

CHAPTER XVII

Preparing To Reconstruct Ports

Contrary to World War I experience, when the ports of southern Europe had remained in Allied hands, the United Nations in World War II had to take over from the enemy the ports through which supplies would be fed.¹ What was captured turned out in most cases to be a mass of destruction. At Cherbourg, the "all-weather lifeline" on which the breakout from Normandy depended, "reconnaissance showed that 95 percent of existing quayage suitable for deep draft vessels was initially unusable. Craft in the harbor was sunk and passenger handling equipment was destroyed and tipped into the water."² At Le Havre, "the dock and warehouse area of the Port was subjected to heavy air bombing prior to its occupation by Allied Forces and the streets in this area, though not completely destroyed, were badly broken up and in most cases pitted with bomb craters and blocked by the rubble of bombed out buildings."³ At Naples:

The port was initially almost totally unusable. The pier installations and the adjacent commercial and industrial area had been severely damaged and most buildings wrecked by American bombing. The Germans had systematically sunk from 350 to 400 ships and lighters of all types in the harbor and berths and had demolished all cranes and machinery. Damage to piers themselves was not very great, bulk gasoline facilities had been damaged largely by bombing, and rail demolitions were not sufficiently complete to prove a major obstacle. However the entire area was covered

with debris and rubble and was inaccessible to vehicles or ships.⁴

Between capture and utilization of a port lay a task of clearing and reconstruction demanding the utmost in knowledge, ingenuity, and expedition. The job called for close co-operation between the Army and Navy. The Navy's salvage operations had to dovetail with the Corps of Engineers' plans for dredging channels and rebuilding dockside facilities. For the swift rehabilitation of damaged wharves, cargo-handling machinery, ship repair facilities, and warehouses the Engineers employed a headquarters and headquarters company for a port construction and repair group, to be filled out in the theater of operations by a combination of other units such as the engineer general service regiment, quartermaster truck company, quartermaster service battalion, and engineer port repair ship crews. The headquarters and headquarters company contained a core of structural and mechanical engineers to design and plan this

¹ For a discussion of plans to recapture and develop continental ports see Ruppenthal, *Logistical Support of the Armies*, Ch. IV.

² Booklet, Cherbourg Port Reconstruction, prepared by Office of C Engr ETO, p. 12. Army Map Sv (S).

³ Hist Rpt 11, Liaison Sec Intel Div, Office of C Engr ETO, Port Constr and Repair, p. 32. AG Special Collection, Opn Rpts.

⁴ Rpt, Col Percival C. Wakeman *et al.*, 28 Nov 43, sub: Rehabilitation of Naples and Other Captured Ports. KCRC, Rehabilitation of Naples and Ports (CE 381) (S).

specialized work, as well as skilled machinery operators, and divers for underwater demolition, rigging, burning, and welding. The divers would work close inshore to clear the tangle of steel, wood, and concrete from the sites for new wharves, piers, and drydocks, but farther out in the harbors was work requiring marine units for salvage, demolition, and dredging. The Engineers provided two floating auxiliaries, the port repair ship and the dredge.

The port repair ship could move around in a harbor to do the underwater cutting, welding, demolition, and rigging required in the removal of sunken debris from berths and anchorages beyond the reach of shore-based units. It was prepared by reason of its heavy bow lift to co-operate with the Navy in salvage work. It was also a floating repair and machine shop capable of manufacturing anything from 1-inch bolts to 1,000-pound anchors. Portable generators, welding machines, compressors, pneumatic tools, and cranes could be used on shore to supplement dockside projects.⁵

All of this work was useless if harbor channels remained too shallow for the drafts of heavily loaded troop and supply ships. To insure the passage of such ships to discharge points, the Engineers supplied sea-going hopper dredges with hydraulic suction drags capable of cutting through silt and small rubble to a depth of forty-five feet. Such ships stored the dredged material in huge hoppers and then dumped the load at some convenient point outside the traffic lanes.

Port Construction and Repair Groups

Doubtless because there had been no occasion for the rehabilitation of ports during World War I, the War Department gave

no thought to the organization and equipment needed for such an effort until 1942 when the general strategy for reconquest began to take shape. During the winter and spring of that year American engineers stationed in Britain helped work out details for the Continental invasion then projected for the spring of 1943. In the course of these discussions, plans for the rehabilitation of the Channel ports had been recognized as a matter demanding immediate attention. It was also recognized that certain of the operations fell quite naturally to the Navy. Thus the Navy assumed responsibility for raising sunken craft and removing sea mines, while the Army undertook all dredging, the removal of obstacles other than ships and mines from the waters around the docks, clearance of land mines and rubble, and the reconstruction of docks and other port facilities.

At a meeting with British representatives early in July 1942 it was tentatively agreed that United States forces would provide for the rehabilitation of two major and five minor ports, leaving three major and five minor ports to the British. On 13 July, General Davison, Chief Engineer, ETOUSA, called for the organization of special port construction companies, and, picking up a British idea, the design of special plant such as port repair ships. That same day Eisenhower relayed Davison's request to Washington, suggesting that the strength of the port construction company should be about three hundred men.

⁵ (1) FM 5-5, 11 Oct 43, pp. 171-74. (2) Ltr, ExO War Plans Div to CO 1069th Engr Repair Ship Co, 25 Jan 44, sub: Tng of Port Repair Ship Crews. 353, Engr Port Repair Ship Crews (C). (3) Ltr, Philadelphia Dist Engr to CofEngrs, 27 Aug 45, sub: Spare Parts and Supplies for Engr Port Repair Ships, with Incl, Hist of 1075th Engr Port Repair Ship. Proc Div file, Exec Office Gen Clas Corresp. (4) T/O&E 5-52, 10 Aug 43.

OCE's Operations and Training Branch, anticipating the receipt of some such request, had established a Port Unit in May under the supervision of Maj. Marcelino Garcia, Jr. Garcia was eminently qualified for this assignment. In civilian life he had been the operating manager of the steamship agents and operators firm of Garcia and Diaz. He had advanced to this position after graduation from the Massachusetts Institute of Technology with a degree in naval architecture and marine engineering and a year's apprenticeship in shipbuilding and repair.⁶

When Eisenhower's cable arrived, Garcia was making a general study. With the receipt of the request from the European theater, Garcia's work assumed more definite direction. He visited Merritt-Chapman & Scott and Johnson, Drake & Piper, the foremost marine construction contractors in the country, and discussed with their officials what equipment would be needed for port reconstruction. Like the aviation battalion, whose main job was also a special type of construction, the unit needed a wide variety of power machinery. Some of these machines—the air compressors, dozers, concrete mixers, shovels, cranes, pumps, and welding sets—Garcia assigned as organizational equipment. The rest—pile extractors; pile drivers; hoists; jacks; power hammers; a scow outfitted with a 15-ton derrick, a 3-drum steam hoist, a swing engine, a 20-foot bull wheel, double outside winches, and a 100-pound compressor complete with dock-building tools; and a deck scow which would serve as a base for divers—he designated special equipment. The destination of the unit would determine whether all of this special equipment, only a portion of it, or perhaps more, would be issued.⁷

As a part of the general study, OCE worked out a tentative unit organization. In

September 1942 the Engineers proposed a port construction battalion to rehabilitate ports with the aid of general engineer units but this was disapproved by G-3, who followed Eisenhower in proposing a company. The next month OCE submitted new tables, one for a regiment, another for a port construction and repair group. The War Department rejected the regimental T/O for 1,295 officers and men because it did not desire a fixed unit but a flexible one to fit in with units of other branches. The Engineer recommendation for 504 officers and men in a port construction and repair group was cut down by the General Staff to 24 officers and 206 men with the title of headquarters and headquarters company, port construction and repair group.⁸ Two of these units were activated toward the end of 1942 as advance charges against the 1943 Troop Basis. Four more were approved in February 1943 under tables calling for 17 officers and 230 enlisted men. The published T/O of August 1943 provided for 17 officers and 236 enlisted men. One hundred and ninety-eight of the men were concen-

⁶ (1) Hist Rpt 11, Liaison Sec Intel Div, Office of C Engr ETO, Port Constr and Repair, pp. 1-4, and App. 2. AG Special Collection, Opn Rpts. (2) Info from Mil Pers Br OCE.

⁷ (1) T/O&E 5-52, 10 Aug 43. (2) Incl, 1942, with Memo, ACofS for Opns SOS for CofEngrs, 19 Nov 42, sub: Special T/E for the Hq and Hq Co, 1051st Engr PC&R Group. 400.34, Engr PC&R Units. (3) Ltr, Actg C of WPD to C Engr ETO, 4 Jan 44, sub: Equip for Hq and Hq Co, Engr PC&R Group. 400.34, Engr PC&R Group.

