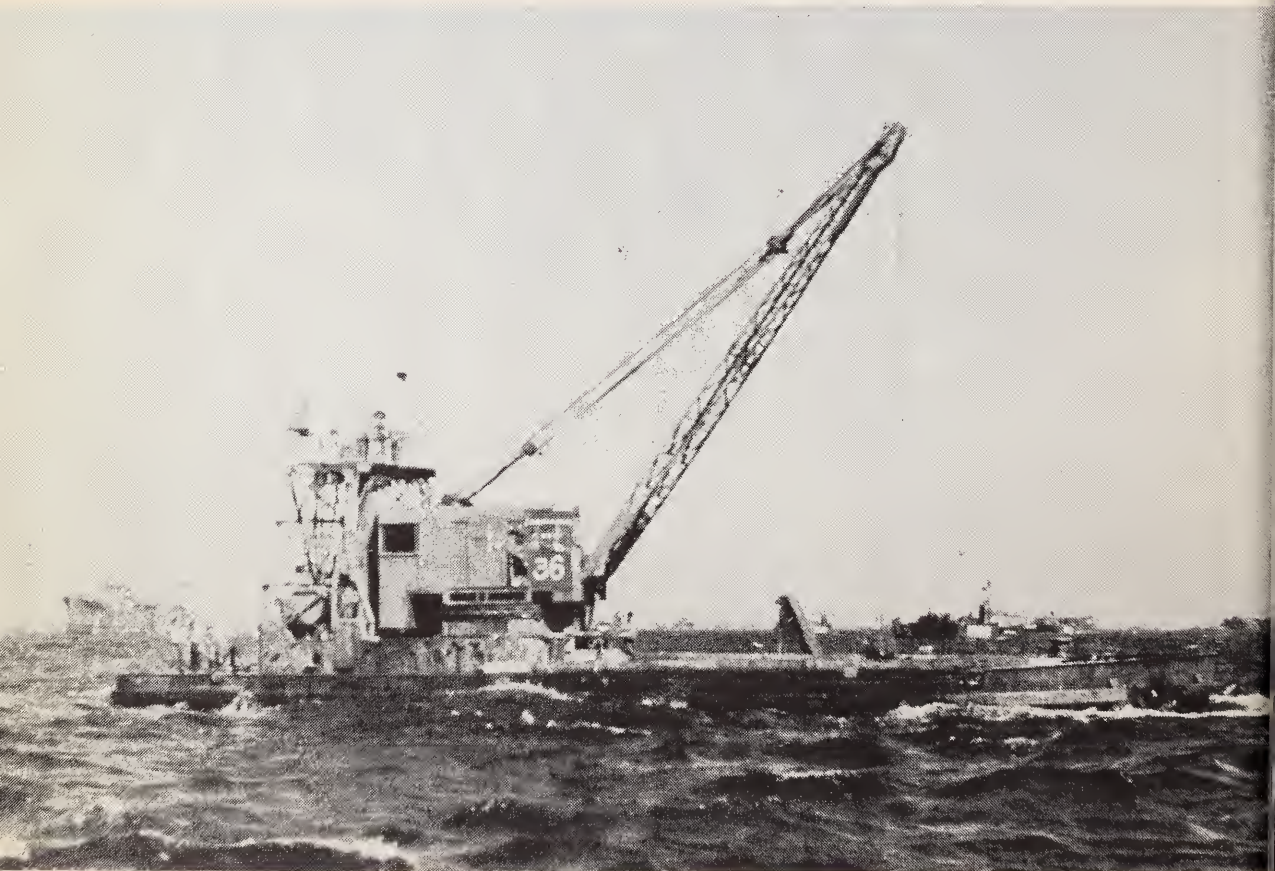
YG Garbage Lighter (YG-30)



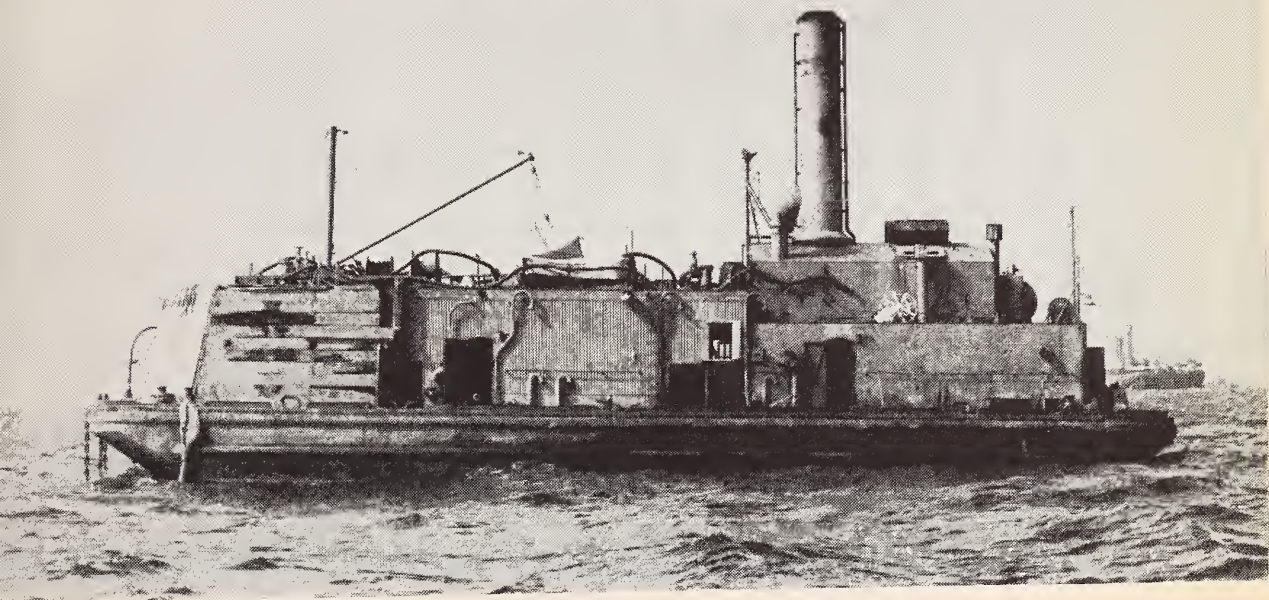
*YO Fuel Oil Barge (YO-29 carried Diesel oil) YOG (gasoline)
same as YO's*



YR Floating Workshop (YR-49)



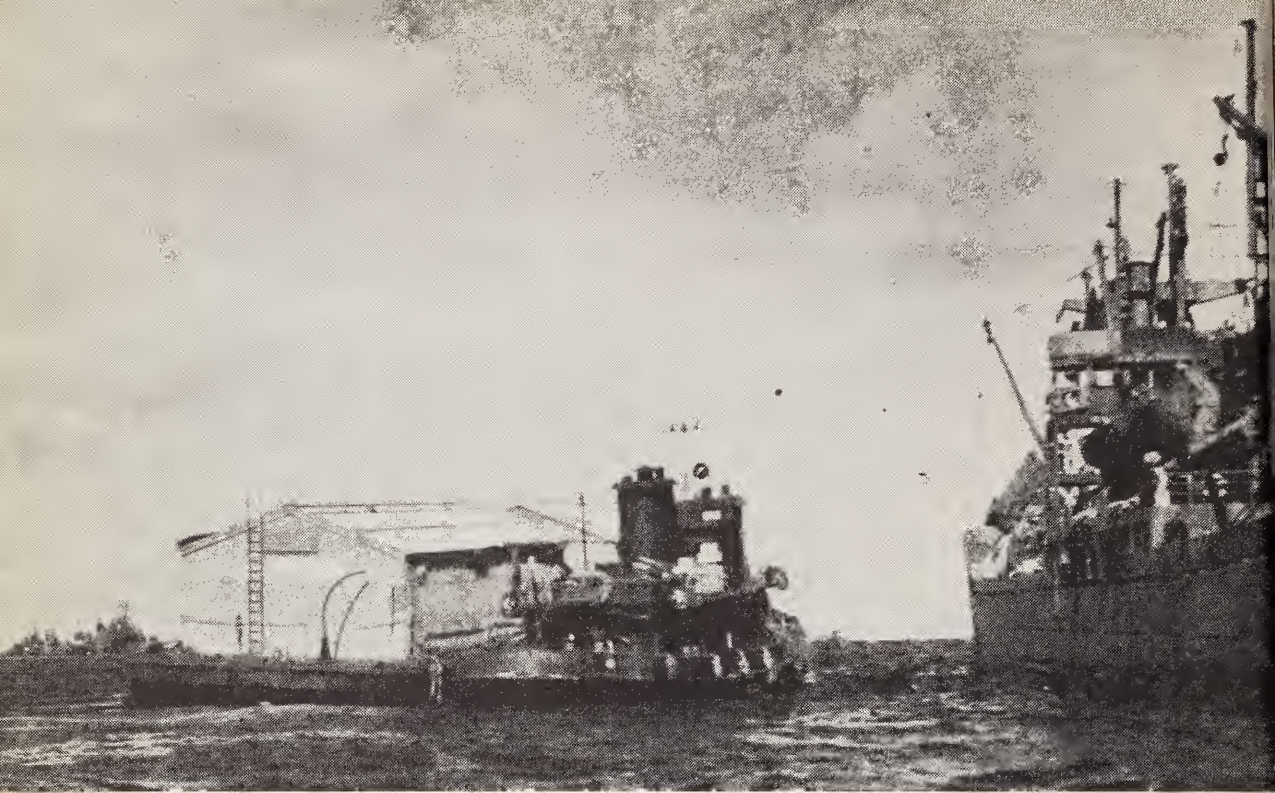
YSD Seaplane Wrecking Derrick (YSD-36 "The Marianne")



YSR Sludge Removal Barge



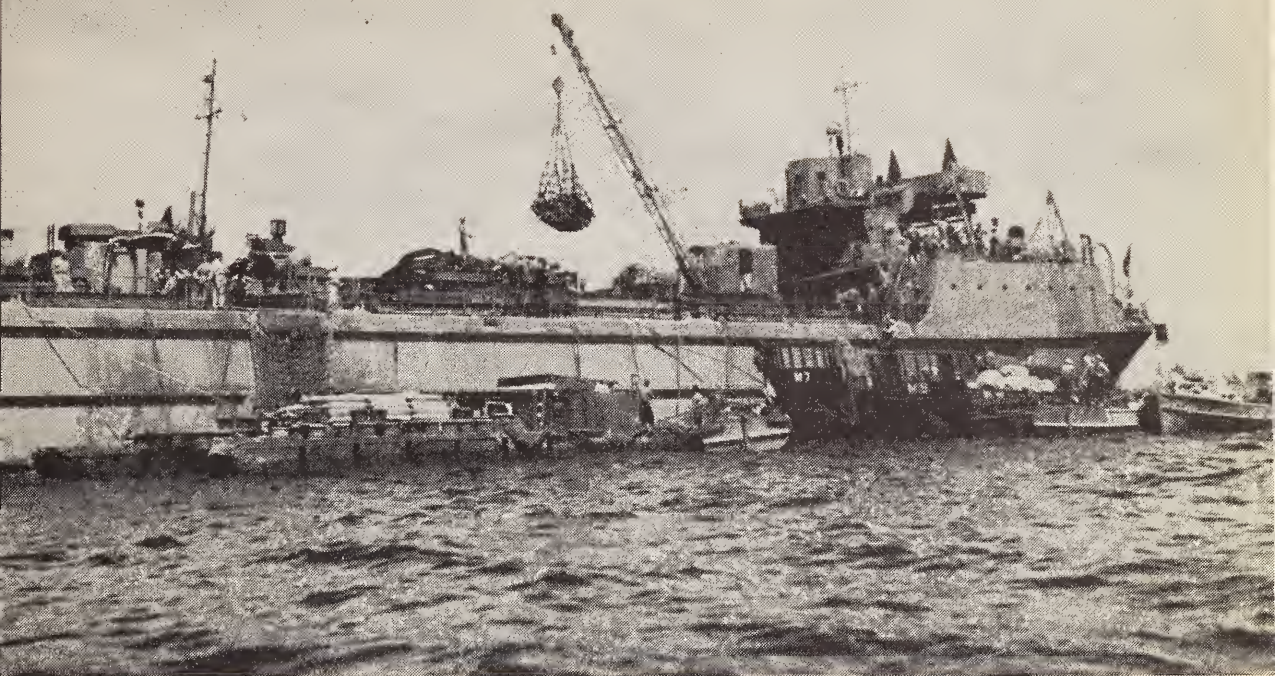
YTB Harbor Tug, Big (YTB-372)



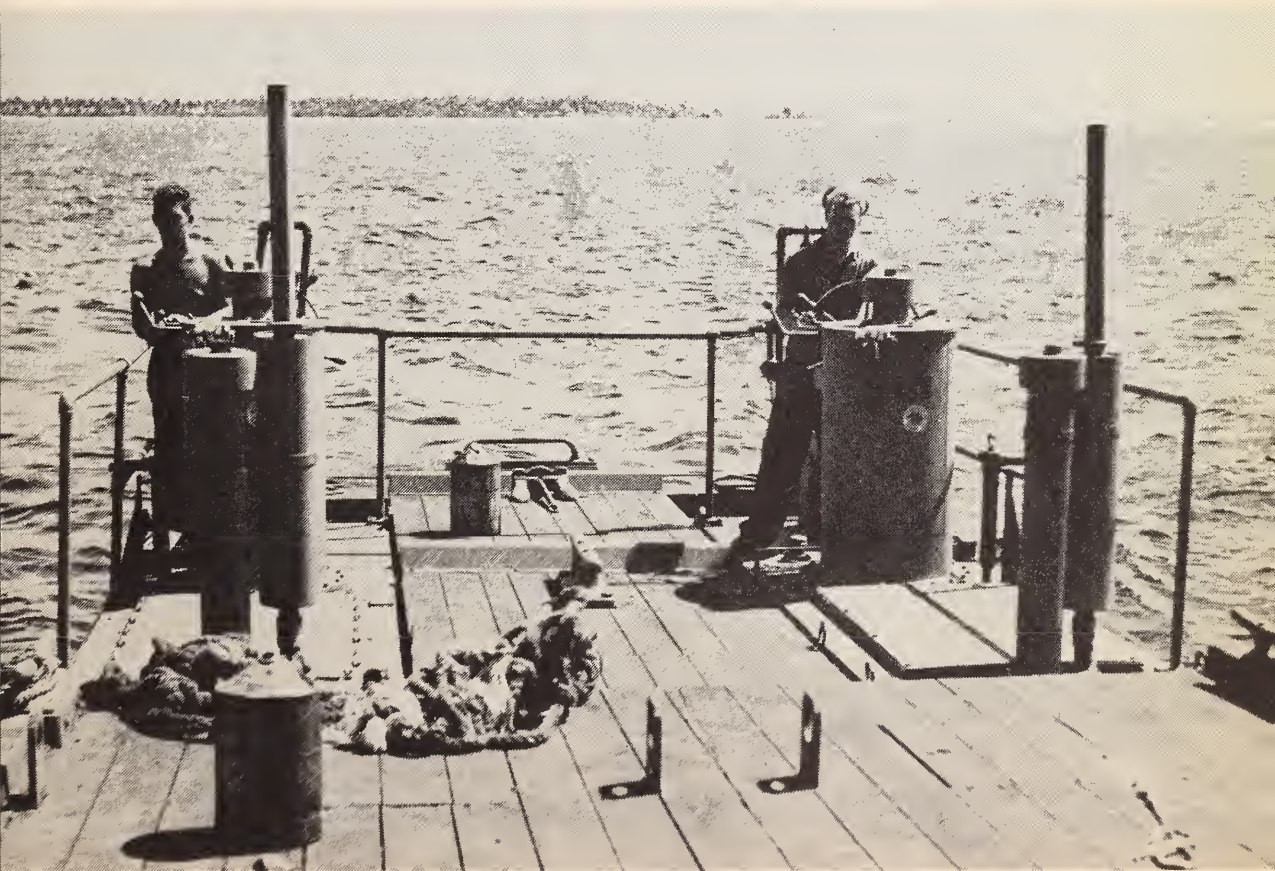
YTM Harbor Tug, Medium (With freight barge alongside)



YW-Water Barge (YW-90 in floating drydock)



IX A Concrete Stores Ship Making Issues to Small Craft Alongside



Twin Engine "Sea Mule"—Not Too Reliable—(Note cordage at time of acute shortage)



*Pontoon (Floating) Landing for Liberty Parties with LCM Alongside—
(LCM and LCVP in background)*



A 100-Ton Pontoon Cargo Barge, Outboard Driven

Glossary of Abbreviations

- AA—Antiaircraft.
- AAC—Antiaircraft common.
- ABDA—American-British-Dutch-Australian Command (1942).
- ABDAFLOAT—American-British-Dutch-Australian Naval Operational Command (1942).
- ABSD—Advanced base sectional dock. Made up of 7 (825 feet), 9 (844 feet), or 10 (927 feet) sections; lift capacity, 7 section, 55,000 tons; 9 section, 81,000 tons; 10 section, 90,000 tons. Suitable for docking BB's, CVB's, and CV's. Docked heavy ships at Manus, Guam, and in Leyte Gulf.
- ACM—Auxiliary mine layer.
- ACORN—An airfield assembly designed to construct, operate, and maintain an advanced landplane and seaplane base and provide facilities for operations.
- ACV—Auxiliary aircraft carrier or tender.
- AD—Destroyer tender. The largest of this class were the 530 footers (18,000 tons), of the *Dixie* class. Destroyer tenders took destroyers and escorts alongside serving their needs with repair work, stores, provisions, ammunition, and torpedoes. In addition some saw service as service-division and service-squadron flagships.
- ADG—Degaussing vessel.
- AE—Ammunition ship. About 450 feet long, and 60 feet beam. Cargo (ammunition) capacity of almost 7,000 tons.
- AF—Provisions stores ship. Has large refrigerated spaces. Supplied fresh and frozen provisions. *Aldebaran*, *Hyades*, *Graffias*, *Polaris*, the largest of the AF types, had over 5,000-ton cargo capacity. Brought highly prized fresh and frozen provisions to advanced logistic support anchorages.
- AFD—Mobile floating drydock. One-piece, steel. Length 200 feet. Nominal lift capacity of 1,000 tons. Suitable for docking YN's (net tenders) and AM's (large minesweepers). Used at logistic support anchorages.
- AFDL—Mobile floating drydock. One-piece, steel. Nominal lift capacity, 1,900 tons. Length over all 288 feet. Capable of docking DE, ATR, and AMS.
- AG—Miscellaneous auxiliaries.
- AGC—Combined operations communications headquarters ship. In Pacific most frequently used as flagships of amphibious force or group commanders.