⁸ (1) Ltr, Actg C of O&T Br to CG SOS, 12 Sep 42, sub: T/O for Engr Port Constr Bn. 320.2, Pt. 33. (2) 1st Ind, 25 Sep 42, on same ltr. AG 320.3 (10-10-41) (3) Sec. 5, Bulky Package. (3) Ltr, C of O&T Br to Deputy Engr SOS ETO, 19 Oct 42, sub: Port Planning and Orgn Port Repair Ships and Dredges. 332, Gen (S). (4) Ltr, O&T Br to CG SOS, 7 Nov 42, sub: Orgn of Engr Port Repair Ship Dets 1 to 5. 332, Engrs Corps of (S). (5) AG 320.2 (10-30-41) (2) Sec. 5, Bulky Package.

trated in the construction platoon, which consisted of a divers section for underwater work, a shop section for the rehabilitation of damaged mechanical facilities, and two dock sections containing heavy equipment.⁹

Although the Engineers concentrated the training of many other units with heavy machinery at the EUTC at Camp Claiborne, they decided against this site for the port units.¹⁰ Claiborne, lacking streams or lakes large enough for even elementary bridging and assault boat training, was completely unsuitable for marine units. For this training the Engineers selected Fort Screven, situated on Tybee Island about twenty miles from Savannah, Georgia. Six companies were in training there by spring 1943.¹¹

Until August 1943 these companies obtained fillers through a voluntary induction and enlistment system similar to that used to fill the original construction units at the Claiborne PEOC. Men between the ages of eighteen and forty-five were eligible, and those above the top draft age of thirty-eight could be enlisted directly. Company officers could recruit men they knew personally. To obtain specific individuals they could promise definite and immediate ratings as high as technical sergeant. They made additional contacts through construction firms, railroad companies, labor unions, and universities to obtain the wide range of skilled workers needed, from pipefitters, stonemasons, blacksmiths, and riggers to electricians, structural steel workers, draftsmen, and surveyors. If subject to the draft, the men could ask for immediate induction, with assurances that they would be assigned to the particular company with which they had corresponded. If they had been inducted already, transfers could be arranged.¹²

Despite these efforts the companies did not at first receive men fully qualified to fill every position. A constant weeding out took place after the units reached full strength and the voluntary induction men continued to arrive. First the unqualified and inept were replaced and sent to general service regiments at Claiborne. Then the inexperienced but potentially good construction men were withdrawn and placed in a pool for future port repair groups. One unit of 236 men had over 630 men assigned to it at one time or another during its stay at Screven. When special recruiting stopped in August there was a surplus of 175 fillers on hand, many of them classified as potential construction men. These first companies were in the end made up largely of volunteers, many of whom were already acquainted with one another. One company reported in February 1944, shortly after moving overseas, that "most of the officers of the unit are men from the construction fields of the U.S.A. Some could be better but it is felt that we have the best obtainable. They are men with open minds . . . [and] hard workers" Of the noncommissioned officers, "some are high class tech-

⁹(1) Memo, C of O&T Br for CG SOS, 1 Feb 43, sub: Engr PC&R Groups. 322, Engrs Corps of (S). (2) Memo, ACofS OPD for CG SOS, 23 Feb 43, same sub. Same file. (3) T/O&E 5-52, 10 Aug 43. (4) FM 5-5, 11 Oct 43, pp. 171-74. (5) Rpt of Activities Mil Pers Br OCE for Period Ending 30 Sep 43. 020, Engrs Office C of.

¹⁰Unless otherwise cited, this discussion of port construction and repair groups is based upon: (1) Unit Tng, Annex I, p. 59; (2) KCRC, 1056th Engr PC&R Group Corresp files; (3) Screven, 353 Tng, 1056th Engr PC&R Group; (4) P&T Div file, Engr Diving and Salvage Sch; (5) Unit Hist, 1057th Engr PC&R Group. Army Map Sv.

¹¹Unit Hist, 1071st Engr Port Repair Ship Crew. Army Map Sv.

¹²Ltr, AC of Mil Pers Br to Great Lakes Div Engr, 14 May 43, sub: Asgmt of Enl Specs to Ft. Screven, Ga. 341.3, Engrs Corps of, Pt. 1.

nicians and some are Engineer College Graduates. The privates . . . are largely from construction labor. We have also some really tough construction men, in fact, all of our field men are of this type.”¹³ Another boasted that “almost every member . . . came directly from civil life into this unit, and each was a specialist in some phase of Engineering or construction work.”¹⁴

It was fortunate that these first units contained well-qualified men because the training at Screven was far from satisfactory. There was no attempt to introduce a unit training center organization with centralized instruction and a pool of equipment. The units were almost completely on their own, with unit officers as instructors and with organizational equipment. Since most of the officers had no more military experience than the men, basic military training was of an inferior quality. Contributing to this condition was the constant replacing of fillers to obtain qualified specialists of higher caliber, a process which in turn made basic training a continuous and almost individual process from activation until the time the units left for overseas. As late as December 1943, the last month that Screven was used for this training, none of the units had grenade launchers or machine gun mounts and one of the companies did not have a machine gun. The units did meet the minimum requirements, including firing a qualification course with the rifle, and each man experienced close overhead fire.¹⁵

Technical training at Screven was more effective because both officers and men knew more about the technical aspects of their work to begin with. Much of the three weeks of training consisted of lectures and brief demonstrations of equipment. Each company attempted to familiarize all of the men with all of the equipment, tools, and



DIVER COMING OUT OF THE WATER, *Camp Gordon Johnston, Fla., is engaged in underwater repair.*

materials. It was impossible to bring such heavy equipment as pile drivers and shovels from the depot at Savannah because bridges between Savannah and Fort Screven were

¹³ Ltr, CO 1056th Engr PC&R Group to OCE, 7 Feb 44, sub: Info Concerning 1056th Engr PC&R Group with Incl, Résumé of Status of 1056th Engr PC&R Group. Screven, 353, Tng, 1056th Engr PC&R Group.

¹⁴ Unit Hist, 1053d Engr PC&R Group (C). Army Map Sv.

¹⁵ (1) Ltr, CO Ft. Screven to COs of all Engr PC&R Groups and Post Staff Offs, 1 Jun 43, sub: Tng Directives for the 1053d, 1054th, 1055th and 1056th Engr PC&R Groups, Ft. Screven, Ga. Screven, 353, Tng, PC&R Group. (2) Ltr, Dir Tng Ft. Screven to All EPC&R Groups, QM Bns, and Ship Cos, Ft. Screven, 29 Jun 43, sub: Special Rpt of Inspec. Same file. (3) Unit Hist cited n. 14. (4) Unit Hist, 1055th Engr PC&R Group (S). Army Map Sv.

not strong enough to support them. In order to demonstrate the cranes, hoists, and pile-driving rigs at Savannah, each unit had to travel between these two points at least twice. Little attention was given to developing within the units the few specialists which they lacked. Companies activated in August 1943 still did not have enough welders and riggers in December.

The divers in these companies were the only men who trained together under a centralized system, in a school established at Screven on 2 August 1943. Although most of the divers who came to Screven at this time had either civilian experience or seven to fourteen weeks of training in diving at the Navy Salvage Training and Diving School at New York, some had neither. All needed technical instruction in Army equipment and practice in the application of their skills in port reconstruction work. In the fall, when the Navy closed its salvage operations at New York, Screven was the only school remaining which could give engineer diving and salvage training. The school had two officers and four enlisted instructors. Officers from the units served as their assistants. The school taught the use of pneumatic tools, such as the chipping hammer, jack hammer, chain saw, and steel drill. The men learned something of the physics of diving and had some practical work with Navy and Army diving gear, shallow water face masks, diving floats and boats, and the decompression chamber. They learned the elements of damage control, burning and welding, steel patch work, caulking of both wood and steel, and underwater rigging. They made up charges of underwater explosives for steel, stone, concrete, and timber demolition. Instruction in pile driving and dock building was also included.¹⁶

Following the three weeks of technical training by each company, the commanding officer of Fort Screven assigned practical tasks to each company. Presumably, this was the period in which each unit was to learn to operate as a team under simulated overseas conditions. However, there was never an opportunity to test the full working capacity of these units, never an occasion to undertake a large project requiring the use of truck companies and general service regiments. Headquarters personnel had little to do since there was no co-ordination with other units and the group commanders gradually usurped the authority of the company officers. Training tasks, although not extensive, were numerous. One unit completed thirty-five such assignments, which included building trestle bent timber bridges on piles and on mudsills and posts, and a trestle bent pier with timber pilings and a salvaged steel superstructure. It constructed mooring dolphins, training barges, water pipelines, and a power line. Old pilings and bridge piers were demolished. Buildings were moved and others constructed both on land and on pilings, providing training in carpentry, stone masonry, plumbing, and concrete work. Mechanical and construction engineers received some training in the design and preliminary construction of a marine railway capable of handling 100-ton boats. Other tasks included establishing and operating a sawmill, and grading and surfacing roads. Part of one unit spent three months building an access road to the fort over swampy and sandy soil in an attempt to get heavy equip-

¹⁶ (1) Ltr, C of O&T Br to CG Fourth SvC, 8 Jun 43, sub: Unit Tng of Divers, Engr PC&R Groups, and Engr Port Repair Ships, with Incl 1, Tng Program. 353, Engr PC&R Units. (2) Unit Hist, 1053d Engr PC&R Group (C). Army Map Sv.

ment to Screven. Another part of the same unit built a target range in sand with plank and piling bulkheads and concrete piers and footings, while still another section built a sea wall.

In September 1943 the Deputy Chief Engineer, ETO, strongly recommended that steel construction be given a prominent place in training. Plans for the repair of piers and quays at that time included only 33 percent timber and the rest V-trestling, unit steel cribbing, steel sheet piling, tubular scaffolding, structural steel, and reinforced concrete. V-trestling was a particularly important part of this steel construction, and training in its use was considered essential both by the Deputy Chief Engineer, ETO, and by OCE.¹⁷ Yet no trestling had been furnished to these units prior to September 1943, and by February 1944 OCE faced the hard fact that "certain critical items which we had hoped to get for training purposes are now unobtainable due to the fact that the British are getting all available equipment. These items are the V-type trestling, tubular scaffolding, unit steel cribbing, and the Braithwaite tank pontons. . . . The training suggested in this equipment as shown in the training outline will have to be disregarded."¹⁸

One of the unit commanders, shortly after arriving overseas, agreed with OCE and the Deputy Chief Engineer, ETO, that his unit should have had more training in erecting V-type trestling, both day and night. He also pointed out some other deficiencies. Too little time had been given to the operation of all equipment, moving it into place at night, selecting difficult positions, and simulating air raids during operations. He believed that a more intensive technical program should have been conducted, even at the expense of basic military

training, with barely enough of the latter to make the men recognizable as soldiers.

Much of his criticism was apt. Lt. Col. William W. Brotherton of O&T noted in December 1943: "An effort was made to carry on some training on the larger shovels and pile drivers in and around the Savannah ASF Depot. The work projects on which these units were engaged were spread all around the vicinity of Savannah and Fort Screven and close control and coordination was apparently difficult." He found that "none of the unit commanders had any information that the training period for units after activation had been extended to seventeen (17) weeks for all units activated after . . . [25 September 1943], with necessary changes in the training programs for units activated before that date."¹⁹

In late December 1943 the units moved from Screven to the ASF Training Center at Camp Gordon Johnston, near Carrabelle on the gulf coast of Florida. The new camp with its fifteen-mile beach frontage and its widely scattered housing was quite a change from Tybee Island.²⁰ One unit "was somewhat bewildered at the vastness of the new

¹⁷ (1) Ltr, Deputy C Engr ETO to Sturdevant, 14 Sep 43. O&T Br file, Personal Ltrs to Gorlinski (S). (2) Memo, C of WPD for CG ASF, 18 Jan 44, sub: Special Tng for Engr PC&R Groups. 353, Engr Port Repair Ship Crews (C). (3) Memo, Garcia for Lt Col George H. Taylor, 23 Aug 43. O&T Br file, Personal Ltrs to Gorlinski (S).

¹⁸ Ltr, C of WPD to CG Camp Gordon Johnston, Fla., 14 Feb 44, sub: Special Tng for Engr PC&R Groups. 475, Engr PC&R Units.

¹⁹ Memo, C of Sch Br for C of Tng Br, 16 Dec 43, sub: Status of Tng—1057th, 1058th and 1059th Engr PC&R Groups. P&T Div file, Engr Diving and Salvage Sch.

²⁰ (1) Memo for Record, AC of Repl and Unit Tng Unit O&T, 11 Dec 43. P&T Div file, PC&R Group. (2) Memo for Record, C of P&T Div, 15 Aug 45, sub: Inspec Trip to Camp Claiborne, Camp Gordon Johnston, and Charleston Port of Embarkation. P&T Div file, Camp Gordon Johnston, Gen.



MEMBERS OF PORT CONSTRUCTION AND REPAIR GROUP *building docks at Cherbourg harbor, France, July 1944.*

location and found it quite different from the previous station, which was in an exceptionally fine location with all recreational activities easily accessible.”²¹ Johnston was about sixty-five miles from Tallahassee, with no communities of any size in the vicinity.

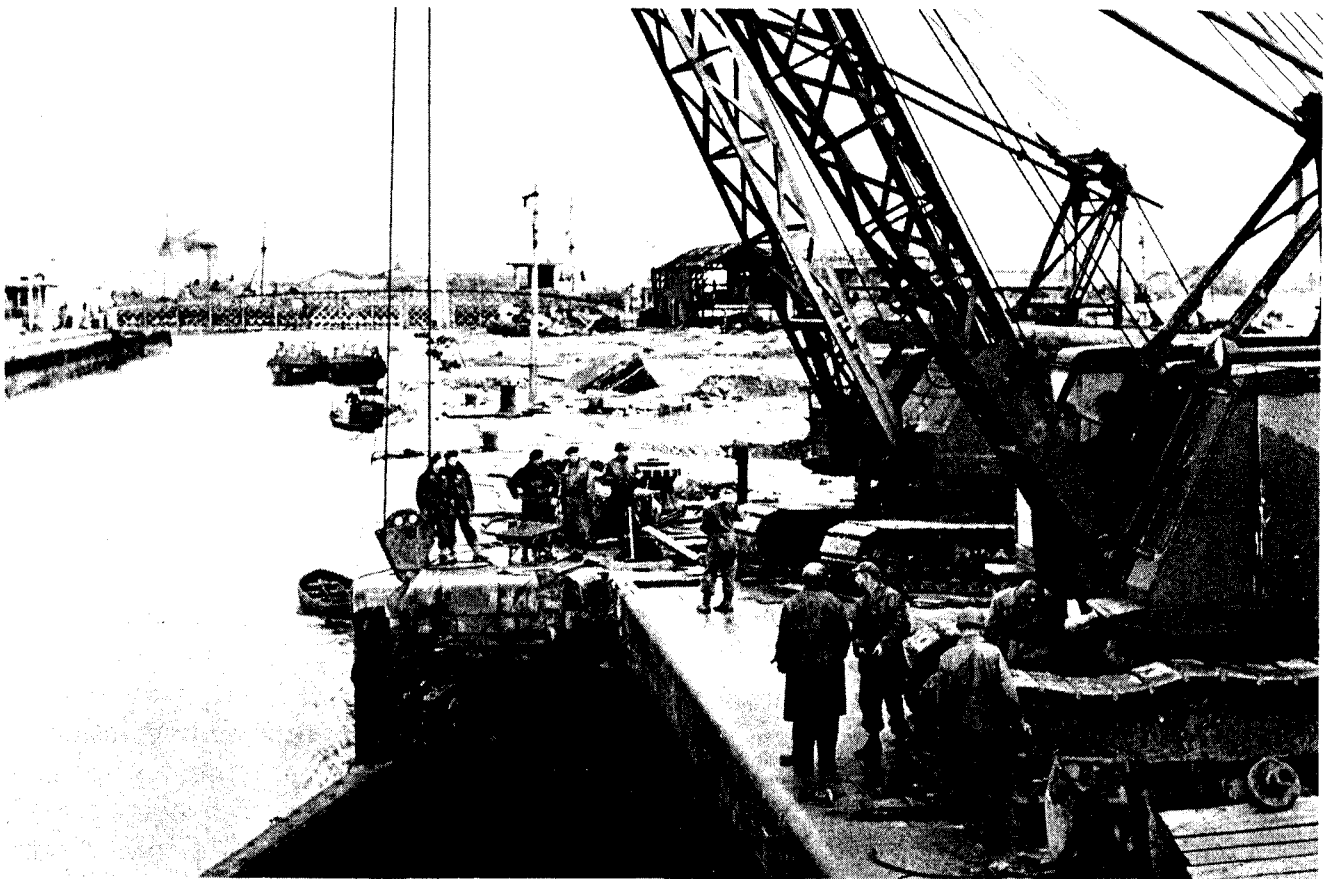
In contrast to the first units, which received competent fillers through voluntary induction, the six companies that trained at Camp Johnston in 1944 and early 1945 received a very poor quality of personnel. The last of these units, organized in the fall of 1944, had only one officer with any experience in dock construction and he was classified as limited service. Fillers consisted in the main of “a raft of shipyard workers who did some one job in a production

line.”²² Men had to be trained in base schools for some of the most elementary positions and the commanding officer of the unit despaired of filling the many sergeant positions with qualified men.

There was much more wood pile construction in Europe than had been planned originally for these units. Part of this change in plans came about because of the unexpected availability of wood and the difficulty of shipping steel. The change was also due in part to the lack of familiarity of these units with nonwood materials and their consequent natural preference for wood

²¹ Unit Hist, 1057th Engr PC&R Group. Army Map Sv.

²² Ltr, CO EPC&R Group to Schweizer, 11 Sep 44. P&T Div file, Camp Gordon Johnston, Gen.



MEMBERS OF PORT CONSTRUCTION AND REPAIR GROUP *repairing a lock gate to a basin at the harbor, Le Havre, France.*

construction. Of the twelve companies—about three thousand men—that trained at Screven and Johnston, seven went to Europe and five to the Pacific. In the end, despite the fact that the units continued to train for a time overseas, their efficiency was more directly tied to the number of men in each company with previous civilian experience than to the amount or quality of unit training. The later units that had not benefited from the special recruiting campaign did not measure up to the others until they gained experience.²³

Port Repair Ships and Crews

At the same time that Garcia was selecting the equipment for the port construc-

tion units, in early fall 1942, he was studying the feasibility of a port repair ship, as suggested by the European command.²⁴ Such a ship had been unheard of previously because it possessed no technical or economic

²³ (1) Analysis of the Present Status of the War Dept Trp Basis, 1 Jan 45, pp. 208, 209. AG Special Reference Collection. (2) *Final Engr Rpt, ETO* pp. 270, 271.

²⁴ Unless otherwise cited, the story of port repair ships and crews is based upon (1) 560, Engr Port Repair Ships (S); (2) OCT file 564, Repair Ships (Engr Port) (S); (3) OCT file 564, Repair Ships (Port) (S); (4) Unit Hist, 1071st Engr Port Repair Ship Crew, Army Map Sv; (5) O&T Br file, Personal Ltrs to Gorkinski (S); (6) 322, Engr Port Repair Ships (C); (7) 560, Engr Port Repair Ships; (8) 560 (S); (9) OCT file 565.4, Repair Ships (Army Air Forces) (S); (10) Proc Div file, Exec Office Gen Clas Corresp; (11) Unit Tng, Annex I.

worth in peacetime. Its advantages in the kind of military situation anticipated were readily discernible. Rigged with heavy derricks it would furnish the power necessary for lifting rubble from around the docks. Outfitted with machine, blacksmith, and carpenter shops, it would provide the facilities needed to cut and mold the timbers and steel for replacing the damaged portions of the docks themselves. To these two main functions Garcia added a third—transporting the construction machinery, tools, and materials assigned to the port construction and repair group. The port repair ship would thus contain all the essentials for beginning the operation and when one job was done would be ready to move on quickly to another. On 6 October 1942, OCE outlined the need for port repair ships and asked SOS to arrange to supply them. As the service in charge of the Army's shipping activities the Transportation Corps was assigned the job of procuring the vessels as specified by the Corps of Engineers.

On 16 December, Eisenhower followed up his original request. The landings in North Africa had convinced him of the need for such ships. The requirement was for medium-size vessels about 275 feet long which would have a shallow draft of 14 feet or less. He asked that five such ships be ready as early as possible. While ROUNDUP was foremost in his mind, he wanted the ships available for possible attacks other than across the Channel. He also served notice that the British might request conversion of two ships for their own use. In response to Eisenhower's cable, SOS asked the Transportation Corps to convert seven vessels into port repair ships.

The early and optimistic plans for the preparation of these crews and ships did not materialize. The Engineers in November 1942 had hoped to fill the first five crews by

direct appointment and by enlistment of qualified civilians, and to have at least four of the crews available by 15 December, subject to call from the European theater commander.²⁵ A short organizational and basic military period at Claiborne was to suffice for their training. Restrictions upon the procurement of personnel, as well as the type of men attracted by the low grades in the table of organization, made a more extended training period imperative. Constant revisions in the readiness dates of the ships prolonged this period for the first five crews, scheduled to be sent to Europe, to almost a year and a half.