AGL—Lighthouse tender.

AGP—Motor torpedo boat tender.

AGS—Surveying ship. These were converted from other types; equipped to conduct a harbor survey and to print the finished chart, complete with accurately placed reference points, shoreline, aids to navigation, depths of water, current data, shoals and other hazards, and anchorage circles. The work of this class was of much value, especially to enable use by our forces of a harbor promptly after seizure.

AH—Hospital ships. Bearing such peaceful names as *Repose*, *Solace*, etc. These non-combatant vessels were, according to Hague and Geneva Conventions, exempt from attack. Painted white and brightly lighted at night they traveled alone. A floating hospital, they evacuated sick and wounded Army, Navy, and Marine personnel from combat areas.

AIRSOWESPAC—Aircraft, Southwest Pacific Force.

AK—Cargo ships. These were converted merchantmen of various types from about 7,000 to 14,000-ton displacement and 4,000 to 5,000-ton cargo capacity (some as high as 7,000 tons). Speeds for most were about 11.5 to 12.5 knots, some faster. Among the AK's were the ships of the Liberty and Victory classes.

AKA—Cargo vessel, attack. All of this class Maritime Commission built. Over 400 feet long with a speed of about 17 knots, these were important units of amphibious forces.

AKS—General stores issue ships. Except for *Castor* and *Pollux*, each of which had speed of about 16 knots, the AKS types had speeds of about 12 knots. Each had total cargo capacity of about 9,000 tons. These were active in making issues at advanced anchorages and returning to rear areas or U. S. for replenishment of cargo.

AKV—Cargo ships and aircraft ferries. *Kittyhawk* and *Hammondspout* (formerly APV-1 and APV-2, respectively). These were ex-Sea Train Lines ships and carried airplanes (in ready-to-fly status), engines, and parts from the United States, principally to Hawaii, Noumea, and the Hebrides.

AM—Large mine sweeper.

AMc—Coastal mine sweeper.

AMM—Aviation machinist's mate.

Ammo—Ammunition.

AMs—Auxiliary motor mine sweeper.

AN—Net layers. These were the valuable "horned-toads" which laid and maintained antisubmarine nets protecting harbors and fleet anchorages.

AO—Oilers. These were the important elements in the Navy's "lifeline" in the Pacific—the hard working, dependable fleet oilers and station tankers. Though specializing in fuel oil, Diesel oil, and gasoline, some of these later

carried some ammunition, provisions, bottled gas, mail, stores, spare parts, and personnel for delivery to fast carrier task groups at sea. Some AO's were converted to carry water.

AOG—Gasoline tankers. Very useful size for harbor fueling. These were about 220 to 320 feet in length, the largest carrying over 800,000 gallons of gasoline and some fuel oil.

AP—Armor piercing.

AP—Transport.

APA—Transport, attack.

APB—Barracks ships, self-propelled. Two of this type at Iwo Jima were converted LST's used as mother ships for landing boats and their crews, providing water, provisions, fuel, berthing, and messing; also accommodated 14 bed patients.

APc—Coastal transport.

APD—High-speed troop transport. These were, for the most part, converted destroyer escorts; some were the old 1,100-ton flush-deck destroyers, the long-lived and revered "four pipers," some of which had been commissioned as early as 1917.

APH—Transport fitted for evacuation of the wounded.

APL—Barracks ships (hotel barges). These were non-self-propelled house boats 260 feet long with a 49-foot beam. The ships data, U. S. naval vessels, lists accommodations for 5 officers and 66 enlisted men with troop capacity of 583 enlisted. These seagoing barracks were invaluable for housing personnel, especially stevedores (construction battalion specialists) engaged in handling ammunition and other cargo at Eniwetok, Ulithi, and Leyte. Each barracks ship was nicknamed for some famous hotel such as the "New Yorker," "Biltmore," "Astor," and "Waldorf." To name one, the "*Casa Marina*" (APL-10), built at Nashville, Tennessee, was floated down the Mississippi and commissioned at New Orleans. She was towed to Ulithi via Pearl Harbor. Surviving typhoon winds she was towed from Ulithi to Shanghai, where she housed the boat-pool personnel for Service Division 101.

APO—Army post office.

APS—Transport, submarine.

AR—Repair ships. Of the repair ships, the *Vulcan* (AR-5), *Ajax* (AR-6), and *Hector* (AR-7) were similar in design to the *Dixie*-class destroyer tenders and were equipped with splendid machine shops and foundries, enabling them to make repairs to delicate equipment (including optical) as well as heavy equipment. For their particular type of work, repair ships in advanced logistic support anchorages were practically floating navy yards.

ARB—Repair ships, battle damage. There were 12 of these converted from LST's.

- ARD—Floating drydocks. These, some 485 feet and some 491 feet long, had a lift capacity of 3,500 tons and could accommodate destroyers, submarines, and landing ships (tank). They were the bulwark of repair forces of service organizations in logistic support anchorages in the accomplishment of repair where docking was required.
- ARG—Repair ships, internal combustion engine. There were 13 ARG's, 12 of which were Liberty ships converted for repair duties. Gasoline and Diesel engines for planes and vessels were repaired in ARG's.
- ARH—Heavy-hull-repair ships. The *Jason*, of the same design as *Vulcan* class of repair ship, was the only ARH. She made a substantial contribution to Pacific war effort. At Ulithi she repaired and sent back to the battle line six major ships that had suffered serious damage from Kamikaze attacks—4 carriers and 2 battleships.
- ARL—Repair ship, landing craft.
- ARS—Salvage vessels. A little over 200 feet in length and about 40 feet beam, mostly twin-screw Diesel-electric machinery, these vessels performed valuable service in towing and rescue service in the Pacific.
- ARV—Aircraft engine overhaul and structural repair ship.
- AS—Submarine tender.
- ASR—Submarine rescue vessel.
- ATA—Ocean tugs, auxiliary.
- ATCOM—Atoll commander.
- ATF—Ocean tugs, fleet. This was the almost indispensable type to have at hand at logistic anchorages or in reserve support of invasions. They performed noteworthy service in the towing of three damaged cruisers back from the "shadow of Formosa." This class had American Indian tribal names, Diesel-electric propulsion, one screw.
- ATO—Ocean tug, old.
- ATR—Ocean tug, rescue.
- AV—Seaplane tender (large).
- AVD—High-speed seaplane tender (converted DD).
- AVS—Aviation supply ship.
- AVP—Seaplane tender (small).
- AW—Distilling ships. Two of this class were Liberty tankers and two others, the *Pasig* (AW-3) and *Abatan* (AW-4), were large oilers (523 feet long) adapted to carry water and with distillers to make it. These were valuable in furnishing water to shore stations and to ships without distilling apparatus.
- BARREL—Forty-two gallons of fuel oil—50 gallons of gasoline.
- BATDIV—Battleship division.
- BATFOR—Battle force.

- BATRON—Battleship squadron.
- BATSHIPBATFORPAC—Battleships, Battle Force, Pacific Fleet.
- BB—Battleship.
- BETTY—Japanese Navy medium bomber (twin engine—Mitsubishi).
- BLACK OIL—Bunker fuel oil.
- BOGIE—Unidentified aircraft.
- BU—As prefix means one of the bureaus of the Navy Department.
- BUSANDA—Bureau of Supplies and Accounts.
- BUSHIPS—Bureau of Ships.
- CA—Heavy cruiser.
- CANFSWPA—Commander Allied Naval Forces, Southwest Pacific Area.
- CAPT—Captain.
- CARAIRGROUP—Carrier air group.
- CARDIV—Carrier division.
- CASU—Carrier aircraft service unit.
- CB—Large cruiser. *Alaska* (CB-1) and *Guam* (CB-2), commissioned in 1944, reached the Pacific near end of war.
- CDR—Commander.
- CDS—Commander destroyer squadron.
- CENPAC—Central Pacific Area.
- CENPACFOR—Central Pacific Force.
- CG—Coast Guard.
- CGC—Coast Guard cutters.
- CIC—Combat information center.
- CINC—Commander in chief.
- CINCAF—Commander in Chief, Allied Forces.
- CINCAFPAC—Commander in Chief, U. S. Army Forces in the Pacific.
- CINCPAC-CINCPHA—Commander in Chief, U. S. Pacific Fleet and Pacific Ocean Areas.
- CL—Light cruiser.
- CL(AA)—Light cruiser, antiaircraft.
- CM—Mine layer.
- CMc—Coastal mine layer.
- CMM—Chief machinist's mate.
- CNO—Chief of Naval Operations (Also OpNav).
- CO—Commanding officer.
- COM—Commander: Examples: ComDesRon (Commander Destroyer Squadron).
- COMDR—Commander.
- COMDT—Commandant.
- COMINCH—Commander in Chief, United States Fleet (Formerly CinCUS).

- COMMO—Commodore.
- COMSERFORPACSUBCOM—Commander Service Force Pacific Subordinate Command.
- COMSERVRON—Commander service squadron.
- CRUBATFOR—Cruisers, battle force.
- CRUDIV—Cruiser division.
- CTF—Commander task force.
- CTG—Commander task group.
- CTU—Commander task unit.
- CUB—An advanced base unit consisting of all the personnel and material necessary for the establishment of a medium-sized advanced fuel and supply base.
- CV—Aircraft carrier.
- CVB—Large aircraft carrier.
- CVE—Aircraft carrier, escort.
- CVET—Aircraft carrier, transport (unofficial definition).
- CVL—Small aircraft carrier.
- DCNO—Deputy chief of naval operations.
- DD—Destroyer.
- DESBATFOR—Destroyers, battle force.
- DE—Destroyer escort.
- DESPAC—Destroyers, Pacific Fleet.
- DESRON—Destroyer squadron.
- DM—Light mine layer (high speed).
- DUKW—Amphibious truck.
- DUMBO—Seaplane used for rescue work.
- EMILY—Japanese Navy patrol bomber (four engine, Kawanishi).
- ESCORTDIV—Escort division.
- ETA—Estimated time of arrival.
- ETD—Estimated time of departure.
- F—Flagship.
- FF—Fleet flagship.
- FS—Small freighter.
- F6F—"Hellcat," single-engine Navy fighter (VF) manufactured by Grumman.
- Flash Red—Warning signal. Enemy aircraft in near vicinity.
- FPO—Fleet post office.
- GCT—Greenwich Civil Time.
- GP(bomb)—General purpose.
- GROPAC—Group Pacific (small advanced base component).
- GSK—General stores.
- HC—High capacity (refers to shell explosives).

- HELEN—Japanese Navy medium bomber (twin engine—Nakajima).
- HELLCAT—See F6F.
- H-HOUR—Hour set for attack or other operation to begin (on D-day).
- HMAS—His Majesty's Australian Ship.
- H-Minus 1, 2, etc.—1, 2, etc., hours before hour of attack.
- H-Plus 1, 2, etc.—1, 2, etc., hours after hour of attack.
- HE—High explosive.
- HVAR—High-velocity aircraft rocket.
- HYDRO—Hydrographic Office.
- IFF—Identification, friend or foe (radar signals).
- ISCOM—Island Commander.
- IX—Unclassified vessels. In this class of miscellaneous types fell the useful station tankers with animal names *Armadillo*, *Beagle*, *Camel*, *Caribou*, *Elk*, etc., which saw service at Majuro, Eniwetok, Leyte Gulf, and other logistic support anchorages. Among the IX's were the concrete stores ships *Asphalt*, *Bauxite*, *Carmita*, *Corundum*, etc., known affectionately as the "crockery" fleet. In this category is the *Ocelot* (IX-110) (ex-*Yomachichi*), a barracks ship, used as a flagship by Commander Service Squadron Ten.
- JCS—Joint Chiefs of Staff (US-GB).
- JASASA—Joint air-surface antisubmarine action.
- JICPOA—Joint Intelligence Center, Pacific Ocean Areas.
- JUDY—Japanese Navy torpedo bomber (single engine, Aichi).
- JURY Steering Rig—A contrivance to supply a means of steering a ship temporarily replacing or assisting the regular rudder or steering gear.
- KAMIKAZE—Name given to Japanese suicide pilots; "Kami" meaning "divine," "kaze" meaning "wind." The use of the word "Kamikaze" stems from an event, in 1281, during the second Mongol invasion of Japan. The Mongols embarked a huge force in two large fleets, one Korean and one Chinese. After almost 2 months of fighting, on land and sea, a terrific storm destroyed a large portion of the invading armada, and the remainder departed with serious losses. In World War II the Japanese hoped that the Kamikaze pilots would stop the United States Fleet just as the "divine wind" had turned back the invader in ancient days.
- KATE—Japanese Navy high-level or torpedo bomber (single engine, Nakajima).
- KIA—Killed in action.
- KINGFISHER—See OS2U.
- KTS—Knots.
- LAT.—Latitude (north or south).
- LC or L/C—Landing craft.
- LCC—Landing craft, control (slightly larger than an LCVP).

LCDR—Lieutenant commander.

LCI(L)—Landing craft, infantry (large).

LCI(R)—Landing craft, infantry (rocket).

LCI(G)—Landing craft, infantry (gunboat).

LCM—Landing craft, mechanized. This type has twin-screw Diesel propulsion, a 50-foot all-metal hull with ramp. It was one of the most useful of the landing craft for logistic work, as it was suitable for handling bombs, ammunition, and other heavy stores (about 30 tons). In rough-water conditions within logistic support anchorages the LCM withstood hard usage much better than the more lightly constructed LCVP, and the LCM likewise had greater capacity for handling liberty parties holding 120 men, three times that of an LCVP.

LCM(3)—Landing craft, mechanized (mark III).

LCP—Landing craft, personnel.

LCP(L)—Landing craft, personnel (large).

LCP(R)—Landing craft, personnel (ramp).

LCS(S)—Landing craft, support (small).

LCT—Landing craft, tank. About 110 feet long. Used for landing tanks or trucks. In size is between the LST and LCM classes. Service organizations found this class very useful in handling shells, powder, bombs, and other heavy and bulky stores.

LCV—Landing craft, vehicle. Similar to LCVP.

LCVP—Landing craft, vehicle, personnel. This is a 36-foot single screw (Diesel) landing craft of plywood construction. Boat pools of service organizations contained LCVP's along with LCM's. Though not as rugged as LCM's, the LCVP served a very useful purpose in handling small amounts of stores, up to about 5 tons of cargo, and about 36 persons.

LION—A large advanced base unit consisting of all the personnel and material necessary for the establishment of a major all-purpose naval base. It is made up of a large number of functional components which enable the base to perform voyage repairs and minor battle-damage repairs to a major portion of a fleet.

LONG.—Longitude.

LORAN—Long-range radio aid to navigation.

LSD—Landing ship, dock. These ships, over 450 feet long, accompanied amphibious forces on invasions, carrying LCM's and smaller craft. After the war they were used for transporting craft of boat pools to anchorages in occupied areas.

LSM—Landing ship, medium.

LST—Landing ship, tank. Over 320 feet long, these ocean-going ships with a large tank deck, low doors, and ramp served in many capacities. Some were converted into repair ships (see ARB), some were used for floating-post-office

work, while others were used to transport repatriated Japanese families (1,000 persons—men, women, and children) from Chinese ports back to their homeland. Perhaps the most unique use of LST's was in China, where six were equipped with individual stalls for horses of Chinese Army for transportation to Manchuria.

LSV—Landing ship, vehicle.

LTGEN—Lieutenant general.

LT—Lieutenant.

LT(JG)—Lieutenant (junior grade).

LVT—Landing vehicle, tracked.

MAJGEN—Major general.

MARCORPS—Marine Corps.

MARGILSAREA—Marshalls-Gilberts Area.

MINRON—Mine squadron.

MOGAS—Motor gasoline.

MOMM—Motor machinist's mate.

MTB—Motor torpedo boat.

MTBRON—Motor torpedo boat squadron.

NABU—Naval advanced base unit.

NAS—Naval air station.

NATS—Naval Air Transportation Service.

NAVBASE—Naval base.

NAVFOR—Naval forces.

NAVSTA—Naval station.

N.E.I.—Netherlands East Indies.

NICK—Single engine, heavy Japanese fighter (Mitsubishi).

NOB—Naval operating base.

NORPAC—North Pacific Area; North Pacific Force.

NORWESSEAFRON—Northwestern Sea Frontier.

NSD—Naval supply depot.

NTS—Naval Transportation Service.

OBB—Battleship, old.

OMM—Officer messenger mail.

OOD—Officer of the deck.

OPPLAN—Operating Plan.

OS2U—"Kingfisher," single-engine Navy scout-observation (VSO) landplane and seaplane, manufactured by Vought-Sikorsky.

OTC—Officer in tactical command.

OSS—Old submarine.

PACFLT—Pacific Fleet.

- PATRON—Patrol squadron.
PBM—Mariner, twin-engine Navy patrol bomber (Martin).
PBY—Twin-engine U. S. Navy patrol bomber (VPB).
PC—Patrol vessel, submarine chaser (173 foot).
PCE—180-foot patrol craft escort vessel.
PCE(R)—180-foot patrol craft escort vessel, rescue.
PCS—136-foot submarine chaser.
PEARL—Pearl Harbor, T. H.
PF—Frigate.
PG—Gunboat.
PGM—Motor gunboat.
PHIBPAC—Amphibious Forces, Pacific Fleet.
PHIBSFORPAC—Amphibious Forces, Pacific Fleet.
PHILSEAFRON—Philippine Sea Frontier.
PICKET—Advanced or distant radar guard ship.
POA—Pacific Ocean Area.
PR—River gunboat.
PT—motor torpedo boat.
P.U.C.—Presidential unit citation.
PW—Public works.
PY—Yacht.
PYC—Coastal yacht.
RADAR—Radio detection and ranging.
RADM—Rear admiral.
RAN—Royal Australian Navy.
RCT—Regimental combat team.
REEFER—Refrigeration.
REP—Representative.
RFS—Ready for sea.
RON—A suffix meaning squadron (MinRon—mine squadron).
SALLY—Japanese Army medium bomber (twin-engine, Mitsubishi).
SA—Air search radar (shipborne).
SANDA—Bureau of Supplies and Accounts.
SAP—Semiarmor piercing.
SBD—Scout bomber (Douglas).
SBW—"Hell Diver," single-engine Navy scout bomber.
SC—110-foot submarine chaser.
(SC)—Supply corps.
SCAP—Supreme Commander Allied Powers (Japan).
SEABEE—Construction battalion.

- SEAFRON—Sea frontier.
- SECNAV—Secretary of the Navy.
- SERFORSOPACSUBCOM—Service Force South Pacific Subordinate Command.
- SERONSOPAC—Service Squadron South Pacific.
- SERRON—Service squadron.
- SERDIV—Service division.
- SERFOR—Service force.
- SERVON—Service squadron.
- SERVRON—Service squadron.
- SERVSOWESPAC—Service Force, Southwest Pacific Fleet.
- SPLINTER FLEET—A general term (unofficial) applied to smaller vessels of the subchaser and patrol-boat classes and the like.
- SONAR—Sound navigation and ranging.
- SOPA—Senior officer present afloat.
- SOPA (ADMIN)—Senior officer present afloat (administrative).
- SOPAC—South Pacific Area and Force (later, South Pacific Command).
- SPDC—Spare parts distribution center.
- SQDN—Squadron.
- SS—Submarine.
- SS&CS—Ship's stores and commissary stores.
- SUBBASE—Submarine base.
- SUBDIV—Submarine division.
- SUBPAC—Submarine Pacific.
- SWPA—Southwest Pacific Area.
- SWPAC—Southwest Pacific Area.
- TASKFLOT—Task flotilla.
- TBF—Single-engine U. S. Navy torpedo bomber.
- TBS—Voice radio—very high frequency, medium power. Used for ships' tactical maneuvering.
- TBM—"Avenger" single-engine Navy torpedo bomber.
- TF—Task force (numeral designation: Example TF 30, Commander Third Fleet (Admiral Halsey)).
- TG—Task group. (numeral designation: Example TG 30.9, CSR Ten (Commodore Carter)).
- TU—Task unit (numeral designation: Example TU 30.9.1, CSR Ten Rep. (Captain Ogden)).
- TIME—Unless otherwise noted, the local civil time of the place concerned is used instead of the a. m. or p. m. designation. Example: 0835 instead of 8:35 a. m. or 2035 instead of 8:35 p. m. (the 2035 (p. m.) time designation being obtained by adding 12 hours to the clock-face time).

- TRANSPHIBPAC—Transports, Amphibious Force, Pacific Fleet.
TRANSTRON—Transport squadron.
UDT—Underwater demolition team.
UNRRA—United Nations Relief and Rehabilitation Administration.
USC&GS—U. S. Coast and Geodetic Survey.
USCGR—U. S. Coast Guard Reserve.
USMC—U. S. Marine Corps.
USN—U. S. Navy (also indicates Regular Navy).
USNR—U. S. Naval Reserve.
U.S.S.—U. S. ship (naval vessel).
UTRON—Utility squadron.
VADM—Vice admiral.
VAL—Japanese Navy dive bomber (single engine, Aichi).
VB—Bombing plane, U. S. Navy.
VF—Fighter plane, U. S. Navy.
VT—Torpedo plane, U. S. Navy.
VS—Scouting plane, U. S. Navy.
WSA—War Shipping Administration.
XAE—Merchant ammunition ship.
XAK—Merchant cargo ship.
XAKc—Merchant coastal cargo ship (small).
XAP—Merchant transport.
XAPc—Merchant coastal transport (small).
XAV—Auxiliary seaplane tender.
YAG—District auxiliary miscellaneous.
YC—Open lighter.
YCK—Open cargo lighter.
YD—Floating derrick.
YDG—Degaussing vessel. At the San Pedro Bay (Leyte Gulf) anchorage, one of this class, the *YDG-6*, was available for magnetic-compass adjustment and also for compensation of degaussing-compass corrector coils. The *YDG-6* was also equipped to inspect and make minor repairs on the degaussing systems of all ships and to calibrate the degaussing coils of vessels of YM's and comparable sizes.
YF—Covered lighters. These are of various tonnages. The ones in Service Squadron Ten in San Pedro Bay (Leyte Gulf), for instance, were of the 500-, 1,500-, and 2,000-ton variety; used for storage and issue of following stores: Ammunition, torpedoes, freight, medical stores, steel stock, internal-combustion-engine spares, hull and machinery spares, motion-picture-projector spares, fog-generator spares, maintenance stores, etc.

YFD—Floating drydock.

YG—Garbage lighters. These were of different sizes but the ones assigned Service Division 101 at Leyte were Diesel driven, 118 feet long, 27 feet beam, and had a standard displacement of about 350 tons.

YM—Dredges.

YMS—Motor mine sweeper.

YN—Net tender.

YNG—Gate vessel.

YNT—Net tender (tug class).

YO—Fuel-oil barges. These were of different sizes and capacities, some holding 10,000 barrels of fuel, some 6,000 to 7,000 barrels; some were self-propelled, some non-self-propelled. Some of those assigned Service Squadron Ten held fuel oil, certain YO's carried Diesel, certain ones carried aviation gas; some held a combined cargo such as aviation gasoline and Diesel oil, fuel oil and Diesel oil, motor gas and lubricating oil, and certain ones had a cargo of water. The YO's made a material contribution in logistic services at advanced anchorages.

YOG—Gasoline barges. About the same as YO's but especially with cargoes of Diesel, aviation gas, and motor gasoline.

YOGL—Gasoline barges (large).

YP—District patrol vessel.

YR—Floating workshops. These are 150 feet long with a 34-foot beam, non-self-propelled. Thirteen of these were assigned Service Squadron Ten at one time. They did useful service for boat-pool repair, torpedo repair, and small-craft repair.

YRD(H)—Floating workshop, drydock (hull).

YRD(M)—Floating workshop, drydock (machinery).

YS—Stevedore barges.

YSD—Seaplane wrecking derrick. One hundred and four feet long with a 31-foot beam, these derricks with a rated lifting capacity of 10 tons are useful in accomplishing many different tasks at logistic support anchorages.

YSR—Sludge-removal barge.

YT—Harbor tugs.

*YTB—Harbor tugs, big. These tugs, 100 feet in length, with a 25-foot beam, are rated as having 800 to 1,200 horsepower.

*YTL—Harbor tugs, little. Rated at from 200 to 300 horsepower, they are for the most part about 66 feet long and have a beam of about 17 feet.

*YTM—Harbor tugs, medium. Over 90 feet long with a beam of about 20 feet they are rated as having around 500 horsepower.

*The above three types of harbor tugs had many and varied towing assignments at logistic support anchorages, being employed practically on "around the clock" schedule.

YW—Water barges. (Water barges with a rated capacity of 200,000 to 300,000 gallons were valuable service units at advanced anchorages. Some were self-propelled, some non-self-propelled.)

ZEKE—Japanese Navy fighter plane (single engine—Mitsubishi) (called “Zero” early in war).

Index

Names of ships in *italics*

Page numbers in *italics* indicate photograph or chart

A

Abbreviations, glossary of, 451-64

Abner Read, damage and casualties, 84

ABSD: assembled at Aessi, 55; characteristics, 55; at Leyte-Samar, 379

Achilles at Madang-Alexishafen, 182

Acknowledgments, ix-x

Acuff, J. T., CAPT: command of oiler groups at Eniwetok, 190; support for Philippines campaign, 274-76; COMMO, commander, Serv-Div 102, 381

Adak Island: occupation of, 69; base development at, 73

Admiralty Islands: description, 66; chart, 172

Adria at Kerama Retto, 55

AFD-13 and *-16* arrive at Majuro, 123

AFD-17 at Saipan for Okinawa campaign, 324

Agenor in Marianas campaign, 141

Air evacuation of casualties from Saipan, 160

Air strips: Central Pacific, viii; construction at Leyte-Samar, 374

Aircraft replacement: at Majuro, 140; escort carrier's role in, 144-46; off Luzon, 249; by Service Squadron Six, 356

Aitape, landing at, 131

Ajax: repairs at Funafuti, 91; joins ServRon-Ten at Majuro, 122; repair record in Marianas campaign, 147-48; at Eniwetok, 163; repairs at Eniwetok (August 1944), 179; at Ulithi, 271, 370; repairs to *Guadalupe*, 296; repairs for Okinawa, 329; dysentery aboard, 383

AK-class cargo ships, fitted for transferring ammunition at sea, 99

Akutan, oil storage ashore, 80

Aldebaran: at Tongatabu, 23; at Ulithi, 224; provisioning record at Okinawa, 365

Aleutian Islands: campaign, 69-85; distances, 73; chart, 74; Attu chosen as first objective, 75; end of campaign, 85

Alexei Point, airfield begun, 83

Ambon (N. E. I.), Patrol Squadron 101 sent to, 13; Japanese planes attack, 15

Amchitka Island, occupation of, 69

Ammunition: for Guadalcanal, 30; for Marshalls campaign, 118; for Hollandia operation, 131; for Marianas campaign, 139; for Iwo campaign, 289-90; for Okinawa, demands, by types, 363

Ammunition: allowances: for replenishment from assault shipping, 241-42; changes in types required, 362; distribution: Central Pacific campaign, 110 ServRonTen the principal source, 111; expenditure: Kiska, 83; Marianas campaign, 151-58; Iwo campaign, 289-90; fleet, 110-12; increased need after Central Pacific drive, 110; loads, Okinawa campaign, 329; replenishment: at Attu, 78; problems, 154; LST's, 340-41; at Kerama Retto, 340-45; shore-based storage proves adequate for Central Pacific campaign, 109; supply: scope, 111; Stalemate II, 197-200; Seventh Fleet, 307; Okinawa campaign, 327; transfer, difficulties at Leyte, 238; transfer at sea, AK's fitted for, 99

Ammunition and ammunition ships on hand at end of war, 112

Ammunition depot: first, set up at Espiritu Santo, 51-52; fall of 1942, 49

Ammunition dumps, outlying, development, 107

Ammunition lighters, gunner's mates assigned to, 135

Ammunition ships: need in Gilberts campaign, 99; need as war progressed, 110; heroism, unseen, 189; loading categories, 200; instructions for Iwo campaign, 282; position in at-sea replenishment, 356; ServRonSix, rearming record at Okinawa, 363

Ammunition units of fueling group at Leyte, 240

Amycus at Buna, 131

Anchorage: protected, Central Pacific, viii; for Marianas campaign, 138

Ancon at Kerama Retto, 348

Anderson, RADM Walter S., ix

Anderson, CAPT H. A., commanding *Guadalupe*, 143-44

Anguar Island, landing on, 182

Antares: at Tongatabu, 23; in Stalemate II, 177; general stores issuing at Kerama Retto, 346-47

Antigua: provisions for Attu operation, 81; in preparation for Stalemate II, 176; provisioning for Okinawa campaign, 324

Aore Island, recreation area, 54

Apache in Stalemate II, 204

APD-16 joins ServRonTen at Majuro, 122

Appendectomy by flashlight aboard *Pinkney*, 335

Apra Harbor, 303

Arapaho in Stalemate II, 205

Arctic at Seadler

Area Petroleum Office established in ServRon-Ten, 102

ARD-2 installed at Noumea, 55

ARD-6, submarine undocking from, 70

ARD-13 joins ServRonTen at Majuro, 122; first floating drydock in CenPac, 123

ARD-14 to Guadalcanal for Okinawa support, 320

ARD-17 at Leyte for Okinawa maintenance, 317

ARD-19, to Seadler, 173, 174

ARD-23 builds false bow on *Yarnall*, 325

ARD-25 at Saipan for Okinawa repairs, 324

ARD's at Kerama Retto, 349

Area Petroleum Section of ServForPac, 10

Arcthusa: commissioning of, 125; to Seadler, 173, 174; in Ormoc landing, 268

Argonne: flagship of RADM Calhoun during attack on Pearl Harbor, 7; sails for Auckland, 24; joins squadron at Majuro, 122; to Seadler, 173; damaged by blowing up of *Mount Hood*, 187, 188; at Leyte for Okinawa, 317

Aristaeus: to Guadalcanal for Okinawa support, 320; repairs at Okinawa, 387

Armadillo: load carried to Seadler, 174; fueling at Seadler, 189; at Kerama Retto, 348

Armor-piercing projectiles, shortage at Leyte, 241

Asato Gawa, supply dumps, 351

Ascella: preparation for Stalemate II, 176; medical stores for Okinawa, 329

Ashland, in Iwo campaign, 289

Ashtabula: In Palau strike, 130; fueling record at Leyte, 239; attacked off Homonhon Island, 239-40; collision with *Thornton*, 359

Asiatic Fleet: joins British and Dutch cruisers, 12; in Dutch East Indies, 12-17; gathers at Tjilatjap (Java), 16

Assault task force 31, fueling plan for, 193

ATA-122 to Seadler, 174

Atascosa: In Palau strike, 130; fueling in bad weather, 257-58; at Kerama Retto, 333

Athanasia at Okinawa, 387

ATR-51, rescue work after torpedoing of *Mississinewa*, 261

At-sea replenishment; *see* Replenishment at sea

Attu: chosen as first objective in Aleutians, 75; aircraft replacement in Okinawa campaign, 364

Attu operation: ammunition replacement, 78; D-day, 77; forces made available to, 76; fuel problem, 78-81; fueling of supporting task groups, 79; landing craft shortage, 77; planning of, 76; provisions, 81; repairs, 81-82

Aucilla: at Ulithi, 259; fueling for Okinawa campaign, 328

Auckland: ship-repair facilities, 57; value as a base, 26

Australia, charts, 14, 62

Auxiliaries: balance in, lack of detailed knowledge for formula, 4; increase of between 1940 and 1945, 5