The demand for port repair ships could scarcely be heard in the clamor for ships and more ships that echoed from every side in the fall of 1942. A shipbuilding industry geared to the modest requirements of peacetime had been expanded to a point which caused the chairman of the Maritime Commission, the agency in charge of constructing merchant vessels, to warn over and over again that shipbuilding brains were being spread dangerously thin. All shipways—old and new—were filled, and would continue to be filled for months, perhaps years, to come. Under such circumstances it was out of the question to design and build a port repair ship from scratch. Instead, some vessels already built or in the process of building would have to be transferred from one service to another and converted to serve the new purpose.²⁶

²⁵ Ltr, AC of O&T Br to CG SOS, 7 Nov 42, sub: Orgn of Engr Port Repair Ship Dets Nos. 1 to 5. 322, Engrs Corps of (S).

²⁶ (1) Frederic C. Lane, *Ships for Victory* (Baltimore: The Johns Hopkins Press, 1951), Chs. II, V. (2) Chester Wardlow, *The Transportation Corps: Responsibilities, Organization, and Operations, UNITED STATES ARMY IN WORLD WAR II* (Washington, 1951), Ch. V. (3) Leighton and Coakley, *Global Logistics and Strategy*, Chs. V, VI, VIII, IX.

The preparation of detailed plans by the Engineers for the layout of the ships had to wait upon allocation of vessels by the Transportation Corps. On the other hand, the more the Transportation Corps knew of what the Engineers wanted the more intelligent and expeditious would be its search for a suitable vessel. Garcia therefore began in January 1943 to compile a list of the equipment to be installed and transported in the ships. For assistance in this work he turned to the group within the Engineers which knew most about ships and shipbuilding, the Marine Design Section of the Office of the District Engineer in Philadelphia. This section, since it designed and supervised the construction of dredges and other craft used in rivers and harbors work, had formerly been located in OCE. It had been transferred to Philadelphia when its chief had been appointed District Engineer there, and it had remained in that location after his assignment elsewhere. Within the month the Marine Design Section had finished what was to become the first of many assignments in connection with port repair ships. Upon reviewing the list drawn up in Philadelphia, the executive officer of OCE's Development Branch suggested that the Engineer Board be consulted with a view to selecting standard equipment to the greatest extent possible. Early in February a representative of the Marine Design Section visited Fort Belvoir to secure the needed information. Thus revised, the preliminary list was forwarded to the Transportation Corps on 8 March 1943.²⁷

Shortly thereafter the Transportation Corps suggested for conversion a Navy attack cargo ship, the N3-M-A1. Fourteen of these vessels, designed originally as coastal cargo ships, were being built under Navy contract. Four had been assigned to the

British, five to the Navy, and the remainder, because the date when they were to be launched was so far off, had not yet been allocated. Garcia accepted the N3-M-A1's as entirely suitable. Accordingly, on 5 May ASF called on the Munitions Assignments Board to approve their allocation to the War Department.²⁸ Asked to comment, the Navy's Munitions Assignments Committee presented a decidedly cold front. Assuming that the assignments already made would remain unaltered, the committee put in a strong claim for those ships not yet allocated. The Navy suggested that the Engineers' needs might be met by transfer from the British of the requisite number of N3-S-A1's which differed from the N3-M-A1's only in that they were steam- instead of diesel-powered. In the eyes of the Engineers this was a big difference. So it was also, it seemed, in the eyes of other services. At a meeting of the Navy's Munitions Assignments Committee late in May the Army, Navy, and Royal Navy pronounced the steamers unsuitable. Any sort of substitution was thus ruled out.²⁹

At this time—May 1943—the Navy began to question the Army's need for port repair ships at all. Many months had elapsed

²⁷ (1) Memo, Actg ExO Engr and Dev Br for Garcia, O&T Br, 23 Jan 43, sub: Repair Boat. 560. (2) Memo, C of O&T Br for C of Engr and Dev Br, 30 Jan 43, sub: Engr Port Repair Ship. Same file. (3) Telg, AC of Opns Br Constr Div to Philadelphia Dist Engr, 30 Jan 43. 475, Engr Port Repair Ship Units. (4) Memo, C of O&T Br for C of Water Div TC, 23 Oct 43, sub: Engr Port Repair Ship Equip. 560, Engr Port Repair Ships.

²⁸ See above, p. 183.

²⁹ (1) Memo, Comdr R. S. McIver, MAC (Navy), for ExO MAB, 6 May 43, sub: ASF Request for Alloc of N3-M-A1 Vessels. OCT file 564, Repair Vessels (Engr Port) (S). (2) Memo, McIver for ExO MAB, 7 May 43, sub: ASF Request for Alloc of N3-M-A1 Vessels for Conversion to Engr Port Repair Ships. Same file.

since the request; perhaps the theater no longer wanted such vessels. Or perhaps the Navy should man them. To back up this last point, the Navy produced a cable from its commandant of the Mediterranean area. On 29 May, ASF cabled Eisenhower for instructions. On 1 June Garcia was asked to call at the Navy's Bureau of Ships. There he was told that since no N3-M-A1's were available he might wish to accept some slow cargo vessels which were. He did not wish to. On 3 June Garcia's chief, Gorlinski, laid the matter in the lap of ASF's Assistant Chief of Staff for Operations: "In view of the foregoing synopsis of the action to date relative to procurement of these 7 port repair ships it is evident that there is a great possibility that none will be available for Army use when required, and that a dispute is brewing over the Service to be charged with this operation."³⁰ If the Navy had thrown a monkey wrench late in May, Eisenhower's reply to the cable from ASF amounted to a bomb. The theater was unable to find out who had originated the request for the five port repair ships. The theater wanted *three* ships by August. The theater thought they should be manned by the Navy. All of which caused Garcia to agree that ASF should not press the bid for the N3-M-A1's until further word came from the theater.

By 23 June word had come: the European theater wanted *five* port repair ships manned by Army Engineers. Fortified with this clear statement, ASF appealed to the Joint Military Transportation Committee—an agency of the Joint Chiefs of Staff—asking for advice on filling the requirement for seven ships, two of which were needed in the Pacific, and suggesting that consideration be given to the N3-M-A1's. The committee recommended applying to the Muni-

tions Assignments Board for the four N3-M-A1's then assigned to the British and to the War Shipping Administration for three cargo vessels.

Despite all the uncertainties, the Engineers had activated five port repair ship crews at Fort Screven in February 1943 and had conducted basic training until mid-June. Although the crews were seagoing engineers who would presumably serve aboard ships, they were required to complete the standard basic program for all engineer units, including field bivouacs with exercises in field fortifications, camouflage, scouting, and patrolling. Two infantry officers from Fort Screven headquarters supervised this training for the enlisted men, and the unit officers organized themselves into a basic training class under one unit officer who had some previous military experience.

At the completion of basic training in mid-June, the units attempted the prescribed eight-week tactical and technical programs. Fort Screven proved to be completely devoid of any facilities for this training. The major part of the schedule, 238 hours out of 384, was supposed to be devoted to the use of organizational equipment, to seamanship, navigation, salvage, demolitions, and training as a crew.³¹ A few men were sent to the nearby naval training station at Fort Pulaski for elementary training in seamanship, signaling, and splicing, a few others to a trade school in Savannah for training as welders, mechanics, and machinists. Some small tasks, such as road and dock building, could be parceled out to them in the near vicinity, but

³⁰ Ltr, C of O&T Br to ACofS for Opns ASF, 3 Jun 43, sub: Engr Port Repair Ships. 560, Engr Port Repair Ships (S).

³¹ MTP 5-1, 19 Jun 43.

nothing comparable to their intended duties. Thoroughly discouraged by his lack of success in filling these units with qualified men, Garcia reported upon their condition in August: "The technical abilities at the present moment of both the commissioned and enlisted personnel of these units are doubtful. This office does not at this time consider them qualified for the mission they are to perform. . . . The training of these units as a group has been seriously handicapped due to the lack of qualified personnel in the units, the lack of suitable vessels for them to train with and thirdly, the lack of suitable projects on which to train." ³² As one of the units summed up its predicament in July, "training facilities for our specialized unit were completely lacking at Fort Screven and our continued presence was becoming embarrassing." ³³

The situation was as embarrassing to the Engineers as it was to Fort Screven. It was apparent by July that the Transportation Corps would not have any repair ships ready for months. In the interim the crews had to be held together and kept busy at tasks that would give them experience in seamanship, the handling of deck gear, and the use of marine engines. The solution seized upon immediately was to turn the rest of this training over to the Transportation Corps until such time as the ships should be ready for the crews. Accordingly, in late July, three of the units were assigned to San Francisco and two to Seattle in order to take advantage of facilities which the Transportation Corps had at these ports. ³⁴

Attempts to obtain the N3-M-A1's for the crews ran into protracted opposition from the British, who, on 1 September, dissented from the Munitions Assignments Board's decision to reassign the four vessels