Aviation gasoline and lubricants, Okinawa campaign, 361

Aviation logistics, Okinawa campaign, 363-65

Aviation spare parts: at Manus Shore Base, 177; for Stalemate II, 177; for Okinawa campaign, 365

Azimech: provisioning records, in Marianas campaign, 146-47; at Kerama Retto, 346

B

Balikpapan (Borneo), Force anchors in, 13

Balusoa water point (Samar), *Ponaganset* loading fresh water at, 377

Barbey, RADM D. E. commands ServFor SoWesPac, 63; at Hollandia, 131

Barge fleet, 101

Barges: characteristics, 101; concrete, non-propelled, functions, 100; concrete stores, 127; pontoon, completed at Majuro, 123; uses, 123; self-propelled, 101, 123; *Kitty Hawk* unloading torpedo plane to, 31; to Seadler, 173; unmanned, 101

Barracks ships at NOB, Leyte Gulf, 376

Base Force: administration and operation of various types, 2; depression years, effect of, 4; fleet, formed as part of, 2; Subordinate Command, San Francisco, 8; Train, composition in 1940 and 1945 compared, 5; utility wing, 8; war plans for overseas movement, 4

Base hospitals: in 1942, 33; at Espiritu Santo and Nouma, 60; Guam, 306

Bases, distances apart, effect on supply system, 38; *see also* Mobile bases and Shore bases

Bayonne (N. J.) Storage Depot, expansion in 1940, 4

Beary, RADM D. B., viii, 282, 283

Bellegrave in Iwo campaign, 289

Berthing problem, 264

Bishopdale runs into mine, 25

Black Hawk: in train of Task Force Five, 15; maintenance and repair in Aleutians, 73, 75; repairs *McDonough* and *Sicard*, 77

Black pepper, rumpus over, 328
 Boak, COMMO J. E., on Manus, 66
 Boat pool: buildup at Kerama Retto, 339; needs: at Majuro, 135; increase as logistic support moves westward, 147; number of boats needed arouses incredulity, 106; problem throughout Pacific campaign, 264; repairs: a difficult problem, 294; at Kerama Retto, 339; ServRonTen's, beginning of, 120
Boise: cannibalization, 16; damages to, at Cape Esperance, 40
 Bolton, CAPT Robert, landing craft group at Kiska, 83
 Bombardment, Iwo Jima, 289-90
 Bombardment group logistics, Leyte assault, 238
 Bombardment loading, 111
 Bombs, loading of, difficulty at Saipan, 168
 Bombs, transferring at sea, LST to *Hancock*, 199
 Bonin Islands; carrier attack on, 168; strike, 168
Bootes in Ormoc landings, 268
Boreas: provisions for Operation Galvanic, 90; in preparation for Stalemate II, 176
 Borneo, chart, 14
Boston fueling a destroyer, 192
 Bougainville, landings on, supplies needs following, 52
Bougainville, replacement of aircraft and pilots, Iwo campaign, 284
Bountiful: at Saipan, 159; in Stalemate II, 207, 208
Bowditch: surveys Majuro anchorage, 122; to Chimu Wan, 389; surveys Buckner Bay, 388-392
 Bowman, CAPT M. C., at Auckland, 37
Brazos: in Attu operation, 79; at Kiska, 83; at Kerama Retto, 333
Briareus in Okinawa preparations, 320
Bridge: in Attu operation, 81; at Majuro, 120; at Majuro, 147; preparation for Stalemate II, 176; at Kerama Retto, 347
 Brisbane, submarine base at, 63
 Brown, CAPT J. L., 122
 Brown, VADM Wilson, raid on Rabaul, 18
 Buckner Bay: air raids on, 393, 394; move to, from Kerama Retto, 388, 392; ServDiv 104 continues at, 392; typhoon of 9 October 1945, 398; typhoon sorties, plans, 394-97
Bucyrus Victory, ammunition for Okinawa, 329
 Buna, tenders at, in Hollandia operation, 131
Bushnell at Majuro, 133

C

Cable, repairs to Lamson, 268
Cacapon in Palau strike, 130
 Cahaba, fueling *Iowa* and *Shangri-La* on a smooth day, 360

Cairns: floating equipment (February 1945), 310; landing-craft bases and amphibious training centers, 64
Calamares, support of Operation Interlude, 204
 Calhoun, W. L., RADM, Commander Base Force at time of attack on Pearl Harbor, 7; Commander Service Force until 1945, 7
Caliente: fueling activity at Lahaina Roads, 115; in Palau strike, 130; arrival at Eniwetok, 190
California and *Tennessee*, collision, repairs after, 178
 Callaghan, RADM D. J., killed on *San Francisco*, 43
 Camels, 323
Canberra: salvaging of, 226-31; repairs to, 295
 Cannibalization: of *Boise*, 16; of vessels leaving theater of operations, 225
 Canteen stores, stores ship supplies, 146-47
Cape Lopez, provisioning at Saipan for Okinawa campaign, 324
 Cape Engano, battle of, 245
 Cape Esperance, battle of, 40
Cape Esperance, work of replacement carrier described in war diary of, 279
Caribou: to Seadler, 173, 174; in Ormoc landing, 268
 Caroline Islands, chart 172
 Carolines, central, plan to isolate and neutralize, 137
 Carolines, western *see* Western Carolines
 Carney, VADM R. B., xii
 Carter, W. R.: CAPT, Commander Naval Bases South Pacific, 47; organizes ServRonTen at Pearl Harbor, 95; COMMO, Commander ServRonTen, 137; leaves Majuro for Eniwetok, 142; safety measures at Ulithi, 263; hospitalized, 399
 Carpender, VADM A. S., service force in SoWesPac under, 63
 Carrier air attack on Marcus and Wake, 132-33
 Carrier groups, fast *see* Fast carrier groups
Casa Grande, boat pool repairs at Kerama Retto, 339
Cascade: at Funafuti, 91; in Marianas campaign, 147; at Eniwetok, 163; at Ulithi, 271; repairs *Ringgold*, 325; at Ulithi, repairs for Okinawa, 328; at Okinawa, 387
 Casiguran Bay, considered as anchorage for ServRonTen, 369-70
Castor: reaches Manus, 177; arrives at Seadler, 185; provisioning of TF 58 for Okinawa 327; to Buckner Bay, 388
 Casualties; air evacuation from Saipan, 160; color classification of, 207-08; evacuation from beaches, night problems, 209
Cebu in Stalemate II, 179
Celtic at Buckner Bay, 393

- Central Pacific: air strips, viii; anchorages, protected, viii; dependence on ServRonTen, 135; lagoons as protected anchorages, viii; mission of VADM Spruance, 87; mobile floating support the primary need, viii; plan to secure control of, 137; planning for operations in 1943, viii; situation in July 1944, 163
 purpose increasing depths of, primary Channels, of ServRonTwelve, 9
 Chase, RADM J. V., Commander Base Force, 2
Chepachet, 239
Chester: in Task Force Eight, 17; hit and towed in, 41
Chicago to Sydney for repairs, 32
Chickasaw: in Stalemate II, 205; assists Randolph, 326
Chickaskia: fueling activity at Lahaina Roads, 115; in Palau strike, 130
Childs, narrow escape at Kendari, 15
 China, Japan, and Philippines, 273 (chart)
Chotauc: fueling at Ulithi for Okinawa, 328; at Buckner Bay, 393
Chowanoc in Stalemate II, 205
Cimarron in Task Force Eighteen, 18; fueling of carrier force for Truk strike, 121
Clamp: at Kerama Retto, 333; salvage work at Kerama Retto, 339
 Clamshell dredges at Okinawa, 390
Claxton picks up Japanese survivors, 247
 Clothing, extra, need for, 42
Clovis Victory at Kerama Retto, 348
 Cobb, RADM C. H., Commander ServRonSoPac, 47
Colorado, overhauled at Bremerton after Pearl Harbor attack, 11
 Coman, COMMO R. G., Commander ServForWesPac, 63
 Combat supplies insufficient in loading for Attu operation, 76
 Commander Forward Area, Iwo campaign, duties, 282-83
 Commander ServRonTen: made responsible for distribution of ammunition, 110; duties in Iwo campaign, 282. See CARTER.
 Commanding officers of principal ServForPac vessels, 405-27
 Commercial tankers, role in distribution of oil, 99
 Communications, visual, at Ulithi, 278
 ComNorPac supplies Attu, 83
 ComSoPac's needs, lack of understanding of, 39
 Concrete barges, 127: fragileness of, 126; nonpropelled, functions, 100
 Concrete stores barge, 127
 Concrete vessel (*Corundum*) joins ServRonTen at Eniwetok, 109
 Conolly, RADM R. L.: report on effect of naval gunfire at Guam, 157; report on logistics in Marianas campaign, 162-63
 Construction battalion at Okinawa, 390
 Coordination for supplies, interservice, 103
Copabee, aircraft replacement record in Marianas campaign, 145
 Coral Sea, battle of, 21
Coronis: to Guadalcanal for Okinawa support, 320; at Kerama Retto, 333
Corundum joins ServRonTen at Eniwetok, 109
 Cowanesque: at Ulithi, 328; in Okinawa campaign, 358
 Crosse, RADM C. W., commander Base Force Subordinate Command, San Francisco, 46
 "Crossing the T" at Battle of Surigao Strait, 247
Cree assists *Franklin*, 357
 "Crockery" ships, 126
 Cub One, 51; establishes first ammunition depot at Espiritu Santo, 51-52
Culebra Island at Madang-Alexishafen, 182
Current assists *Mazama*, 279; assists Randolph, 325
Currituck at Leyte, 374
Curtiss: based at Noumea, 23; at Funafuti, 91
Cuyama: fueling in Attu operation, 79; at Kiska, 83

D

- Damage* to ships, effects on supply system, 38
 Damaged ships repaired by ServRonTen, none lost, 294
 Damages and repairs, South Pacific, 35-47
 Darwin (Australia) becomes logistic base for Southwest Pacific, 15
Deliver at Kerama Retto, 339
 Demonstration group (TG 51.2) in Okinawa campaign, 323, 324
 Depth charges, shortage in Okinawa campaign, 363
 "Desecrate Two," 130-32
 Destroyer fueled by *Boston*, 192
 Destroyer tenders in Aleutians, 73
Dewey, stack renewed by *Prairie*, 296
 Diesel oil at Majuro, 134
 Distilling ship, 100
Dixie: in Tulagi-Purvis Bay region, 178; at Ulithi, 271; at Leyte for Okinawa campaign, 317
Dobbin at Oro Bay, 131
 Doyle, CAPT W. E., Commander Base Force, Task Force Five, 15
 Dredging operations, Okinawa, 390
 Drop tanks, 364
 Dry provisions, stores ship supplies, 146-47
 Dry provisions ships, capacity, 102
Durham Victory at Leyte, 238-39
 Dutch, Zero attack on, 69
 Dutch East Indies, Asiatic Fleet in, 12-17
 Dutch Harbor, submarine undocking from *ARD-6* at, 70

Duvall, E. E., Jr.: CAPT, becomes chief staff officer of ServRonTen, 169; administers ServRonTen at Eniwetok during move to Ulithi, 220; leaves Eniwetok for Ulithi, 222; COMMO, commander of ServDiv 101, 381
Dysentery, outbreak at San Pedro Bay, 382-83; aboard *Ajax*, 383

E

Early period of war, 11-22; maintenance, 54-58; repair, 54-58; scarcity of shipping, vii; shore facilities in SoPac and SoWesPac, vii; service forces, general activities, 58-61
Efate Island: characteristics, 26; in Marianas campaign, 141
Egeria: in Marianas campaign, 141; at Eniwetok, 163; in Ormoc landing, 268; at Leyte for Okinawa campaign, 317, 318
Elk: fueling at Ulithi for Okinawa, 328; at Okinawa, 387
Ellice Islands, 91-96
Emergency repairs *see under* Repairs
Emirau Island, landing on, 66
Endymion: at Leyte for Okinawa, 317, 318; at Kerama Retto, 333
Enemy targets in Philippines, 255
Eniwetok, 153 (chart): anchorage for Marianas campaign, 138; enemy air pipeline is cut, 99; forces present in July 1944, 165; fueling for Iwo campaign, 288; main body reduced to a minimum, 220; number of ships serviced, 167; oilers spotted for Iwo campaign, 288; protection against wind insufficient, 146; repairs by *Oahu*, 288; ServRonTen at, viii, 149; principal activities, 163-70; ships, 179; ships at, 164; smoke-making at, 158; Stalemate II, preparations for, 171-83
Enoree: fueling at Saipan for Okinawa campaign, 324; unusual service at Buckner Bay, 393
Enterprise: in raid on Wake Island, 18; damaged in eastern Solomons, 36; repairs to, 300-31
Escalante, collision with *Thornton*, 359
Escambia in Palau strike, 130
Escort carrier, aircraft replacement role, 144-46
Espiritu Santo, 27 (on chart); ammunition supply, first, 51-52; base hospital at, 60; Cub One, 51-52; fuel unit at, 50; landing field, 39; mine depot at, 52; outstanding location for a major base, 40; provisions and stores at, 52-53, 60; ship-repair unit, 55; ships at, additional, by May 1943, 60; Stalemate II, provisions issued for, 203; repairs for, 178; supply storage unit after Bougainville, 53; torpedo overhaul shop, 52
Estes, major hull repairs for Okinawa campaign, 318

F

Facilities, interservice exchange of, 46
Farenholt, damages to, at Cape Esperance, 41
Fast carrier task group; loading, 111; oilers with, at Seadler Harbor, 190-94; Stalemate II, 212-13
Fast carrier task force: replenishment in Iwo campaign, 284, 285; support at sea (November 1944), 256-57
Fechteler, RADM W. M., TG 76.1, attack on Los Negros, 66
Fellows, LCol. T. H. (USMC), 36
Fenders, truck tires used as, 323
Fifth Fleet: relieves Third Fleet, for Iwo campaign, 281; combat forces at Iwo, 281
Fighter cover for transports, ADM Ghormley emphasizes, 28
Finger Bay (Adak Island), 72; PT boat base, 73
Firedrake, ammunition for Okinawa, 329
Fire-fighting schools developed at Pearl Harbor and Noumea, 37
Fleet air arm, servicing by Base Force, 3
Fleet ammunition, 110-12
Fleet freight, amount handled at Ulithi, 278
Fleet Gunnery Officer, CinCPac, controlling agent for ordnance, 107
Fleet Maintenance Officer, ServForPac: functions, 8; backs up ServRonTen, 293-94
Fleet oilers: cargo carried, average, 349; direct distribution to fleet ships, 99; instructions for Iwo campaign, 282; at Kerama Retto, 345; location during Iwo campaign, 283; replenishment of, 194; schedules, Okinawa campaign, 361
Fleet post office, floating, at Majuro, 123
Fletcher, RADM F. J., raids on Salamaua and Lae, 18; senior task force commander in South Pacific, 20
Floating drydock: in 1940 Base Force Train, 5; at Attu, 82; at Florida Island, 57; in Central Pacific operations, 123; at Eniwetok, 163; in Stalemate II, 173, 178; at Leyte-Samar, 379
Floating drydock: characteristics, 55; small, 124; for various ship types, number in 1945, 5
Floating mobile base: first, ServRonFour, 90; idea approved during preparations for Operation Galvanic, 90
Floating repair unit at Madang-Alexishafen, 180
Floating storage barges under ServRonTen, 103
Florida Island, 27 (on chart); ship-repair units at, 57
Fog oil, expenditure at Iwo, 290
Food *see also* Provisions: distribution: for Marshalls campaign, 117; for Stalemate II, 176; requirements: February 1944, 126; at Majuro, 134

- Force Supply Office absorbs early duties of ServRonTen, 102
- Formosa, air strikes, 213, 234, 272
- Fort Bridges* at Seadler, 189
- Fort Moultrie*: fueling in Attu operation, 79; at Kiska, 83
- Fortune*: at Majuro, 140; at Seadler, 177; Okinawa aircraft and air crew replacement, 327
- Franklin*: hard hit, 298; close up, 299; tugs assist, 357
- Freight, fleet: at Ulithi, 278; at Kerama Retto, 347
- Fremantle, submarine base at, 64
- Fresh water, acute problem, 201 *see also* Water
- Fresh-and-frozen provisions (*or* food): lack of, 46; problem in Attu operation, 81; shortage at Eniwetok, 176
- Fresh-and-frozen provision ship, 147
- Fuel: conservation in Marshalls campaign, 117; consumption, 50; major item transferred at sea, 98; requirements: Marshalls campaign, 117; Marianas campaign, 139; Stalemate II, 173; storage facilities, 49; ashore, 306; supply: in Attu operation, 78-81; ADM Ghormley faces problem of, 24; in fall of 1942, 49-50; at Majuro for Marianas campaign, 140; Seventh Fleet, 307; at Okinawa, 388
- Fuel oil, shortage, 16
- Fueling: in Attu operation, 80; Truk strike, 121; for Hollandia operation, 131; in Wake attack, 132; in Marcus attack, 132; at Ulithi for Philippines campaign, 250; during Leyte aftermath, 275; Iwo campaign, 284, 286, 288; preparations for Okinawa campaign, 318-19; at Saipan for Okinawa campaign, 324; at Ulithi for Okinawa campaign, 328; at Kerama Retto, 345; at Okinawa, 359
- Fueling: activities of TG 30.8, 190-94; average cargo carried at Kerama Retto, 349; bad weather, Philippines campaign, 257-58; fast carrier task force, Iwo campaign, 284, 286; quantity issued, Leyte aftermath, 276; schedules, Leyte assault, 237-38; shore tank storage, 80
- Fueling areas, Marianas campaign, 139
- Fueling at sea: first, in Netherlands East Indies, 15; hazardous nature, 212-13; Marianas campaign, 139; Okinawa campaign, 357; predetermined rendezvous, Gilberts operation, 98; principles, 196; time consumed, Stalemate II, 193; Task Force 38, 191
- Fueling facilities at Great Sitkin Island, 73
- Fueling from both sides, 195
- Fueling group at Leyte, 239-241; ammunition units, 240
- Fueling record of *Guadalupe* in Marianas campaign, 143-44
- Fueling rendezvous, 191, 193; night before, 355-56; predetermined, Gilberts operation, 98
- Fueling two ships simultaneously, 46
- Fueling underway at sea: instituted as part of annual exercises, 3; skeptical attitude toward, 1; looked upon as emergency stunt, 3
- Funafuti, 91-92: floating logistic support only, 128; fuel anchorage and base for Operation Galvanic, 90; fuel available for Marshalls campaign, 117; little used by heavy ships after Tarawa, 93; repair facilities, emergency, 118
- Funafuti to Kwajalein, 126-28
- Fulton*: at Iwo, 289; at Saipan for Okinawa repairs, 324

G

- Gansevoort*, repairs to, 296
- Garapan Harbor, *Copabee* at 145
- Gasoline lighter alongside *Intrepid*, 198
- Gear*, salvage work at Kerama Retto, 339
- Geisenhoff, LCDR N. H., remains in charge at Eniwetok, 222
- General stores replenishment: for Stalemate II, 177; in Okinawa campaign, 365-66
- George D. Henry* in Dutch East Indies, 15
- Ghormley, VADM Robert L.: Commander South Pacific, 23; faces fuel supply problem, 24; emphasizes fighter cover for transports, 28; concern over fuel supply, 30-32; staff moves to Noumea, 36
- Giansar* at Saipan, 161
- Gibson, CAPT F. S., at Ulithi acting for ComServRonTen, 381
- Gilbert Islands, 88 (chart), 87-93; ammunition ships needed for, 99; first long periods away from permanent bases, 98; forces under ADM Spruance, 87; loads, initial, 89; total forces involved, 89
- Gillespie* attacked by Kamikazes, 359
- Glossary of abbreviations, 451-64
- Gold Star*: joins forces in Dutch East Indies, 13; in train of Task Force Five, 15
- Goode, CAPT J. B., commander first convoy in move to Ulithi, 217
- Grapple* in Stalemate II, 204
- Graves Registration Service, 207
- Gray, CAPT (later COMMO) A. H., becomes Commander ServRonEight, 97
- Great Sitkin Island, fueling facilities, 73
- Guadalcanal, 28
- Guadalcanal operation: beginning of, 26; enemy effort to retake, 42; enforced withdrawal of cargo ships, effect of, 33; logistics factors, 28; logistic vessels at, 23; needs, essential, 33; Okinawa preparations, 319-21; staging operating for Okinawa campaign, 319-21

Guadalupe: fueling in Attu operation, 79; at Kiska, 83; in Gilberts operation, 89; fueling of carrier force for Truk strike, 121; in attack on Palau, 129; support rendered in Marianas campaign, 143-44; collides with *Nantabala*, 275; repairs after collision, 296
 Guam, plan to capture, 137
 Guam base, 303-306: hospitals, 306; supply depot, capacity, 306
 Gugevive, strike on, 17
Gulfwax, ordered to replenish supply at Samoa, 26
 Gunfire, naval, at GUAM, ADM Conolly's report on effect of, 158
 Gunner's mates, need for, at Majuro, 135
 Guns from ServRonTen ships replaced damaged ones on combatant ships, 122

H

Hagushi beaches: assault over, 314; tanker moorings, improvement of, 351
 Halsey, VADM Wm. F., early raids on Marshalls and Gilberts, 17; raid on Wake, 18; "Bull on the rampage again," 271-72; "Bull in the China Sea," 272-74
Hamul: at Iwo, 289; at Saipan for Okinawa repairs, 324; at Kerama Retto, 339; repairs at Okinawa, 385-87
Hancock, LST transferring bombs to, at sea, 199
 Harbor clearance at Kerama Retto, 350
 Harbor conditions, ServRonTen responsible for, 103
 "Harbor stretcher" squadron, 9
 Harbors, increasing depths of, primary purpose of ServRonTwelve, 9
 Hardesty, CDR F. A., decides not to retire oilers to Eniwetok, 132
Harris: services at Ulithi, 208; at Seeadler, 211
 Havannah Harbor: recreation area, 54; repair and salvage in early 1943, 58
 Hawaii, shore bases, contribution to mobile floating support, xi
 Hazelhurst, CDR R. P., at Eniwetok, 164
Hazelwood, damage to, 341
 Health, influence on military operations, 383
Hector: joins ServRonTen at Majuro, 122; at Eniwetok, 163; diving operations from, after torpedoing of *Mazama*, 279; at Leyte for Okinawa campaign, 317, 318; at Ulithi, 370
 Heffernan, RADM John B., xii
 Henderson airfield, improvements to, 41
Heron: joins force in Dutch East Indies, 13; in train of Task Force Five, 15
Hidasta in Operation Interlude, 205
 Hill, RADM H. W., commanding southern attack force in Gilberts operation, 87

Hiwasee at Kerama Retto, 348
Holland: joins force in Dutch East Indies, 13; flagship of Task Force Five, 15; flagship of ServRonTen, 382
 Hollandia, capture and occupation of, 130-32
 Hollandia base, spring 1945, 309
 Homonhon Island, *Ashtabula* anchors at, 239
Honolulu at Tulagi, bow damaged by "dud" torpedo, 56
 Hoover, RADM J. H.: commanding Defense Force and Shore-based Air, Gilberts, 87; Commander Forward Area, 137
Hornet: fueling record of, 20; lost off Santa Cruz Islands, 42
 Hospital ships: Marianas campaign, 141, 158-59; number in 1940 and 1945 compared, 5
 Hospitals, base, 306
 Hostilities, termination of, increases work of supporting units, 398
 House, CAPT C. E., Area Petroleum Officer in Pacific, 102
 Houser, CAPT H. A., Commander ServDiv 103, 381
Houston: flagship of ADM Glassford, 12; towing and salvage of, 226-31; repairs to, 294-95; What holds her up? 227
Howard W. Gilmore, relieves *Sperry*, 133
 Humboldt Bay, landing at, 131

I

Idaho rushed to Pacific after Pearl Harbor attack, 11
 Ie Shima, enemy concealment on, 313
 Ie Shima, landing on, 314
Independence, repair of damage to, 92
 Indo-China coast, enemy shipping attacked, 272
 Initiative, time to take, after Midway action, 23
 Interservice coordination for supplies, 103
 Interservice exchange of facilities, 46
 Intership transportation, 106
Intrepid: damage at Truk, 121; gasoline lighter and LCT alongside, 198
Iowa fueled by Cahaba on a smooth day, 360
 Iron Bottom Bay, *Prometheus* at, 178
Isabel: joins force in Dutch East Indies, 13; in train of Task Force Five, 15
 Issue barges, concrete, 100
 Iwo Jima, carrier attack on, 168
 Iwo Jima campaign, 281-92; ammunition expended, 289-90; Fifth Fleet relieves Third Fleet, 281; forces involved, 281; Joint Expeditionary Force, replenishment at bases, 283; logistic agencies, 281; logistic instructions, 282; logistics prescribed for, 281; naval bombardment a decisive factor, 290; repairs at Eniwetok, 288; at Saipan, 289; replenishment rendezvous, 284; staging areas, extra load, 286; vessels by types, 281

J

- Jacobson, CAPT J. H., Commandant, NOB, Leyte Gulf, 376
 Japan, China, and Philippines, 273 (chart)
Jason: repairs at Seeadler, 185-86; at Ulithi during Leyte aftermath, 271; repairs flight deck of *Randolph*, 300; at Ulithi for Okinawa campaign, 329; at Ulithi during Leyte-Samar, 370
 "Jewelry," 101
John D. Henley, flagship of CAPT E. E. Paré, 139
 Joint action, poor coordination in early days of war, 12
 Jury steering rig made of coconut logs, 34

K

- Kamikazes *see* Suicide planes
Kanawha at Tongatabu, 24
Kankakee in Palau strike, 130
Kaskaskia: joins Task Force Seventeen, 18; ordered to Koko, 25; fueling activity at Lahaina Roads, 115; fueling of carrier force for Truk strike, 121; in attack on Palau, 129; fueling in bad weather, 257
 Keleher, COMMO T. J. Jr., Commander ServDiv 104, 381, 385
Kenneth Whiting, suicide plane attack on, 387
Keokuk, battle-damage repairs by, for Okinawa campaign, 318
 Kerama Retto, 332 (chart): abandoned by ServDiv 104, 385; ammunition replenishment at, 340-45; battle-damage repairs, 337; capture of, 331-33; drydocking at, 349; fueling activities, 345; lands on, 313; provisioning at, 346; purpose of seizing, 331; repair facilities augmented, 333; salvage and repair activities, 333, 339; ships present 1-5 July 1945, 387; shortages at, 337; suicide torpedo boats destroyed at, 331; suicide-plane attacks on, 335; summary of accomplishments, 353
 Kessing, COMMO O. O., atoll commander at Ulithi, 329
Kimberly, repair of, at Kerama Retto, 333
 Kinkaid, ADM T. C., Commander Task Force Eight, North Pacific, 69
Kishwaukee: at Kerama Retto, 333; at Buckner Bay, 388
 Kiska operation: bombardment, 83; D-day, 84; logistic preparations, 84; plans for, 82
Kitty Hawk: loading at Pearl Harbor prior to Midway action, 22; supplying planes to Long Island, 29; unloading torpedo plane at Pallikulo Bay, 31
 Kneeland, CAPT O. A., *Prairie* as flagship, 122
 Kodiak: air base, 73; oil storage ashore, 80
 Koli Point, enemy lands beachhead battalion, 43

- Kossolroadstead, 200
 Kuluk Bay: facilities at, 73; good anchorage, 69
 Kusaie, a geological exception, viii
 Kwajalein: anchorage for Marianas campaign, 138; predetermined fueling rendezvous unpractical, 98; repairs at, for Stalemate II, 180; strike on, 17
 Kyushu, fast carrier force attacks on, 313

L

- Lackawanna*: fueling activity in Gilberts operation, 89; in Palau strike, 130
Lakewood Victory, ammunition for Okinawa, 329
 Lae, strike on, 17
 Lagoons, Central Pacific, value as protected anchorages, viii
 Lahaina Roads, fueling at, 115
Lakewood Victory: at Iwo, 289; ammunition for Okinawa, 329
Lamson struck by suicide plane, 268
 Land forces in Stalemate II, 173
 Land-based forces, water allowance, 203
 Land-based planes, insufficiency, effect on supply system in South Pacific, 38
 Landing craft: shortage at Attu, 77; small craft tenders aid, at Iwo, 290
Langley: in Dutch East Indies, 12; in train of Task Force Five, 15; fires on planet Venus, 15
Las Vegas Victory: ammunition for Okinawa, 329; at Kerama Retto, 333
Lassen: ammunition supply for Marshalls Campaign, 118; in Marianas campaign, 139; at Seeadler, 188-89; at Palaus, 197, 200; delivers aircraft engines at sea, 364
Latona, provisioning at Kerama Retto, 347
 Laws, CAPT C. C., Kossol Passage representative of ServRonTen, 212
 LCI's equipped for salvage operations, 205
 LCM's: ammunition replenishment, 343, 345; fire-fighting units, 351; hoisting, problems, 215
 LCT: alongside *Yorktown*, 166; alongside *Intrepid*, 198
 LCT's, ammunition replenishment by, 343, 345
Leurze struck by suicide plane, 296
Lexington: replenishment and overhaul by Base Force, 3; in Task Force Eleven, 20; lost in battle of Coral Sea, 21; torpedoes being hoisted aboard, 113; taking on sugar at night, 202
 Leyte Gulf, 252 (chart): aftermath, 267-80; assembly point for Okinawa campaign, 316-18; battle of, 244-48; ammunition allowances and expenditures, 241-42; assault: ammunition units of fueling group, 240; bombardment group logistics, 238; fueling schedules, 237-38; Japanese naval strength, 243; Seventh Fleet logistic support, 237;

staging for, 234-36; battle off Cape Engano, 245; battle off Samar, 245-46; battle of Surigao Strait, 246-47; eve of, 244; landings, 236-37; maintenance facilities for Okinawa campaign, 317; Okinawa assembly and loading, 316; preliminary operations by Task Force 38, 212; prelude to battle, 244; ServRonTen at: viii; logistic work, 291-92; ships to be serviced for Okinawa campaign, 317

Leyte-Samar base: 369-84; plans for, 373-75; difficulties in setting up, 374; construction of naval facilities, 378; personnel at shore-based activities, 378

Liddle struck by suicide plane, 268

Lignite at Ulithi, 370

Lindenwald at Kerama Retto, 349

Lingayen operation, planning for, 375

Lion, modified, established on Manus, 66

Lion One, 40, 50-51; at Espiritu Santo, 40

Lipan in Stalemate II, 205

Loading: Attu operation, secrecy a hindrance, 76; faults in, 39

Logistic buildup, gain after Guadalcanal, 43

Logistic organization, SoPac, 35-47

Logistic plan, foundation of a war operation, viii

Logistic planning, poor organization, 39

Logistic reports, Marianas campaign: TF51, 160-62; TF 53, 162-63

Logistic requirements: at Majuro, 134; list flown to Ulithi, 327; termination of hostilities changes, 398

Logistic sources, South Pacific, 35-47

Logistic Support Group (*see also* Service Squadron Six): added services, Iwo campaign, 283; organization, Iwo campaign, 283-84

Logistic vessels, assignment to service specific ships, 287

Logistics: afloat: growth of the idea, 5; opposition to, 1; dependence on, 49; new requirement develops, 42; raiding forces, 17

Long Island, planes supplied to, by *Kitty Hawk*, 29

Los Negros (site of Seeadler Harbor), landings on, 66

Low, VADM F. S., xii

LST transferring bombs to *Hancock* at sea, 199

LST's: ammunition replenishment at Kerama Retto, 340-41; assault ammunition and ordnance carried by, 110; fueling of small craft at Nawiliwili, 115; number of, in 1945, 5; water stored in, 162

Lubricants; consumption, 50; in Okinawa campaign, 359-62

Luna at Eniwetok, 177

Luxembourg Victory at Okinawa, 387

Luzon, aircraft replacement off, 249

Luzon: repairs at Funafuti, 92; Funafuti to Kwajalein, 126; at Kwajalein for Stalemate II, 180; at Saipan for Okinawa, 324

M

MacDonough and *Sicard* collide, 77

Mackinac based at Noumea, 23

Madang-Alexishafen repair base, 180

Mafia Island recreation area, 54

Mail: essential to morale, 210; facilities: for Stalemate II, 210; for Okinawa campaign, 366-67

Maintenance, *see also* Repairs: early period of the war, 54-58; preparations for, in Stalemate II, 177-82

Makassar, Task Force Five at, for conferences, drills, and refueling, 13

Makin, strike on, 17

Maloelap, strike on, 17

Malvern, fueling at Ulithi for Okinawa, 328

Majuro Atoll, 119 (chart); aircraft replacement for Marianas campaign, 140; anchorage for Marianas campaign; anchorage surveyed by *Bowditch*, 122; boat pool needs, 135; *Bowditch* surveys anchorage, 122; floating dry-docks at, 123; motion picture exchange aboard *Prairie*, 125; pay office at, 135; repair facilities for main fleet in Marshalls campaign, 118; service craft join ServRonTen at, 122; ServRonTen grows at, 134-36; striking force for Palau attacks bases, 129; submarine base, 133-34; value as base, 98

Manileno, commissioning of, 125

Manus Island (*see also* Seeadler Harbor) modified Lion established on, 66 ships in Seeadler Harbor, 186; refrigerated storage capacity, 309