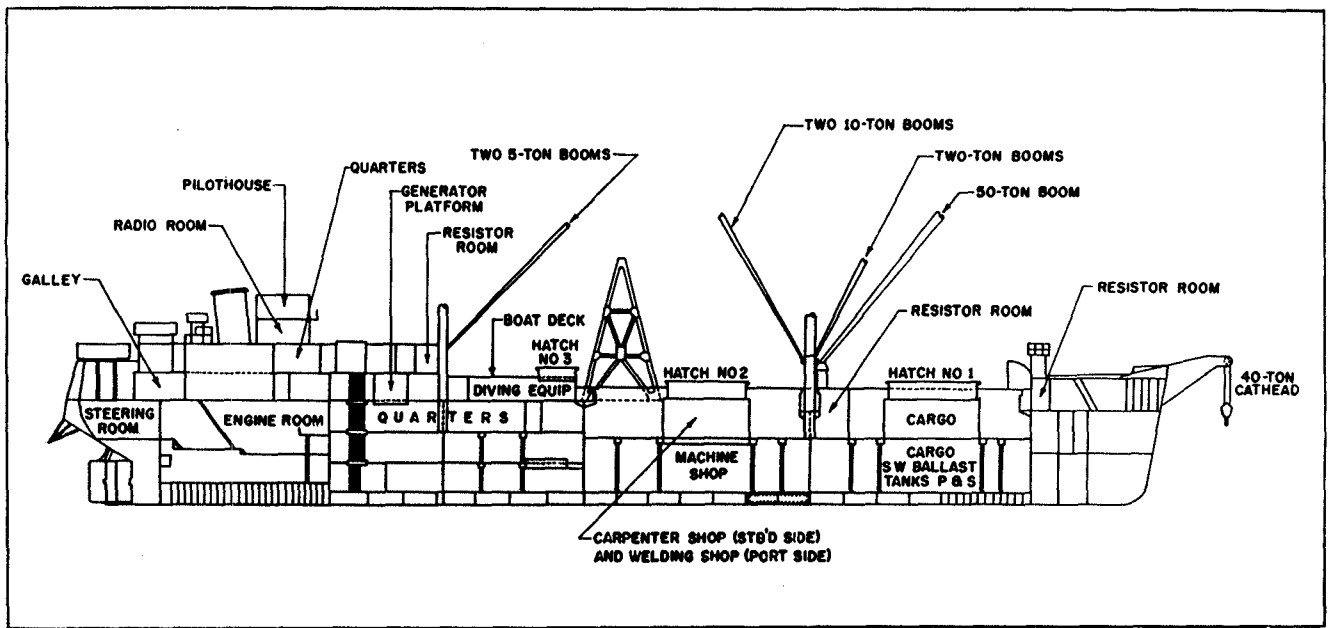
building for them and on 7 October appealed to the Combined Chiefs of Staff for a reversal. Meanwhile Garcia had agreed to accept one cargo steamer from the War Shipping Administration. This ship, the *Josephine Lawrence*, was about one third the size of a standard ocean freighter, having a gross tonnage of about 3,000, a length of 277 feet, and a beam of 43 feet. It had a cruising speed of 10 knots, slower even than the admittedly slow Liberty ships. ³⁵ Conversion of the *Lawrence*, later christened the *Junior N. Van Noy* for an Engineer private who had been posthumously awarded the first Congressional Medal of Honor given an ASF soldier, got under way on 11 September. A month later the British persuaded the Combined Chiefs of Staff that the N3-M-A1's would be essential in the cross-Channel invasion. Three of the vessels were therefore left in British hands and only one was transferred to the Army for conversion to a port repair ship. But shortly thereafter the Navy concluded it could afford to release three more N3-M-A1's. Conversion of these four ships, which were eventually named the *Thomas F. Farrell*, the *Madison J. Manchester*, the *Glenn G. Griswold*, and the *Robert M. Emery*, after Engineer officers killed during World War II, began at various east coast shipyards the second week in December 1943. The two ships allocated later to fill out the original request for seven vessels, as well as three more which ASF added to

³² Memo, Garcia for Lt Col George H. Taylor, 23 Aug 43. O&T Br file, Personal Ltrs to Gorkinski (S).

³³ Unit Hist, 1071st Engr Port Repair Ship Crew. Army Map Sv.

³⁴ Memo, C of O&T Br for C of T ASF, 19 Jul 43, sub: Tng of Engr Port Repair Ship Cos. 353, EPC&R Units.

³⁵ Cable, CG USFET to WD, signed Lee, 20 Nov 45. 560, Engr Port Repair Ships (C).



LAYOUT PLAN FOR THE ENGINEER PORT REPAIR SHIP

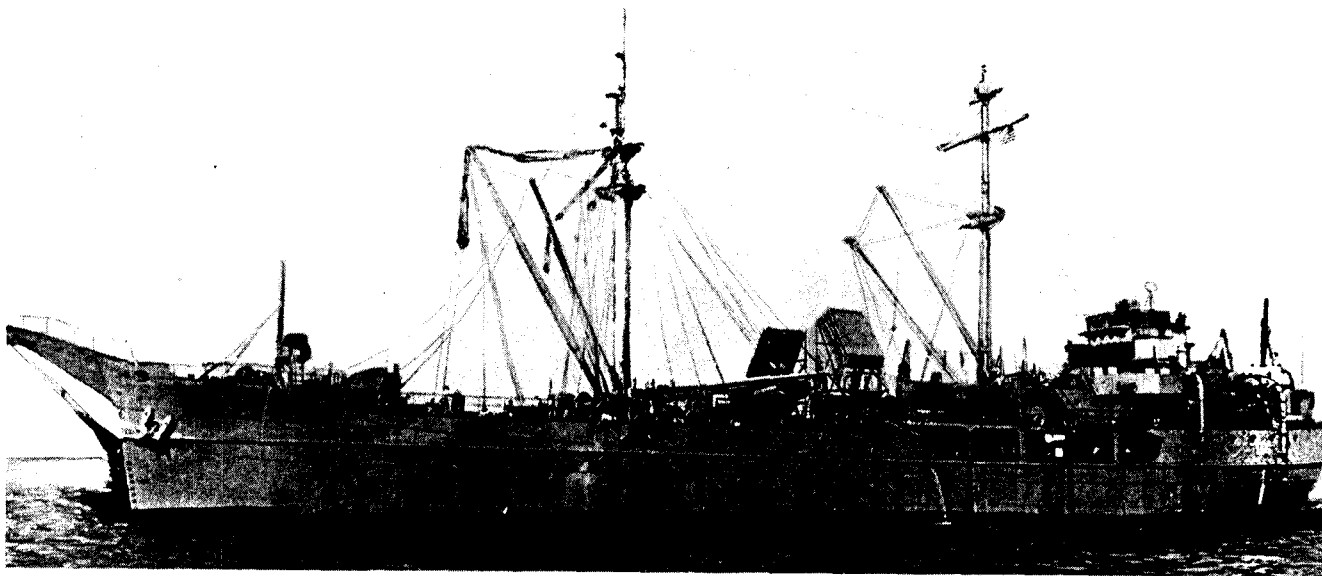
the program in February 1944, were also N3-M-A1's. The first of these was turned over to the Transportation Corps by the Navy in May and the last in October 1944.

With the acquisition of the ships, the Transportation Corps and the Engineers entered into a new set of relationships. In general, the Engineers had the say about the redesign of the vessels for their specialized function as port repair ships; the Transportation Corps passed upon such matters as seaworthiness. To carry out their part of the responsibility, the Engineers, represented by Garcia and the Marine Design Section at Philadelphia, drew up lists of materials and equipment and prepared layout plans.³⁶

The N3-M-A1 had a gross tonnage of 2,483 and measured 291 feet from stem to stern and 42 feet at the beam. Two of its three holds (Numbers 1 and 2) were 56 feet long, while Number 3 hold was half that length. The Marine Design Section concentrated the shops in hold Number 2, lo-

ating the machine shop in the lower hold, the welding shop in the forward 'tween deck, the carpenter shop in the starboard 'tween deck, and electric generators and air compressors in its 'tween deck aft. Outlets for the welding machines and air compressors were provided on the main deck. Number 1 hold was reserved for transporting construction machinery. Hold 3 provided storage space for steel stock, portable generator units, refrigerator stores, and crew's quarters. The ship also carried about 75 tons of portable salvage equipment, including a ponton barge, 5-ton capacity crawler crane, 4-ton capacity stiff-leg derrick, and jacks with capacity ranging from 12 to 50 tons. What distinguished its outward appearance most, however, was the large amount of heavy lifting equipment installed on deck, equipment which included, in addition to booms ranging from 2- to

³⁶ Ltr, C of O&T Br to Philadelphia Dist Engr, 26 Oct 43, sub: Engr Port Repair Ship. 560, Engr Port Repair Ships.



THE ENGINEER PORT REPAIR SHIP

50-ton capacity, a 40-ton cathead derrick for raising debris and small sunken craft.³⁷

Upon receipt of the plans, the Transportation Corps decided what shipyard was to make the conversion and assigned an inspector to see that the work was carried out diligently and according to specifications. Representatives of the Marine Design Section visited the shipyards regularly for the purpose of accepting or rejecting the work as it progressed. When the ship was ready for sea, they went aboard for its final trials and tests. Although the Engineers thus emerged in a role that was essential to the denouement, it was the Transportation Corps in its position of direct relationship with the shipyard management which played the lead. As time went on the Engineers sometimes felt their only function was to stand in the wings and wait.³⁸

For a time, this was also the Engineer position in relation to the crews for these ships. The units arrived on the west coast in August 1943 and remained under the

jurisdiction of the Transportation Corps until November. During these months, basic military training ceased, except that the men fired the familiarization course with the carbine upon arrival and ran an infiltration course just before leaving. The time was spent, instead, in improving the technical skills of the men, most of whom had no civilian background in comparable positions. The Samuel Gompers Trade School in San Francisco taught welders, machinists, mechanics, pipefitters, carpenters, and electricians the elements of their trades. Divers and tenders from all five units attended a seven-week course at Fort Law-

³⁷ (1) Photo Album, Engr Port Repair Ships, Gorlinski. 560, Engr Port Repair Ships, Bulky. (2) Incl, Description of U.S. Army Engr Port Repair Ships *Madison J. Manchester* and *Glenn G. Griswold*, to 1st Ind, ExO Philadelphia Dist to Cof-Engrs, 22 Oct 52, on Ltr, C of EHD to Philadelphia Dist Engr, 2 Oct 52, sub: Files Relating to Engr Port Repair Ship. EHD files.

³⁸ Ltr, AC of WPD to Philadelphia Dist Engr, 3 Jan 44, sub: Engr Port Repair Ships. 560, Engr Port Repair Ships (C).

ton, Washington. Marine oilers and firemen served aboard ships for on-the-job instruction. Radio operators and signalmen attended Signal Corps and Maritime Service schools. Both officers and men had some instruction in anti-aircraft gunnery. A small amount of practical work was done in repairing and converting a few fishing boats.