Marblehead: joins force in Dutch East Indies, 13; patching up of, 16

Marcus Island, carrier air attack on, 132-33; refueling for raid on, 18

Marianas, 150 (chart): protected anchorages lacking, viii; raid, and photo reconnaissance, 121

Marianas campaign, 137-48: aircraft replacement, 144-46; record of *Copabee*, 145; ammunition, 139; expenditure and resupply, 151-58; supply during, 149-50; forces employed, 137; fresh-and-frozen provisions, 147; fuel needs, 139; fueling areas, 139; fueling at sea, 139; general logistics, 149-70; hospital ships, 141, 158-59; joint expeditionary force, no losses in staging of, 142; logistic reports, 159-60, 160-63; logistic support, 138-41; logistics: at the objective, 161-62; medical, 141; serious nature of the problem, 160; at staging areas, 161; medical logistics, 141; repairs, 147-48; emergency,

- 141; restaging area logistics, 161, 162; re-supply of ships withdrawing to SoPac 138; salvage, 141; ServRonTen facilities, 141-43; South Pacific area support for, 138; staging area logistics, 161, 162; stores ships in, 146-47; supplying forces prior to, 138
- Marias*, fueling at Ulithi for Okinawa campaign, 328
- Markab*: maintenance and repair in Aleutians, 73, 75; joins ServRonTen at Majuro, 122; in Marianas campaign, 147; at Eniwetok, 163; at Ulithi, 224; at Leyte for Okinawa, 317
- Marshall Islands, 116 (chart)
- Marshall Islands campaign, 115-28: ammunition for, 118; food distribution plan, 117; forces involved, 115; fuel requirements, 117; predetermined, fueling rendezvous unpractical, 98; oilers assembled for fueling after D-day, 117; repairs, emergency, facilities for, 118
- Marston mat airfield, 73
- Maryland*: to Bremerton for repairs after Pearl Harbor attack, 11; taking on turret-gun powder, 344
- Massacre Bay area, landing craft problem, 77
- Matar*, provisioning at Kerama Retto, 347
- Mauna Loa*: ammunition supply for Marshalls campaign, 118; in Marianas campaign, 139; at Palaus, 197, 200
- Mayfield Victory*: unloads aircraft mines in Okinawa area, 385; at Buckner Bay, 393
- Mazama*: in Marianas campaign, 139; ordered to Saipan, 150; extract from war diary at Saipan, 152; complimented for work, 154; at Leyte, 238-39; torpedoing of, 278-79; ammunition supply for Okinawa campaign, 327
- McCall, LCDR F. B., Commander ServRonTen for ammunition affairs, 150
- McMorris, RADM C. H., engages Japanese convoy in Aleutians, 74-75
- McFarland*: based at Noumea, 23
- Medical facilities in Hollandia operation, 131; in Stalemate II, 207-10; in Operation Interlude, 210
- Medical logistics: for Marianas campaign, 141; at time of Guadalcanal operation, 33
- Medical plans, Stalemate II, 207-10
- Medical report, Marianas campaign, 159-60
- Medical supplies, Saipan, 160
- Medical supplies for land-based forces, Stalemate II, 209
- Medusa*: at Havannah Harbor, 58; joins Seventh Fleet, 58; at Seadler Harbor, 180; repairs after *Mount Hood* explosion, 188
- Megrez* in move to Ulithi, extract from war diary, 219
- Memominee*: in Stalemate II, 204; salvage of *Reno*, 255
- Merchant ships: conversion of, 6; supply ammunition carriers, 167
- Mercury*: replenishment record at Ulithi, 358; joins Logistic Support Group, 365; provisioning record at Okinawa, 365
- Midas*: at Madang-Alexishafen, 182; in Ormoc landing, 268
- Midget submarine, 262 (see also Suicide submarines); attacks at Ulithi, 261-65; *Mississinewa* torpedoed by, 260; raising, by net layers, 391
- Midway Island: defense of and logistic support for, 21; preparations at Pearl Harbor, 21-22; objective after battle of Coral Sea, 21
- Milne Bay, air and naval base begun, 64
- Millicoma*: fueling activity at Lahaina Roads, 115; fueling of Task Force 32, 191
- Mindanao*; in Stalemate II, 178; at Seadler Harbor, 186; to Guadalcanal for Okinawa preparations, 320; at Ulithi, 370
- Mindoro landing, 268-71; combat forces involved, 269; unloading on beaches, 270
- Mine depot, at Espiritu Santo, 52
- Minesweepers, high-speed, join squadron at Majuro, 125
- Minneapolis*: bow blown off; 44: bow repaired with coconut tree trunks, 45, 46
- Mississinewa*: in Philippines campaign, 249; torpedoed by midget submarine, 260: midget submarine attack on, 261
- Mississippi* rushed to Pacific after attack on Pearl Harbor, 11
- Mitscher, CAPT Marc, 18
- Mobile amphibious repair base, set up at Seadler Harbor, 180
- Mobile floating bases, shore facilities contribution to, xi
- Mobile floating support, primary need in Central Pacific, viii
- Mobile issuing office, 277-78
- Mobile logistic support, conference on, at Seadler Harbor, 169
- Mobile service squadrons: concept for Operation Galvanic, 90; early growth of, 90-91
- Mobile support units, advantage of, 214
- Mobilube* arrives at Tongatabu, 24
- Mog Mog Island: brief rest on, 259; recreation facility, 329
- Molala*: in Iwo campaign, 284; assists *Ringgold* and *Yarnall*, 325; assists *Pinckney*, 335
- Mona Island*: account of air raids at Buckner Bay, 393
- Monroe Victory* at Buckner Bay, 393
- Montgomery, RADM A. E.: commanding Southern carrier force in Gilberts operation, 89; in Marcus and Wake attacks, 132
- Morinda* loaded at Tongatabu, 25
- Morobe, PT boat fueling depot, Base No. 8, 65
- Morotai assault, 182; landings, fueling for, 194

Motion-picture exchange, 277; aboard *Prairie* at Majuro, 125; ServRonSix, 368
 Mount Baker, ammunition supply for Okinawa, 327
Mount Hood, blowing up of, damages *Argonne*, 187, 188
Mount McKinley: general quarters at Kerama Retto, 337; damage to, 338
 Multiple missions, 129-36
Munsee: in Stalemate II, 204; rescue work after torpedoing of *Mississinewa*, 261; assists *Franklin*, 357; assists *Thornton*, 359
Munsee-Canberra tow, 225
Murzim in Ormoc landing, 268
Musa, provisioning at Okinawa, 387
 Myrna Island, Seabees on, 134

N

Naha Harbor, clearing wrecks from, 351
 Nakagusuku Wan (*see* Buckner Bay)
 Nandi, unprotected, 26
Nantabala, collides with *Guadalupe*, 275
 Naval bombardment, decisive factor at Iwo, 290
 Naval gunfire at Guam, ADM Conolly's report on effect of, 158
 Naval Operating Base, Leyte Gulf, 375-76: water supply, 376; welfare and recreation, 376
 Naval Personnel (Over-All Pacific) section of ServForPac, 10
 Naval Station, Samar, cargo unloading at, 377
 Navigation aids, Okinawa, 390
 Nawiliwili, fueling at, 115
 Near failure of supply system, conditions leading to, 38
Neches: fueling in Attu operation, 70; at Kiska, 83; in Gilberts operation, 89; in Palau strike, 130; destroys enemy plane, 359
Nestor: at Ulithi, repairs for Okinawa, 329; at Okinawa, 387; smoke-making duty at Buckner Bay, 394
Neosho, old: joins Task Force Seventeen, 18; fuels *Yorktown* in heavy sea, 19; lost in battle of Coral Sea, 21
Neosho, new: fueling at Attu, 79; fueling record, 80-81; at Kiska, 83; in Gilberts operation, 89; at Lahaina Roads, 115; in Palau strike, 130
 Neptune party for casualties aboard *Solace*, 158
Nesbanic: fueling in Attu operation, 79; at Kiska, 83; in Gilberts operation, 89; in Palau strike, 130
 Netherlands East Indies, attempt to slow Japanese drive, 17
 New Guinea, 14 (chart); and part of Australia, 181 (chart)
 New Hebrides, 27 (chart)

New Mexico: rushed to Pacific after Pearl Harbor attack, 11; ammunition being loaded by *Shasta*, 155; sending 14" HC shells to magazine, 156
Neucombe: damaged by suicide attack, 334; repairs to, 296
 Nimitz, ADM Chester A.: CinCPac, 23; plan to solve ADM Ghormley's fuel problem, 24
 Niobrara: fueling at Saipan for Okinawa campaign, 324; at Hagushi, 388
North Carolina: antiaircraft fire, effectiveness of, 35; gets "tin fish" in bow, 41
 North Pacific, first encounter with Japanese, 69
Northampton lost, 43
 Noumea: base hospitals at, 60; most suitable base before Guadalcanal operation, 26; ship-repair unit at, 55
 Nuber, CDR H. D.: at Auckland in 1942, 60; CAPT, at Noumea, 36

O

Oahu, repairs at Eniwetok, 288
 Oakland Supply Depot, acquisition of, 4
Oceanus: in Tulagi-Purvis Bay region, 178; at Kerama Retto, 333
Ocelot: COMMO Carter's flagship, 372; enemy plane flies over, 326; breakdown of, 371-73; in typhoon of 9 October 1945, 398
 Ocklawaha, water supplying record, 203
 Ofstie, RADM R. A.: receives information from Japanese on U. S. naval effectiveness, 308
 Offensive, taking the, 23
 Ogden, CAPT S. B.: Chief of Staff, ServRonFour, 91; to Manus, 169; ServRonTen representative in planning for Stalemate II, 173; relieved at Seadler, 231, at Leyte, 371
 Oil quantity involved in Philippines campaign, 251-52; sources in N. E. I. shut off by Japan, 16
 Oiler task groups: comments and recommendations concerning, 194-97; Eniwetok, 190; Marianas campaign, 139; Stalemate II, lessons learned from, 194-95
 Oiler task units, 140; as part of carrier task force, question of, 196-97
 Oilers (*see* also Fleet Oilers): assembled for fueling after D-day for Marshalls campaign, 117; number in 1940 and 1945 compared, 5; stand-by unit in Stalemate II, 193; with fast carrier group at Seadler Harbor, 190-94
 Okinawa Shima, 386 (chart)
 Okinawa campaign, 311-53: aerial strikes, 213; after 1 July 1945, 385-98; ammunition demands, 363; ammunition supply, 327; assembling of forces, 312; aviation gasoline and lubricants, 361; aviation logistics, 363-65; bombardment by amphibious support force, 314; complexity of operation, 312; docking

- facilities at Ulithi for, 329; dredging operations, 390; dry stores after 1 July 1945, 387-88; enemy air a formidable weapon, 313; first objective in attack on Nansei group, 234; fleet oiler schedules, 361; forces involved, 312, 314-15; fueling: after 1 July 1945, 388; by merchant tankers, 328; fuels, 359-62; general stores, 365-66; hydrographic survey, 388-92; Ie Shima landing, 314; invasion forces, 314-15; Japanese defense strategy, 313; Kyushu attacked by fast carrier force, 313; Leyte as assembly point, 316-18; logistic facilities, development of, 315-16; lubricants, 359-62; Kerama Retto, logistics at, 331; mail, 366-67; move from Guadalcanal to Ulithi, 320; peak of Pacific operations, viii; phases in operation plan, 312; preparations in Guadalcanal-Russels-Purvis Bay region, 319-21; provisioning for, 327, 328, 387-88; provisions, 365-66; fresh-and-frozen, allowances, 328; repairs: at Ulithi, 328-29; after 1 July 1945, 385-87; replacement personnel, 367; salvage, 366; servicing ships for, completion of, 330; ServRonSix's responsibility, 312; ServRonTen's responsibility, 312; staging at Guadalcanal, 319-21; strategic advantages of Okinawa, 311; Towing, 366
- Oldendorf, RADM J. B., report on capture of Leyte, 238
- Operating forces of Navy: in 1925, 3; in 1940, 4
- Operation "Catchpole" (Eniwetok), Truk strike as a part of, 121
- Operation "Cottage" (Kiska operation), 84
- Operation "Flintlock" (Marshalls campaign), 115
- Operation "Forager" (Marianas campaign), 137-48; general logistics, 149-70
- Operation "Galvanic" (Gilberts operation), 87-93
- Operation "Iceberg" (Okinawa campaign), 311-353
- Operation "Interlude" (Morotai), 201, 204; medical facilities, 210
- Operation "Olympic," 382
- Operation "Scavenger" (Bonins), 168
- Operation "Snapshot," 167-68
- Operational control of support shipping, Stalemate II, 175
- Operational planning, logistic planning and, vii
- Ordnance logistics, 107
- Ordnance section of ServRonTen, principal function, 107
- Ordnance spare parts, 108-09: depot established at Guam, 109; difficulties in procuring, 108; speedier distribution needed, 108
- Organization, logistic, 35-47
- Ormoc Bay, landings at, 267-68
- Ortolan raises two-man submarine, 59
- Otus: joins force in Dutch East Indies, 13; in train of Task Force Five, 15

P

- Packer, CAPT F. A., at Eniwetok, 165
- "Pack-up" units of stores, 366
- Pacific commands, principal, April 1942, 23
- Pacific Ocean, opp. 404 (chart)
- Paddock, CAPT H. E., commands service force in SoWesPac, 63
- Pakana in Stalemate II, 205
- Palau Islands, 172 (on chart): air attacks on, 182; Japanese base after Truk strike, 129; plan for seizure of, 171; strike, 129-30; primary purpose, 129
- Pamanset: at Seadler, 189; in Philippines campaign, 189
- Panda in Ormoc landing, 268
- Paré, CAPT E. E., Chief of Staff for ComServRonEight, 98; Com TG 50.17, 139
- Passengers, Okinawa campaign, 367
- Pathfinder, survey at Okinawa, 389
- Patrol Squadron: at Kendari in Celebes, 13; holds on at Kendai, 15
- Patrol Squadron 101: sent to Ambon, 13; ordered to Soerabaja, 15
- Patuxent: fueling in bad weather, 275; fire and explosion, 284; fueling at Saipan for Okinawa campaign, 324
- Pawnee: in Stalemate II, 204; message to Houston, 228
- Pay office at Majuro, 135
- Pearl Harbor: battleships capable of steaming after, 11; ServRonTen formed at, 95-104; Storage Depot, expansion in 1940, 4
- Pecos: in Dutch East Indies, 12; in train of Task Force Five, 15; sunk en route to Colombo, 16
- Pecos, new: fueling activities at Attu, 79; at Kiska, 83; fueling of Task Force 32, 191
- Pelelieu Island, landings on, 182
- Penicillin at Saipan, 160
- Pennsylvania: to San Francisco for repairs after Pearl Harbor attack, 11; low in water after being torpedoed by plane, 342
- Pensacola torpedoed, 44
- Perimeter defense until after Midway, 38
- Personnel problems at Ulithi, 264
- Personnel transportation after hostilities ended, 402
- Phaon: repair of Washington, 120; at Saipan for Okinawa repairs, 324
- Philippine Islands, 235 (chart)
- Philippines, China, and Japan, 273 (chart)
- Philippines campaign, 233-80; carrier task missions before landings, 234; forces, 233; logistic support: of Seventh Fleet, 237-44; of Third Fleet, 249-61; Northern attack

- force, 236; oil consumed, 251-52; rearming at Ulithi, 255-56; Southern attack force, 236; staging for Leyte assault, 234-36; suicide attacks begin, 255; vessels employed, 233
- Piedmont*: at Eniwetok, 163, 180; arrives at Seadler, 185; at Ulithi, repairs for Okinawa 328
- Pinkney*: in Stalemate II, 209; attacked by suicide plane at Kerama Retto, 335
- Pittsburgh*: in drydock, Guam, 304; bow towed in, cut up, and restored to ship, 305; tows *Franklin*, 357
- Plane deliveries at sea, 364
- Platano*, provisioning for Attu operation, 81
- Platte*: in train of Task Force Eight, 17; fueling in Attu operation, 79; at Kiska, 83; fueling activity in Gilberts operation, 89; fueling of carrier force for Truk strike, 121; in attack on Palau, 129; in Stalemate II, 212-13 fueling at Ulithi for Okinawa campaign, 328; report on Okinawa activities of ServRonSix, 357
- Polaris*, provisioning at Okinawa, 387
- Pollux* in Stalemate II, 177
- Ponaganset*: water supplying record, 201-03; supplies fresh water in Palau-Leyte operations, 242-43; first water cargo to Kerama Retto, 333; loading fresh water at Balusoa water point, Samar, 377
- Ponape, a geological exception, viii
- Pontoon barges, 101: completed at Majuro, 123; uses, 123
- Pontoons for pontoon bridges, *Vega* supplies, 122-23
- Pope* in Dutch East Indies, 12
- Port Chicago fire, effect on smoke-making supply, 201
- Port facilities, insufficiency, effects on supply system, 38
- Porter* lost off Santa Cruz Islands, 42
- Portland* patched up at Tulagi, 43
- Postwar problems, 400-01
- Potawatomie* in Stalemate II, 205
- Powder, turret-gun, Maryland taking on, 344
- Powder load midway between *Sbasta* and *Vicksburg*, 285
- Pownall, RADM C. A., commanding carrier force in Gilbert Islands, 87
- Prairie*: flagship of ServRonTen, reaches Majuro, 122; motion picture exchange, 125, 277; storage capacity, 126; sick bay, 159; at Eniwetok, 163, 179; at Ulithi, 271; mobile issuing office located in, 277-78; repairs at Ulithi for Okinawa, 328
- Presque Isle* at Kerama Retto, 349, 350
- Pre-World War II, 1-6
- Prometheus*: at Iron Bottom Bay, 178; arrives at Seadler, 185; at Leyte for Okinawa, 317
- Propellers, spare, 33
- Protected anchorages: Central Pacific, viii; for Marianas campaign, 138
- Provisioning: allowances at Ulithi for Okinawa campaign, 328; Attu operation, 81; dry, stores ship, 146-47; Expiritu Santo, 52-53, 60; fresh-and-frozen, ship, 147; Kerama Retto, 346; Majuro, 135; Okinawa campaign, 365-66, 387; problems at objective area, 161-62; Seventh Fleet, 307; ships within ServRonEight, 102; Stalemate II, 203-04
- PT boats: fuel and lubricant consumption, 50; fueling depot, Base No. 8, Morobe, 65
- Publications, issuing of, 278

Q

- Quapaw*: in Operation Interlude, 205; repairs to *Lamson*, 268
- Quartz*: to Majuro, 126; concrete stores barge, 127; in Marianas campaign, 147; at Eniwetok, 177; at Ulithi, 256; provisioning for Okinawa, 327; general stores, 329
- Queenstown, destroyer tenders at, in World War I, 1
- Query*, CAPT J. V., Chief Staff Officer at Eniwetok, 381
- Quiros*, commissioning of, 125
- Quynn, COMMO A. G., Chief of Staff, ComServ-Pac, Conference at Manus, 173, 403

R

- Rabaul, raid on, 18
- Radford, RADM A. W., commanding Northern carrier force in Gilberts operation, 89
- Raiding forces, logistics of, 17
- Rainier*: at Tongatabu, 23; repairs at Funafuti, 92; ammunition supply for Marshalls campaign, 118; in Marianas campaign, 139; record in Marianas campaign, 149-50; replenishes TG 38.2 at Ulithi, 258; ammunition for Okinawa operation, 327
- Ramapo*: fueling in Attu operation, 79; at Kiska, 83
- Randolph*: struck by suicide plane, 297; repairs, 300, 325-26
- Rassieur, CAPT W. T., command of Task Unit 30.8.14, 190
- Rearming at sea, 362
- Rebombing, difficulties of, 154
- Recreation, need for, 253
- Recreation facilities, SoPac, 53-54
- Reeves, RADM J. W., Jr., base development in North Pacific area, 73
- Refrigerated storage capacity, Manus, 309
- Refrigerator ships: need for, 46; scarcity, 102

Relief: at Saipan, 159; in Stalemate II, 207; embarking casualties in heavy seas, 208; at Pelelieu, 209

Remus at Alexishafen, 182

Reno: hard hit and barely afloat, 229; towing of, 230; salvage of, 254-55; repairs to, 295

Renshaw, repairs to, 295

Repair base: at Milne Bay, 180; mobile, set up at Seadler, 180

Repair facilities: emergency, for Marshalls campaign, 118; value of, 309

Repair ship, Marianas campaign, 147-48

Repair ships, number in 1940 and 1945 compared, 5

Repair unit, floating, at Madang-Alexishafen, 180

Repairs: Attu operation, 81-82; damages and see Damage and repair emergency, Marianas campaign, 141; Kerama Retto, 337; Iwo campaign; at Eniwetok, 288; at Saipan, 289; and maintenance, Stalemate II, 177-82; Marianas operation, 147-48; preparations for Stalemate II, 177-82; Okinawa campaign, 328-29, 385-87; at Saipan, 324; ServRonTen during Iwo campaign, 291

Replacement aircraft, escort carrier's role, 144-46

Replacement personnel, Okinawa, 367

Replacement transports, instructions for Okinawa campaign, 282

Replenishment at sea: carrier aircraft, 145-46; new squadrons planned, 380; Philippines campaign, 250; positions of various ship types in, 356

Representative vessel types, 431-450

Rhoads, CAPT F. A., to Manus, 169; CSR Ten representative B at Saipan, 289; at Kerama Retto 337-353; move to Buckner Bay, 392

Rigel: at Auckland, 23; at Espiritu Santo, 40; at Buna, 131; at Havannah Harbor, 58; at Madang-Alexishafen, 182

Riggs, CDR A. S., xii

Ringgold, collision with *Yarnall*, 325

Robinson, CAPT S. B., in command of fast group of TF Five, 13; Commandant Naval Station Samar, 378

Rocky Mount, penicillin supply, 160

Rockwell, RADM F. W., plans for Kiska operation, 82; Commander Amphibious Force, Pac-Flt, 75

Rogers, CDR E. C., commanding *Kitty Hawk*, support of Midway, 21-22

Roi, strike on, 17

Rutilicus: in Ormoc landing, 268; at Ulith provisioning for Okinawa, 327, 328; dry provisions at Okinawa, 329

Ryujo, sinking of, 35

S

Sabine: in train of Task Force Seventeen, 17; in raid on Wake Island, 18; diverted to Espiritu Santo, 32; fueling of carrier force for Truk strike, 121; in attack on Palaus, 129; fueling at Ulithi for Okinawa campaign, 328

Sacramento, dredging at Okinawa, 390

Saipan, 150 (chart): base facilities, 306; Guadalupe's fueling record before and after assault on, 143-44; medical activities at, 157-60; naval magazine developed, 111; plan to capture, 137; repairs at: for Iwo campaign, 289; for Okinawa campaign, 324; servicing for Iwo campaign, 288

Salamonie at Leyte, 141

Salvage: improvements in methods, 225-226; *Canberra*, 226-231; *Houston*, 226-231; *Reno*, 254-55; Kerama Retto, 339-350; Naha Harbor, 366; Stalemate II, responsibility, 205; Seadler, operations coordinated by CAPT Ogden 231

Salvage action, value not yet learned, 22

Salvage section with landing party, need for, 205

Salvage tugs, lack of, 43

Salvaging, improved methods at Ulithi, 225

Samar, 252 (on chart): battle off, 245-46

Samaritan: aground on Tauu Reef, 208; at Saipan, 159; in Stalemate II, 207, 208

San Diego Storage Depot, expansion in 1940, 4

San Juan hit by bomb, 42

San Pedro Bay, Leyte: anchorage for SerRon Ten, 370.

San Pedro, Calif.: base, 11; servicing after Pearl Harbor attack, 12

Sand Bay, fueling facilities, 73

Sangamon: damaged off Kerama Retto, 334; damage to flight deck, 336

Sangay: aircraft ammunition for Marshalls campaign, 118; in Marianas campaign, 139

Saranac: fueling in Attu operation, 79; at Kiska, 83; in Palaus strike, 130; at Leyte, 239

Saratoga: replenishment and overhaul by Base Force, 3; torpedoed, 36

Schuykill: fueling in Attu operation, 79; at Kiska, 83; in Gilberts operation, 89; at Marcus and Wake, 133; fueling of Task Force 32, 191; replenishes *Intrepid*, 213

Scope of this publication, vii

Scott, RADM Norman: battle off Cape Esperance, 41; killed aboard *Atlanta*, 43

Scull, CAPT H. M., commander of the first mobile service squadron, 91.

Sea Flyer, salvage of, 167

Sea Hag in Marianas campaign, 141

- Seabees: Enterprise repairs, 42; on Myrna Island, 134
- Seamanship, shortage through war, 170
- "Seamule" power units for barges, 101
- Seaplane tenders, increase in, 4
- Section organization of Service Force, sound reason behind, 10
- Seeadler Harbor, 172 (on chart): anchorage for Marianas campaign, 138; locus operandi of ServRonTen, 67; logistic support at, 185-205; planned as base for Third Fleet, 169; service unit at, 185-90, 210-12; ships in, 186: Stalemate II, planning for, 173, 171-83; replenishment, 211
- Semimobile logistic agency, need for, 37, 38
- Sepulga*: Funafuti to Kwajalein, 126; at Eniwetok, 163; fueling at Ulithi for Okinawa campaign, 328
- Service craft join ServRonTen at Majuro, 122
- Service divisions of ServRonTen, 381: postwar missions, 401
- Service Force Pacific Fleet, 7-10: beginning of, 2; contribution to winning of war with Japan, 7; early organization, 8; general activities in early period of war, 58-61; headquarters moved from *Argonne* to Pearl, 8; major divisions, 8; name established, 8; organization, 10; personnel, 9; ServFor Seventh Fleet absorbed by, 383-84; total ships, by squadrons (1945), 9; utility wing, 9; vessels of, number increases, 9
- ServForPac Subordinate Command logistic agency for all SoPac bases, 8; functions, 8
- ServFor Seventh Fleet: administrative control, 9; bases in spring 1945, 309; ServForPac absorbs, 383-84; tasks at Leyte, 237
- Service Squadron Eight: composition, 97; duties, 97; end of war, 103-04; function in ServForPac, 104; organization, 97; relationship to ServRonTen, 95-104; responsibility for supply, 8; ServRonTen an "outpost" of, 97
- Service Squadron Four: composition, 91; first mobile logistic support unit, 90; to Funafuti, 9; Funafuti to Kwajalein, 126-28; organization, 91; ServRonTen absorbs, 128; training, responsibility for, 8; value of, comment on, 128
- Service Squadron Six: ammunition ships, record of, 363; establishment, 355; fleet oilers the major component, 355; former mine squadron, 9-10; mobile support expanded by, 355-68; Okinawa campaign, 357; responsibility in, 312; responsibilities, 8; ships rigged for ammo and ordnance transfer at sea, 111; at Ulithi, 357-59
- Service Squadron Ten: ammunition, obtained from Fleet Gunnery Officer, CinCPac, 107; ammunition lighters assigned at Majuro, 135; assembly of, 91; boat pool, beginning of, 120; build-up of, ix; changes, 301; damaged by storm at Eniwetok, 169-70; duties, 95-96; early composition, 105-07; early organization, 105-07; at Eniwetok, 149; principal activities, 163-70; scope and variety of duties, 165; ships available, 179; floating equipment estimated as needed at organization, 105; floating storage barges, 103; food distribution for Stalemate II, 176; formation of, 95-104; growth: at Majuro, 134-36; spring of 1945, 293; 293-310; added facilities for Okinawa campaign, 316; headquarters moved from *Washington*, 121-21; "If we've got it, you can have it," 122; information service during Truk strike, 123; Iwo campaign: duties, 282; services, 286; logistic work at Leyte, 291-92; at Majuro, 118; main base at Ulithi, 301; main body moves to Ulithi, 217-31; main reduced to minimum at Eniwetok, 220; Marianas campaign: facilities, 141-43; logistic services, 142-43; minor units, postwar, 401; mobile logistics forward area representative of ServForPac, 9; moments in the life of a representative of, 221-22; motto adopted, 122; needs estimated at time of organization, 96; Okinawa campaign, responsibility in, 312; ordnance materials obtained from FGO, 107; ordnance section, principal function, 107; organized for occupation, 400; organization early, 105-07; relationship to ServRonEight, 95-104; reorganization, 379; repair jobs in Iwo campaign, 291; Seeadler Harbor the locus operandi of, 67; service divisions set up, 381; ServRonEight backs up, 97; ServRonFour absorbed by, 9, 128; ships comprising, Majuro (June 1944), 136; subordinate operating units, 380; supports force for attack on Palau, 129; Truk-Marianas strikes, servicing fleet after, 125; at Ulithi, 253-54; vessels of, 302-03
- Service Squadron Twelve, 388-92: composition, 8; largest operation at Guam, 9; organization, 10; purpose, 9
- Service unit at Seeadler Harbor, 185-90, 210-12
- Seventh Fleet logistics, 306-10: ammunition supply, 307; bases, 309; composition of force, 233
- Severn*, water supply record, 203
- Seyfried, CAPT J. H., Survey of Majuro, 122
- Shangri-La* fueled by *Cahaba* on a smooth day, 360
- Shasta*: arrives at Adak with ammunition replacements, 78; supplies Kiska forces, 83; in Marianas campaign, 139; loading ammunition onto *New Mexico*, 155; in Palau Is. 197, 200; load of powder midway between *Vicksburg* and, 285; rearms carriers in Iwo campaign, 285; at Iwo, 289

Sherman, RADM F. C., commanding Relief Carrier Force at Gilberts operation, 89
 Shoemaker, CAPT J. M., Commander Naval Air Center, Guinan, 375
 Shore bases, dependence on, vii
 Shore bases in South and Southwest Pacific, vii
 Shore repair facilities for Stalemate II, 179
 Shore tank storage of oil in Aleutians, 80
 Shipping, scarcity in early days of war, vii
 Ship-repair unit: at Florida Island, 57; at Noumea, 55
 Ship's stores stock, Okinawa, amount issued, 366
Sicard and Macdonough, collision
Sierra: arrives at Seadler, 185; in Okinawa preparations, 320
Signal, commissioning of, 125
Silica: at Ulithi, 256; provisions for Okinawa, 329
Silver Bell, repairs to Liddle, 268
Silver Cloud to Seadler, 174
Sims lost in battle of Coral Sea, 21
Sioux: in Stalemate II, 205; in Iwo campaign, 284; assists *Franklin*, 357
 Small craft, repairs a difficult problem, 294
 Small craft tender introduced at Iwo, 290
 Smoke: expenditure at Iwo, 290; materials at Kerama Retto, 347-48; use at Buckner Bay, 394
 Smoke-making at Eniwetok, 158
 Smoke-making equipment, large quantities recommended, 201
 Soerabaja, basing at, 12
Solace: at Tongatabu, 23; at time of Guadalcanal operation, 32; wounded aboard, 32; arrives at Garapan anchorage, 158; record in Marianas campaign, 158; in Stalemate II, 207, 209; at Pelelieu, 209
 Solomons: eastern, logistics in, 35; shore bases, buildup of, ix; shore repair facilities, 179
Sonoma in Operation Interlude, 205
Soubarissen: at Kerama Retto, 333; at Hagushi, 388
 Sounding sketches, Buckner Bay, ServRon-Twelve prepares, 390
 Sources, logistic, 35-47
South Dakota: strikes uncharted coral pinnacle, 41; bombed off Santa Cruz Islands, 42
 South Pacific, 23-24: building up in, 49-61; damages and repairs, 35-47; fuel handled for Stalemate II, 194; hospitals in, 207; logistic organization, 35-47; logistic sources, 35-47; recreation facilities, 53-54; shore facilities in early period of war, vii; repairs, 35-47; roll-up in Okinawa campaign, 320; staging area for Stalemate II, 194; welfare activities, 53-54
 Southwest Pacific, 14 (chart): early logistics, 63-67; shore facilities in early period of war, vii

Spare parts: ammunition, *see* Ammunition spare parts; aviation, *see* Aviation spare parts; distribution centers, 309; Okinawa operation, 365; ordnance, 108-09 (*see also* Ordnance spare parts)
 Special freight deliveries, need after Marshalls campaign, 103
 Special types ships, usefulness, 99-101
Sperry, flagship of SubSquadTen, 133
 Spruance, VADM R. A., mission vj; and forces in Cen Pac, 87; Majuro 118; Truk; 121; Marianas 137; Iwo, 281; Okinawa, 311
 Staging areas, logistics, Marianas campaign, 161
 Stalemate II (*see also* Western Carolines operation), 171-83; 185-205; 207-16
Starr, major hull repairs for Okinawa campaign, 318
Stewart abandoned, 16
 Stores: Espiritu Santo, 52-53; Majuro, 140
 Stores ships, 146-47: Marianas campaign, 146-47; position in at-sea replenishment, 356
 Storm at Eniwetok, lessons from, 170
Suamico: fueling activity in Gilberts operation, 89; in Palaus strike, 130
 Submarine attacks at Ulithi, 261-65
 Submarine bases: in Australia, 63-64; at Majuro, 133-34; in Central Pacific, 87
 Submarine undocking from *ARD-6*, at Dutch Harbor, 70
 Submarine, two-man, being raised by *Ortolan*, 59
 Sugar Loaf Hill, struggle for, 314
 Suicide plane: attacks begin, 255; attacks diminish, 394; Kerama Retto, 335; *Newcombe* damaged by, 3; *Randolph* damaged by, 297
 Supplies, interservice exchange of, 46
 Supply depots: Espiritu Santo, 1943, 53; Guam, capacity, 306; Noumea, 53
 Surigao Strait, 252 (chart)
 Surigao Strait, battle of, 246-47: ammunition allowances, 241-42; combat forces, 246-47
 Surrender of Japan, news of, 395; celebration, 396
 Survey, *Bowditch*, 388-92
 Suva, limited value as base, 26
 Sweeper's Cove (Adak Island), 71
Sweetbriar in hydrographic survey of Okinawa, 392