A request in August from the Chief Engineer, ETO, for a petroleum distribution company, a port construction and repair group headquarters company, and a repair ship by September 1943 focused attention upon the relatively unprepared status of the ship crews as compared to the other two types of units. The request pointed out that:

The quality of personnel in these three units and in those of the same type to follow is of primary concern to us because unless the officers and men are capable of carrying out their duties in a well qualified manner, preferably through experience in civil life and training, there will be little opportunity to train them here. . . . Incidentally, we are placing considerable dependence on these ships and the personnel which will use them.³⁹

There followed a close examination of the officers and men assigned to the repair ship crews to determine their ability to handle a ship, once it was delivered. Garcia reported to Gorlinski in early September that two of the units did not have a full complement of officers and none had the required number of warrant officers. He did not know how many enlisted men were in the units nor what their grades or qualifications were. The information he had on the officers indicated that their grades and qualifications did not coincide with the table of organization. He pointed out that even though the records showed licensed masters, mates, and engineers, he had no information on their experience in these positions.

At Garcia's suggestion, OCE established

investigating boards at Seattle and San Francisco to determine the qualifications of the men. The two boards, composed of officers from the Coast Guard, Corps of Engineers, and Transportation Corps, interviewed each man from the deck and engine room sections and any others whose duties required a knowledge of navigation or seamanship. The results were discouraging. The board at San Francisco reported on 4 October that none of the three crews at that port could be trusted with a ship. In fact, there were not enough capable men in all three units to make one qualified crew. Although each had a competent master, none had a qualified chief engineer. Two of the units had no mates who had ever served before in that capacity. Only one out of nine assistant engineer positions had been filled.⁴⁰

After a futile long-distance attempt to straighten out these units, the Military Personnel Branch in early November finally held a three-day conference at Washington, D. C., with the commanding officers of all five units. The officers learned that all of the crews were to be brought back to the east coast to complete their training under the jurisdiction of the Chief of Engineers and that key vacancies were to be filled through appointments from civil life. Detailed plans were laid to separate the men with experience on diesel-powered ships from those with experience on steamers. Crews could then be reconstituted according to one or the other of these two types. Shifts were planned within all five units in

³⁹ Ltr, Deputy C Engr ETO to Sturdevant, 17 Aug 43. O&T Br file, Personal Ltrs to Gorlinski (S).

⁴⁰ (1) Ltr, ACofEngrs to Pac Div Engr, 15 Sep 43, sub: Engr Port Repair Ship Cos. 320.2, Engr Port Repair Ship Cos (C). (2) Ltr, Special Bd to CofEngrs, 4 Oct 43, sub: Engr Port Repair Ship Cos. Same file.

order to fill one crew with men able to take a ship overseas at an early date.

The units arrived at Belvoir in late November 1943 and reorganized in early December under a new table of organization allowing higher grades. Necessary transfers were made to place qualified men in the unit assigned to the ship nearest completion. Unqualified officers and men were gradually replaced in the other units and basic military training was resumed for the new men and for the two additional crews, slated for Pacific duty, which were activated at Belvoir in the middle of December. The basic program still included many subjects that were of dubious value for ship crews, including tent pitching, laying and passage of mines, defense against mechanized attack, village fighting, engineer reconnaissance, scouting and patrolling, and combat principles of squad and platoon.⁴¹ For the intensive technical training required by these reconstituted crews the Engineers used specialist schools all over the east coast. Naval and Maritime Service schools trained officers and men in diesel engineering, convoy communications, and seamanship. Divers received excellent practical instruction in the salvage of the *Normandie* in New York Harbor. Mechanics, machinists, and electricians worked in shops at Belvoir.

Toward the end of December, ASF's Deputy Director for Plans reminded the Engineers that the ETO had asked for three ships in January and two in February 1944. Since the Transportation Corps had scheduled the *Van Noy* for delivery on 15 January, the *Manchester* and *Griswold* 15 February, and the *Farrell* and *Emery* 15 March, it would be impossible to comply with the theater's request. ASF set 1 April as the date for overseas movement of ships and crews. On 8 January the Transporta-

tion Corps announced that delivery of the vessels would be somewhat delayed. The *Van Noy* would not be ready until 1 February; the *Manchester* and *Griswold* not until 31 March; and the *Farrell* and *Emery* not until 30 April. Gorlinski quickly passed this information along to ASF, noting that it would now be impossible to meet the 1 April sailings.

The new completion dates allowed even more time for the instruction of the crews. Recognizing at last the special nature of these units, the Engineers prepared for them a more realistic seventeen-week basic and technical program in February, reducing or eliminating altogether some of the less useful subjects. Seamanship, splicing, lifeboat drills, and twelve hours of aircraft identification were added. Night operations were increased. There was no concurrent military training to be given in the technical period that followed the basic six weeks. Machine gun crews continued to be trained, however, despite the fact that the ships' armament was manned by naval gun crews.⁴²

A complex of factors lay behind the failure to deliver the ships when promised. Although the Marine Design Section had the conversion plans ready in time, they were, as Gorlinski warned, subject to further study and perhaps to change. Frequently one change led to another. In forwarding a set of plans to the Transportation Corps in November 1943, Gorlinski noted that the lay-

⁴¹ MTP 5-101, 25 Sep 43.

⁴² (1) Ltr, C of WPD to CG Belvoir, 29 Feb 44, sub: Tng Program for Floating Units, with Incl, Tng Program. 353.01, Pt. 1. (2) Ltr, CNO to C of BuOrd, 4 May 44, sub: Penn Jersey Small Cargo Vessels, Ex-AK-81 to Ex-AK-89, Inclusive, Armament for (Doc. 115481). OCT file 564, Repair Vessels, 1943-45 (S). (3) Memo, Actg C of WPD for CG ASF, 10 May 44, sub: Movement of Engr Port Repair Ship Crews. 370.5, Engr Port Repair Ships (C).

out and arrangement of the shops might be altered and that these changes would in turn affect the Number 3 hatch opening and cargo handling gear. Changes demanded by the Engineers became so numerous and caused so much work to be ripped out and begun over again that in February 1944 the Transportation Corps served notice that it would tolerate no more of them.

But freezing the design eliminated only one source of trouble. The port repair ships were being converted in the midst of labor shortages, particularly skilled labor, and of materials and components. Most important perhaps, they were a very small part of the Transportation Corps' huge program, which in turn was only part of the ship repair and conversion program as a whole. As the chief of the Water Division, OCT, later explained:

Based on the conditions of material and manpower early in 1944, estimates were made of the completion dates of these conversions. Subsequent to this time, difficulties arose in obtaining the critical materials and the manpower situation in the conversion yards steadily became worse. . . .

The Transportation Corps has been continuously under pressure from the Surgeon General to complete the hospital ships under conversion. We have also been under constant pressure for the completion of . . . troop carrying vessels. The Commanding General of the Southwest Pac (*sic*) Area has exerted pressure for the completion of his marine repair ships. All of these conversions were in competition with battle damage to Navy vessels, the landing craft program of the Navy and voyage repairs to operating cargo ships and troop transports.⁴³

To be sure, there was some difference of opinion as to whether blame should be laid to the shortage of labor, to labor inefficiency, which might in turn be caused by union rules preventing the firing of loafers, or to the lack of incentive to the contractor under

a cost-plus-fixed-fee form of contract. There were differences of opinion, too, as to the reasons why materials and components were difficult to get hold of. As a procurement agency itself the Corps of Engineers understood these problems and had its own theories about them. As a spectator waiting for the Transportation Corps to deliver the port repair ships, the Engineers became progressively more impatient.⁴⁴

In mid-February 1944 Gorlinski forwarded to the Director of the Planning Division, ASF, his latest information as to when the ships would be ready. The two previously scheduled for delivery last were still due on 30 April; of the remaining three, the *Van Noy's* delivery date had been delayed another month and a half, the *Manchester's* two weeks, and the *Griswold's* a month. Gorlinski asked "that deadline dates . . . be established based on commitment dates required by the Theater involved and that the Chief of Transportation be directed to take whatever action may be necessary to obtain priority at the shipyards concerned to insure completion" ⁴⁵

The Planning Division, ASF, persuaded that this was a case for the Joint Chiefs of Staff, drafted for the signature of ASF's Director of Plans and Operations a memorandum for the Operations Division of the General Staff. Delays now being encountered, the Planning Division emphasized, were no longer due to changes in design; they were caused by diversion of working

⁴³ Memo, C of Water Div for Brig Gen John M. Franklin, OCT, 16 Jun 44, sub: Engr Port Repair Ships. OCT file 564, Repair Ships (Engr Port) (S).

⁴⁴ Memo for Record, Lt Col John A. Sergeant, 8 May 44, sub: Port Repair Ships. OCT file 564, Repair Vessels (S).

⁴⁵ Memo, Actg ACofEngrs for War Planning for Dir Planning Div ASF, 16 Feb 44, sub: Engr Port Repair Ships—Commitment Dates, 560, Engr Port Repair Ships (S).

crews in shipyards to jobs of higher priority when labor is limited.”⁴⁶ The Joint Chiefs of Staff should put a stop to this so that the latest deadlines could be met. ASF’s Deputy Director for Plans and Operations was not inclined to sign this memorandum. “I shudder at referring this to JCS for any early decision,” he wrote the Chief of Transportation. “What do you think?”⁴⁷ The Chief of Transportation agreed with him; he would push the matter through other channels. Those directly responsible for ship conversion within the Transportation Corps could see no point in this kind of pushing. The only way to speed up the delivery of the port repair ships, wrote the chief of the Water Division on 2 March, was to give them priority over hospital and troop ships. This was precisely what the Engineers would have liked. But the Transportation Corps could not agree to the wisdom of this course and ASF’s Deputy Director for Plans and Operations, convinced that the Transportation Corps was doing its best, did not press the matter further.

The Engineers continued to lodge protests. The climax of their representations to ASF was signed by Robins on 9 June—five months after the delivery of the *Van Noy* had been originally promised and three days after the Normandy landings. Robins pointed out that on 8 April ASF had offered assurance that all the ships would be delivered by the end of that month. “Not one ship is ready at this time, 40 days since the date the final ship . . . was scheduled,” he continued. Robins attributed the delays to “difficulties of dual responsibility as well as lack of knowledge of functional requirements of this equipment,” presumably on the part of the Transportation Corps, and to the fact that the yards lacked authority “to make immediately necessary decisions.”