T

Talita at Eniwetok, 177
Taluga fueling at Ulithi, for Okinawa campaign, 328
Tallulah: fueling activity in Gilberts operation, 89; at Lahaina Roads, 115; in Palaus strike, 130
 Tanahmerah Bay, landing at, 131

- Tankers: primary mission of fueling not be sacrificed, 98; pure water supplied by, 100
- Tanks, drop, 364
- Tappahannock*: in Palaus strike, 130; in Philippines campaign, 249
- Tarawa, 91-92
- Task Force Five, train of, 15
- Task Group 30.8, fueling activities of, 190-94
- Task Force 38, fueling of, 191
- Task Force 51, Marianas campaign: logistic report, 160-62; medical report, 159-60
- Task Force 53, Marianas campaign, logistic report, 162-63
- Tatarrax* assist *Mazama*, 279
- Tawasa*: in salvage of Sea Flyer, 167; to Seeadler, 174
- Technical advances, effect on logistics, 49
- Terror* hit by suicide plane, 339
- Theobald, RADM Robert A., command over the Aleutians, 69
- Third Fleet: composition of forces, 233-34; in Philippines campaign, 249; logistic support, Philippines campaign, 249-61; logistic support units in Stalemate II, 175; relieved by Fifth Fleet, 281
- Thornton*, *Escalante* and *Ashtabula* collide with, 359
- Time, priority consideration in war, 302
- Tinian, plan to capture, 137
- Tippicanoe*: fueling in Attu operation, 79; at Kiska, 83
- Tokyo, raid on, 18
- Tombigbee* at Hagushi, 388
- Tongatabu: reason for selection as base, 26; staging at, 24
- Torpedo overhaul shop at Espiritu Santo, 52
- Torpedoes hoisted aboard *Lexington*, 113
- Towing: *Houston*, 226-30; improvements in, 370-71; Okinawa campaign, 366; problems of, 215-16; *Reno*, 230; Ulithi to San Pedro, 370-71
- Townsville, landing-craft bases and amphibious training centers, 64
- Trade Wind*, refrigerated provisions for Okinawa, 329
- Transport evacuation vessels, number in 1945, 5
- Transports: inadequacy of space, Iwo campaign, 286-87; replacement, instructions for Iwo, 282
- Trefoil*: at Majuro, 140; at Eniwetok, 177; at Ulithi, 256; Okinawa campaign, 327; general stores for Okinawa, 329
- Trinity*: in Dutch East Indies, 12; ordered to Woworada Bay, 15; first fueling at sea in N. E. I., 15
- Truk, a geological exception, vii; pivotal base, 121
- Truk strike, 121-26: fueling for, 121; part of Eniwetok operation, 121
- Tryon* in Stalemate II, 209
- Tugs: at-sea replenishment role, 357; busiest service vessels at Attu, 82; Funafuti to Kwajalein, 126; value not yet learned, 22
- Tulagi, *Honolulu* at, bow damaged, 56
- Tulagi-Purvis Bay region: repairs in, 178-79; salvage ships in, 204
- Turner, RADM R. K., commanding Assault Force in Gilberts operation, 87; insists on unloading his transports, 28-29; mastery of logistic preparations, 28; medical report on Marianas operation, 159-60; logistic report on Marianas, 160-62
- Tutuila*: at Purvis Bay, 179; at Ulithi, 370
- Two-man submarine being raised by *Ortolan*, 59
- Type loading developed for ammunition-carrying ships, 111
- Types, special, creation of new, 99-101
- "Typhoon crossroads" (Naha), 314
- Typhoon off Mindoro, 270
- Typhoon sorties, Buckner Bay, 394-97

U

- Ulithi Atoll, 223 (chart): air strike on, 130; docking facilities for Okinawa, 329; dull routine at, 276-80; fleet freight, amount handled, 278; fueling for Philippines campaign, 250; geography of, 224; landing on, 182; main base for ServRonTen, 301; midget submarine attacks at, 261-65; mobile issuing office at, 277-78; move to, 214-16; craft involved, 216; first convoy, 217-18; preparations, 214-15; second convoy, 218-19; third convoy, 219-20; "powder keg," 259-60; preparations for Okinawa campaign, 324-30; rearming for Philippines campaign, 255-56; repairs for Okinawa campaign, 328-29; salvage methods improved at, 225; ServRonTen at, viii, 213-31; ships at, average number, 276; ships serviced (May 1945), 370; suicide planes attack, 326; useless as storm shelter, 225; visual communications at, 278
- Unloading, lack of study of the problem, 39
- Ure*: assist *Perida*, 77; sent to aid *Bismarck Sea*, 284; assist *Franklin*, 357

V

- Vega* joins ServRonTen at Majuro, 122
- Vestal*: repairs at Funafuti, 92; repair of *Washington*, 120; in first convoy to Ulithi, 217; salvage of *Reno*, 255; at Saipan for Okinawa repairs, 324; at Kerama Retto, 399
- Viburnum*, repairs to, 296-300
- Vicksburg*, load of powder midway between *Shasta* and, 285
- Victory ships refitted for ammunition handling 110

Vincennes in Task Force Eighteen, 18
 Visayas strikes, operational significance, 182
 Visual communications at Ulithi, 278
Volans in Stalemate II, 177
 Volcano Islands strike, 182
 Voyage repairs, high priority, 293
Vulcan: to Guadalcanal for Okinawa support, 320; at Ulithi, 370

W

Waco Victory at Okinawa, 387
 Wake Island: air attack on, 132-33; raid, 18
 Warehousing facilities at Great Sitkin Island, 73
Washington, damaged, used as administrative center for ServRonTen, 118-19
Wasp, sinking of, 36
 Water: distillation seen as a problem, 106; Hollandia operation, 131; fresh, acute problem, 201; limited supply at Ulithi, 329; pollution of, dysentery outbreak due to, 383; supplied to ships at Iwo, 100; total supplied, Tulagi estimate, 201
 Water allowance, land-based forces, 203
 Water supply: NOB, Leyte Gulf, 376; problems at objective, 162; Seventh Fleet, 307; Stalemate II, 203; support of Leyte assault, 242
 Welfare facilities, SoPac, 53-54
 Western Carolines operation, 171-83, 185-205, 207-16; ammunition supply, 197-200; ammunition supply plan, 197; assault force sails to objective area, 175; carrier attack on, 167; casualties, 207; fast carrier groups, 212-13; first fueling operation, 191; forces involved, 173-74; fueling, 189-97; fueling requirements, 173; hospital ships, 208-09; land-based forces, 174; logistic plan for, 173; logistic support at Seadler Harbor, and at sea, 185-205; mail facilities, 210; maintenance, preparations for, 177-82; medical plans and facilities, 207-10; opening strikes, 182; operation plan, 175; Phase I, fire-support ships' rehearsal, 200; Phase II, 177; planning and preparation, 171; preparations at Seadler Harbor and at Eniwetok, 171-83; provisions, 203-04; purposes, 171; repair activities of *Ajax*, 179; repair preparations, 177-82; repairs, 185-88; salvage, 204-05; responsibility for, 205; total forces involved, 171; water supply, 202-03

Whipper: fueling at Saipan for Okinawa campaign, 324; at Kerama Retto, 333
Whippoorwill joins force in Dutch East Indies, 13
Whitney: at Tongatabu, 23; at Seadler Harbor, 180
 Wichita, speed of fueling required, 193
 Wilkinson, RADM T. S., landing on Emirau, 66
 Woleai, air strike on, 130
Worden in Task Force Eleven, 20
 Wotje, strike on, 17
 Wounded, transfer from beach to evacuation ships, 208
Wrangell at Iwo Jima, 289
 Wright, RADM C. H., intercepts the enemy, 43
 WSA vessels used to carry ammunition and ordnance, 110
Wythe at Kerama Retto, 349

Y

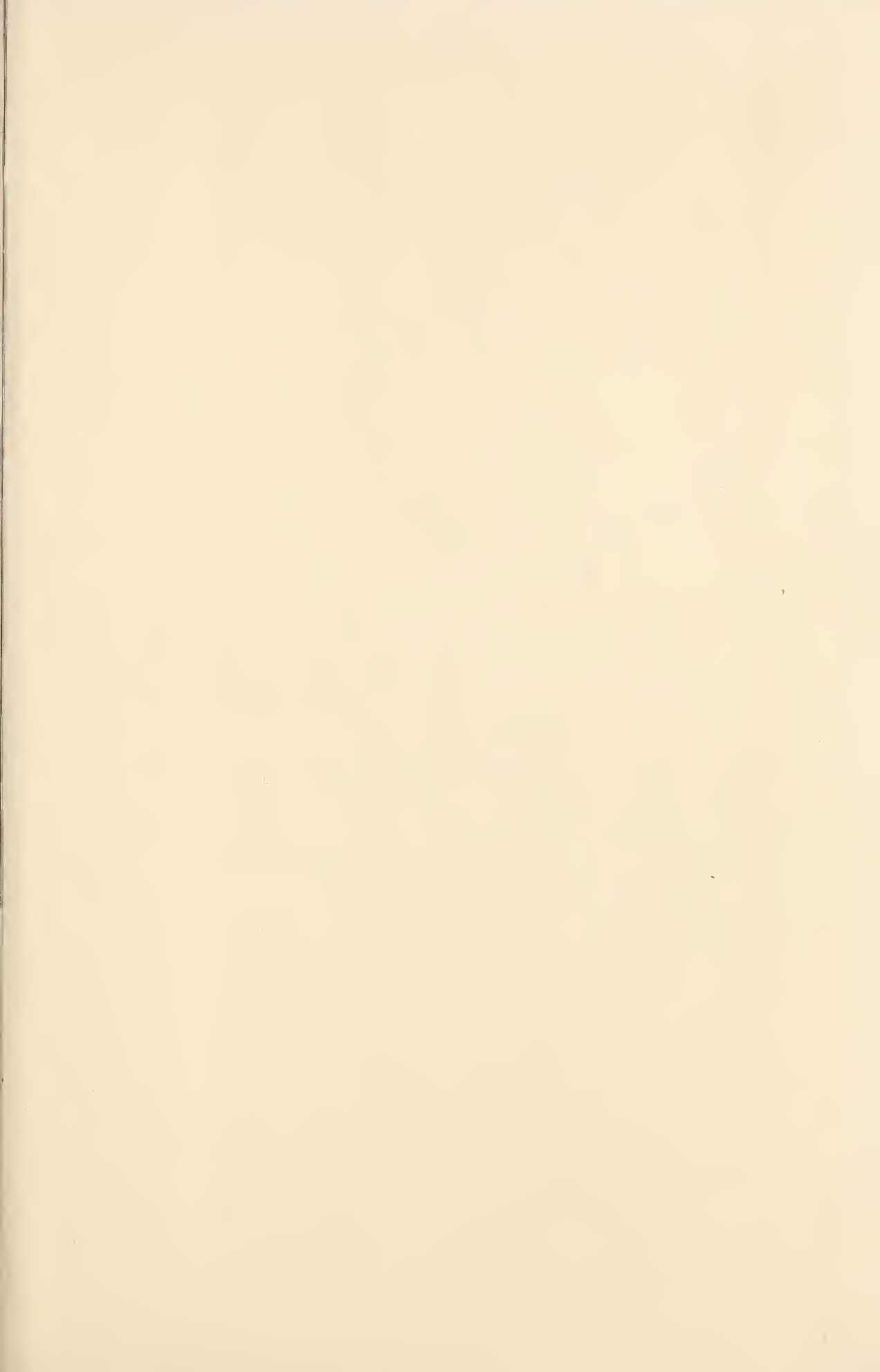
Yap, air strike on, 130, 182
 Yap attack force reaches Eniwetok, 236
Yarnall, collision with *Ringgold*, 325
 YF-412 in Marianas campaign, 147
 YF-624 at Leyte for Okinawa maintenance, 318
 YF-691 refusing projectiles in Okinawa campaign, 328
 YFD-21, 57
 YMS-92, stern blown off, 352
Yolo at Kerama Retto, 349, 350
Yorktown fueled by *Neosho* in heavy sea, 19; loss of, 22; LCT alongside, 166
Yorktown group, fueling of, 18
Yosemite at Ulithi, repairs for Okinawa, 329
 YP's in Marianas campaign, 147
 YR-38 at Attu, 82
Yuma: in Stalemate II, 204; at Kerama Retto, 333
 YW-90 to Seadler, 173

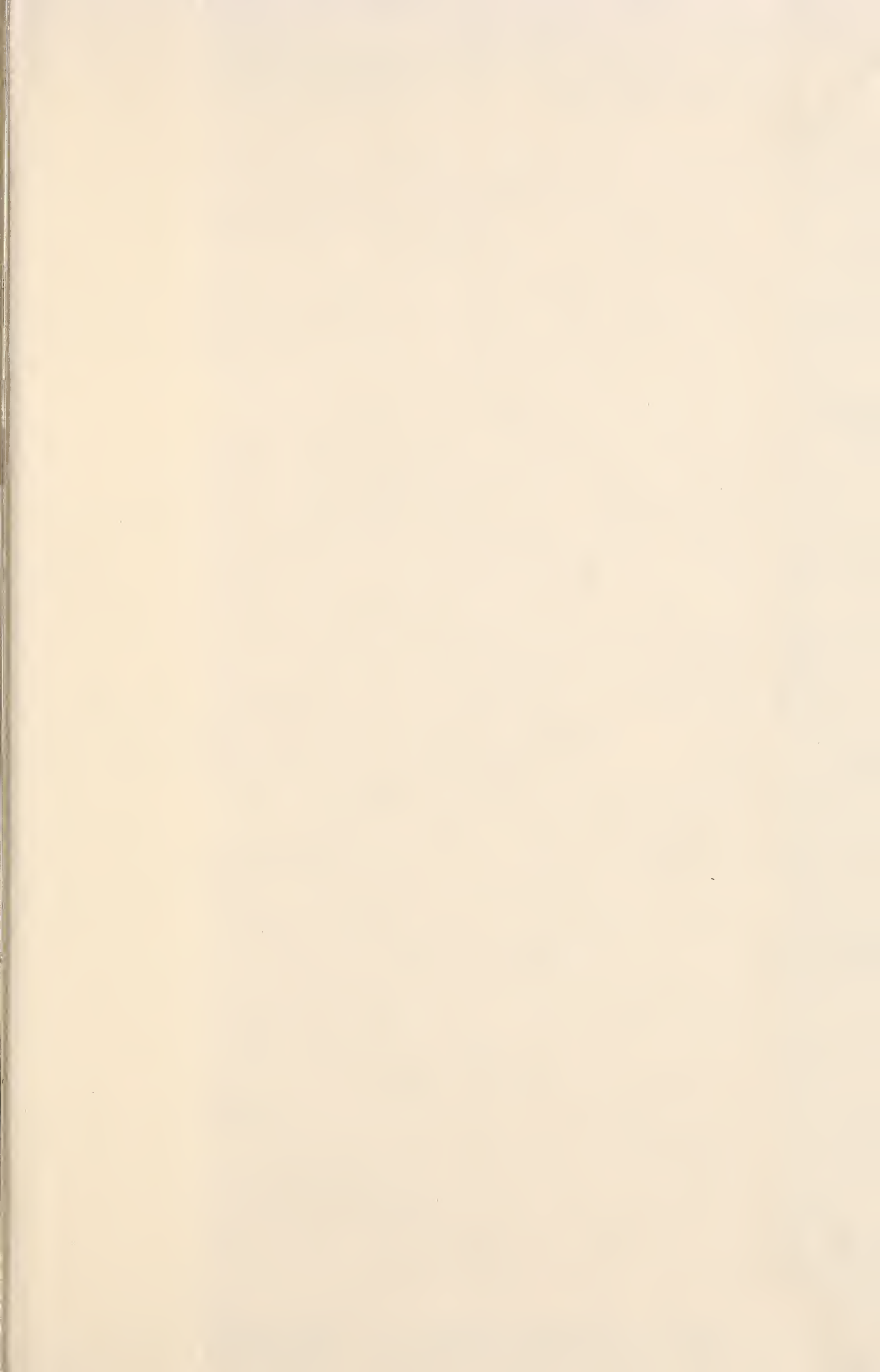
Z

Zaniab: to Guadalcanal for Okinawa operation, 320; at Kerama Retto, 339; at Okinawa, 385
Zuni: to Kossol Passage, 204; salvage of *Reno*, 254-55

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