The Engineers should supervise the conversion of the vessels. “Unless this action is taken,” he concluded, “no reliable estimate of the availability dates can be made and a continuation of the present unsatisfactory dual responsibility will result.”⁴⁸

Robins went rather far in stating that no ships had been delivered. As the Transportation Corps was quick to point out, the *Van Noy* had been completed on 19 April, but after operating it for a time the Engineers had discovered that the generators they themselves had specified were not powerful enough. New generators were therefore being installed at the time Robins wrote Somervell. The *Griswold* had also been completed—on 5 June—and would be delivered shortly. The next three of the original five ships would be finished before the end of the month, the Transportation Corps promised. ASF remained convinced that the Transportation Corps was doing its best; procurement of the vessels would remain with that service.⁴⁹

As the Transportation Corps completed the conversion of the repair ships, the Engineers sent the crews from Belvoir to pick up the ships and take them to Philadelphia for final preparation for movement overseas.⁵⁰ The first such passage to Philadelphia was that of the *Van Noy* from Mobile, Ala-

⁴⁶ Incl, 28 Feb 44, to Memo, Actg Deputy Dir Planning Div ASF for Dir of Plans and Opns ASF, 28 Feb 44, sub: Port Repair Ships for ETO. OCT file 564, Repair Ships (Port) (S).

⁴⁷ Memo Routing Slip, Deputy Dir for Plans and Opns ASF for CofT, 28 Feb 44. OCT file 564, Repair Ships (Port) (S).

⁴⁸ Memo, Deputy CofEngrs for CG ASF, 9 Jun 44, sub: Engr Port Repair Ships. 560, Engr Port Repair Ships.

⁴⁹ Wkly War Plan Conf, 19 Jun 44.

⁵⁰ Ltr, C of WPD to Philadelphia Dist Engr, 15 Feb 44, sub: Tng of Port Repair Ship Crews. 353, Engr Port Repair Ships (S).

bama, in late April and early May 1944. The trip was a trying experience but perhaps more valuable in some ways than formal training. The soldiers quickly turned seamen. Between Mobile and Key West the crew learned to spit to leeward and talk in terms of decks, bulkheads, and ladders. Morale was not so high, however, among the more experienced officers who knew ships and had to run this one.

The main engine throttle was operated with the aid of a three foot stilson wrench and an eight pound hammer; boiler feed pumps acted like old prima donnas; valves filled with welding slag; the generators wouldn't carry the load; the condenser, which had been robbed of stay rods, leaked and salted the boiler. On deck things were as bad; deck fittings and rigging fittings carried away, immediately causing the deck force to adopt safety measures that would have otherwise required months of training to instill. The ship was extremely tender; so much as to be unstable if ever her double bottom tanks were allowed to remain slack. Only half of the Coast Guard Inspector's recommended tonnage of ballast had been placed.⁵¹

Under the supervision of Col. Clarence Renshaw, Philadelphia District Engineer, the crews had a few weeks of intensive training aboard ship, including shakedown runs and small operating exercises to test the efficiency of ships, crews, and equipment. Nearby shipyards completed unfinished or unsatisfactory conversion details, aided substantially by the crew members. Port and sea watch bills were worked out. Frequent fire and boat drills accustomed the crews to shipboard routine. The location and removal of wrecks and other dangers to navigation in the Delaware River and Chesapeake Bay promoted confidence in equipment and personnel.

Two of the first five ships sailed for Europe in July and three in August 1944,

six months later than the ETO request for three by January and two by February of that year. The crews had been activated since February 1943, but the shortsighted personnel policies and lack of ships and other training facilities for marine units had so crippled the training of these crews that there were difficulties with them until sailing time. An urgent radiogram from ETO demanding the repair ships immediately had precipitated another reshuffling within these crews in July in order to get the first ship started overseas early that month. Warrant officers had to be substituted for the second and third engineers and for the first, second, and third deck officers in the crew of this ship. Only one of the deck officers had ever done any celestial navigation and he admitted that he had never hit anywhere near his position on the chart. Subsequently, so many men were taken from two crews then in training for the Pacific to fill the other four of the five ETO crews that Gorkinski complained it left him in a hole for crews that were supposed to be ready in October and November.⁵² Manpower problems plagued OCE until the last minute. An exasperated officer in Military Personnel asserted that "the supply of personnel to these units must be continuous until [the] ship leaves the 3 mile limit due to exceptionally heavy attrition losses."⁵³ In addition to the original five crews for ETO, Belvoir trained three crews which went to the Pacific; one left the United States in December 1944 and the other two in March and April 1945. The last two crews

⁵¹ Unit Hist, 1071st Engr Port Repair Ship Crew. Army Map Sv.

⁵² Wkly War Plan Confs, 3 Jul 44 and 10 Jul 44.

⁵³ Pencil note, 15 Aug 44, on Memo, C of WPD for C of Mil Pers Br, 15 Jul 44, sub: Port Repair Ships, 1072d, 1073d, 1074th, and 1075th. 370.5, Engr Port Repair Ships (S).

out of the total of ten were still in training at Belvoir as late as June 1945.

Dredges and Crews

The dredges which supplemented the work of the port units and repair ships were not new to the Corps of Engineers. River and harbor dredging was one of the continuous peacetime responsibilities of the civil works organization.⁵⁴ At the beginning of the war the Corps of Engineers had a fleet of twenty-five hopper dredges with a complement of fifty to sixty men each, operating in the Great Lakes and on the Atlantic, Gulf, and Pacific coasts. There were three types of seagoing hopper dredges used overseas, some taken directly from the Engineer fleet and a few constructed. The largest was the *Harding*, a 3,800-ton diesel with a 2,500-cubic-yard hopper capacity and a dredging depth of 65 feet. The smallest and newest was the *Hains* class, a diesel-electric ship with a displacement of 1,230 tons, a 700-cubic-yard hopper capacity, and a dredging depth of 36 feet. The latter had too small a hopper capacity to be used in any numbers by the civil works organization in peacetime. However, with modification to allow a dredging depth of 45 feet, it was the best suited for military purposes because of its shallow draft and was the type constructed during the war. Between these two types was the medium 1,500-ton diesel-electric ship such as the *Rossell* and *Marshall*. Because of the time required to build new dredges and the shortage of shipbuilding facilities and materials, the Under Secretary of War directed the Engineers to release the first few dredges needed from the civil works fleet and prepare them for military use. Five ships were subsequently trans-

ferred to military control in late 1943 and early 1944.

The Engineers at first proposed to send the hopper dredges overseas with their civilian crews, and three dredges with civilian crews eventually operated in the Pacific, principally in Hawaii. But the Deputy Chief Engineer, ETO, indicated that this arrangement would not be satisfactory for the three ships which he wanted in Europe by April 1944. Crews in uniform would be subject to stricter discipline.⁵⁵ On 17 August 1943 he wrote to OCE:

Not long ago this office replied to an inquiry on whether or not civilian crews would be acceptable, stating that military crews were preferred. An important item in this respect is that the crews must be the most experienced obtainable because they will have to work in the early stages under extreme pressure and probably under stress due to enemy action, hence experience in performing their technical duties is vital. I would feel most secure if I knew that they were Engineer Department personnel selected for their individual qualifications.⁵⁶

From that point on, complications developed. In order to comply with the ETO's wishes, the Engineers sought permission in August to commission the officers and induct the crews then operating the three ships. It was soon apparent that the existing crews could not be held together under

⁵⁴ Unless otherwise indicated, this section on dredges is based upon: (1) 353, Engr Dredge Crew Units; (2) 320.2, Engr Dredge Crews (S); (3) P&T Div file, Dredge Crews, Gen (C); (4) Unit Tng, Annex I.

⁵⁵ (1) Memo, C of Civil Works Div for Bureau of the Budget, 5 Feb 44, sub: Supplemental Estimate for Hopper Dredges. 560, Dredges, 1944-45. (2) Cable, Eisenhower to TAG, 8 Oct 42. 560 (S). (3) Ltr, C of River and Harbor-Flood Control Br to Philadelphia Dist. Engr, 28 Sep 43, sub: Constr of Seagoing Hopper Dredges. 560.

⁵⁶ Ltr, Deputy C Engr ETO to Sturdevant, 17 Aug 43. O&T Br file, Personal Ltrs to Gorlinski (S).

a military system. There were physical disqualifications. Permission could be obtained to recruit only key men. It soon developed that even under pressure from the masters of the ships and from the District Engineers such key men showed little enthusiasm for the commissions and grades offered, particularly since few of them were subject to the draft. The chief electricians were especially concerned. Although by custom their authority was equal to that of the first mate, the table of organization made them warrant officers and the first mates first lieutenants.⁵⁷ The warrant grade would have reduced their pay, prestige, and authority and they refused to accept appointment. They were in a powerful position to bargain because replacements were virtually unobtainable. Few private hopper dredges existed from which to draw such special skills. The table of organization was therefore revised.

By mid-October 1943, most of the key men had agreed to their positions within the military framework. At that juncture a new crisis developed. When appointments for the masters and chief engineers came through, some of them were lower than the major and captain commissions agreed upon. These men also refused to accept rank which they considered lower than their civilian positions. Since the key men were being held together chiefly through the influence of the master, the refusal of this officer to serve with a ship would have caused most of them to walk out. A delay would have been inevitable in the readiness of the ships. By stressing the importance of the mission of the dredges and emphasizing Somervell's keen personal interest in meeting the sailing dates, the Engineers got the commissions adjusted.⁵⁸

Only the more responsible positions

could be filled through direct appointment and enlistment. Less important members of the crew such as deckhands, oilers, and wipers were to be obtained from other Army units through transfers of enlisted men with experience in boats and machinery. All were to have completed the basic military program in order that their entire training time might be used for technical instruction on the dredges. During the same period, the technically proficient key men would receive military training. All would thus be ready for overseas service at the same time. Of the first enlisted men assembled at Fort DuPont, Delaware, in October 1943, those who had been selected for cadres were satisfactory, but the rest were obviously culls. Of the latter, only half could be used. Most of them had little or no military training, or any compensating marine or mechanical background. Most were far below average intelligence. Many were Italians who understood little English.

There followed at Fort DuPont, under the supervision of the Philadelphia District Engineer, a weeding out and training of the three crews activated in October and of two others added in November. Of these five crews, one left for the Pacific on 1 December 1943 and the other four trained at Fort DuPont until March 1944, when they went to the European theater. Unlike that of the port repair ship crews, the training time for the dredge crews was not dependent upon the availability of the ships but upon the readiness dates set by ETO. Since that theater had indicated that the dredges would not be needed until April 1944, the

⁵⁷ T/O&E 5-647S, 30 Sep 44.

⁵⁸ (1) Rpt of Activities Mil Pers Br for Period Ending 13 Oct 43. 020, OCE, Jul 43-Dec 43. (2) Min, Staff Conf ASF, 22 Oct 43, sub: Résumé of Staff Conf, 22 Oct 43, Convened at 1000. 337, Staff Confs ASF (S).

training schedule for the crews was set accordingly. In late November 1943 the training was interrupted by a notice from the theater that every effort should be made to get the dredges ready during January. The special training program sent from O&T to Philadelphia in October had been made flexible for just such a contingency. Military training and weapons instruction could be cut short when necessary. However, 15 February 1944 was the earliest date that training could be completed, even with the abbreviated program. After only a short training program at DuPont, the crews began to move aboard the dredges for technical instruction in December. Some of the crews had been aboard the ships for some time when the readiness dates were changed again, allowing additional time. The crews were sent back to DuPont in shifts to complete the full military program prescribed for other Engineer units, leaving a skeleton crew aboard for housekeeping duty. Just as was the case for the port repair ship crews, the basic military training included such extraneous matter as scouting and patrolling, camouflage, and antitank measures.⁵⁹

The seven additional dredge crews which the Engineers trained before the end of the war went to CBI or to the Pacific. Three of the seven were for cutter dredges which operated from fixed positions offshore and were moved from place to place by towboats. The others were for four new *Hains* class hopper dredges, authorized for construction in September 1943 and March 1944.⁶⁰

Only six officers, one warrant, and twelve enlisted men had to be selected and trained for the first cutter dredge, the *Raymond*, and its towboat crew. These were to be augmented later by personnel already in the China-Burma-India theater. Even so the

Engineers were pessimistic, remembering the experience with the hopper dredge crews. No officers or warrants were readily available in late November 1943 when the effort to assemble the crew first began. It was predicted that it would take about two months to find them. A few experienced enlisted men could probably be obtained from the ERTC's, but most of them would require additional training. The first of February 1944 was the desired readiness date; the crew was to be trained at Belvoir. Two more partial crews for cutter dredges were added in late December, to be trained at Claiborne for Pacific duty. No more than five to twelve weeks training could be expected for these crews, needed in February and April 1944.⁶¹

The Engineers attempted to fill these crews by transferring technically qualified men who had already completed the basic military program. By 5 January, only three out of the ten officers needed for the two Claiborne crews had been definitely ob-

⁵⁹ (1) Memo, C of Civil Works Div for Philadelphia Dist Engr, 20 Oct 43, sub: Notes of Conf. 320.2, Engrs, Corps of, 1941-43 (S). (2) Ltr, Gorkinski to Taylor, 27 Nov 43. O&T Br file, Personal Ltrs to Gorkinski (S). (3) Ltr, Actg C of WPD to Engr Sec ETO, 13 Dec 43, sub: Col Gorkinski's Ltr to Col Taylor, Dated 27 Nov 43. Same file. (4) Ltr, AC of O&T Br to Philadelphia Dist Engr, 26 Oct 43, sub: MTP for Engr Dredge Crews. P&T Div file, Dredge Crews—Tng Schedules.

⁶⁰ (1) Analysis of the Present Status of the War Dept Trp Basis, 1 Jan 45, p. 220. AGO Special Reference Collection. (2) Ltr, C of River and Harbor-Flood Control Br to Philadelphia Dist Engr, 28 Sep 43, sub: Constr of Seagoing Hopper Dredges. 560 (S). (3) Memo, Garcia for Oglesby, 24 Mar 44, sub: Seagoing Hopper Dredges. 560 (S).

⁶¹ (1) Memo, Actg C of O&T Br for CG ASF, 26 Nov 43, sub: Pers for Dredge "Raymond." 320.2, Engr Dredge Crews (C). (2) Memo, Deputy Dir for Plans and Opns ASF for CofEngrs, 19 Nov 43, sub: Dredge Operating Pers for CBI. F&T Div file, 12-Inch Cutter Type Dredge Crews (S).

tained, despite a high priority because of the early movement date. The Transportation Corps also needed men with marine experience and was not required to give them up. Promotions made some of the men ineligible for designated positions after selections had been made. The crews which finally assembled at Belvoir and Claiborne varied in proficiency, but most of the enlisted men in all three crews had only basic military training and required technical instruction aboard dredges. The crew at Belvoir subsequently received on-the-job instruction in February on a dredge then operating near Dahlgren, Virginia. The two crews at Claiborne trained aboard a dredge near Galveston, Texas, before assignment overseas.⁶²

There was more time to assemble and train the crews for the four new *Hains* class hopper dredges, the *Lyman*, *Barth*, *Davison*, and *Hyde*. By January 1944 the estimated completion dates of the first three of these ships gave the Engineers nearly a year to provide crews. Nevertheless, there had been so much difficulty with the previous hopper dredge crews that Renshaw, at Philadelphia, began in that same month to urge the immediate activation of the units at Fort DuPont. But the four crews of fifty-five officers and men each did not begin training until much later, one in July and three in November. In order to take advantage of the basic military training facilities at the training center at Belvoir, these four crews went there first for six weeks. They then transferred to DuPont for eleven weeks of technical instruction. As the dredges were commissioned, the men moved aboard for six weeks or more of unit training.⁶³

Although the instruction aboard the dredges was of a practical nature, the techni-

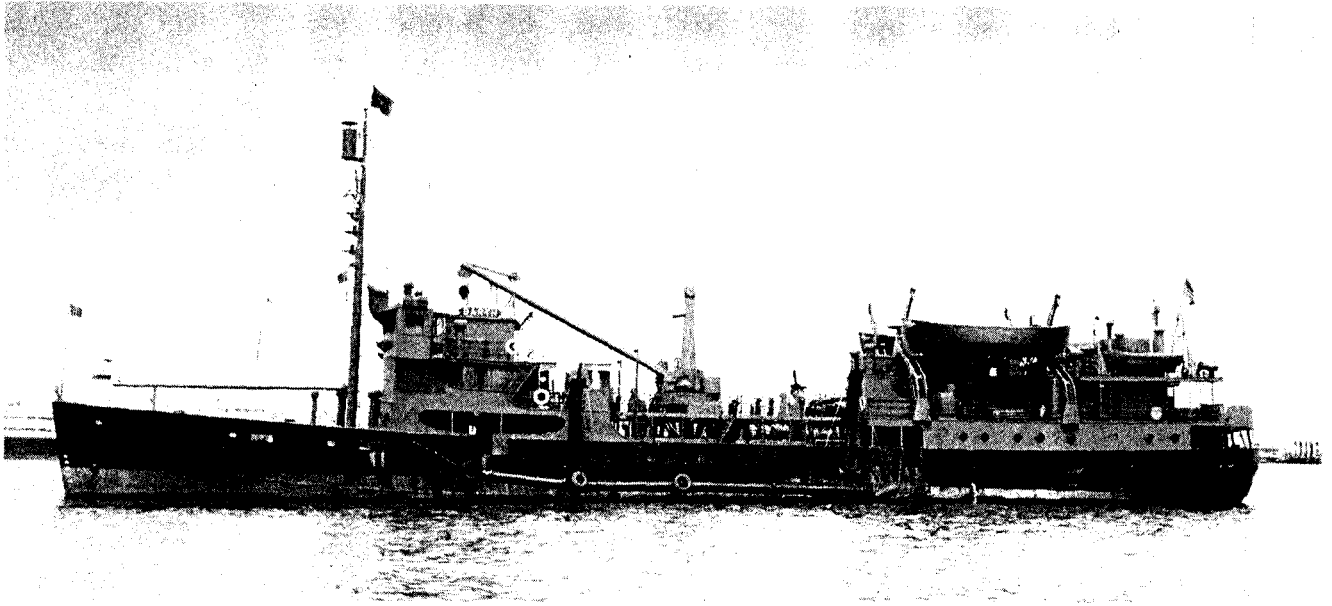
cal training ashore at DuPont was unsatisfactory. An inspection in early March 1945 revealed that "most of the technical training consists of classes in seamanship, chart reading, signaling, rigging, and international code. These subjects are repeated over and over again until all interest in them has ceased and the training has reached a 'mark time' status."⁶⁴ A more carefully planned program for shore technical training resulted, including orientation to shipboard life, the mission of the ship and the characteristics of its equipment, the duties of all members of the crew, basic seamanship, nautical nomenclature, watch standing, elements of navigation, radio and visual signaling, swimming and lifesaving, first aid at sea, vessel and aircraft identification, and abandon-ship drills on ropes and ladders as a part of physical conditioning. Drag tenders went to the Maritime School at Brooklyn and served for six weeks aboard dredges in the Philadelphia District.

Paradoxically, the personnel for these last crews was much improved over that furnished to the first hopper dredges. The crew of the *Barth*, for example, contained many capable men with mechanical background from the Belvoir training staff, released through the War Department policy of replacing instructors in training installations

⁶² (1) Memo, AC of Mil Pers Br for CG ASF, 5 Jan 44, sub: Pers for Engr Dredge Crews, with 1st Ind, 12 Jan 44. 320.2, Engr Dredge Crews (C). (2) Msgform, ExO WPD to CG Eighth SvC, 5 Feb 44. 353, Engr Dredge Crews.

⁶³ Ltr, TAG to CG MDW, CofEngrs, 12 Oct 44, sub: Preactivation Tng for Type Engr Dredge Crews (DE-7) Beginning November 1944. 353, Engr Dredge Crews.

⁶⁴ Memo, Maj A. L. Dean and Capt O. E. Deberg for Dir Tng ASF, 21 Mar 45, sub: Rpt of Inspec of Engr Units at Ft. Mifflin, Pa., and Ft. DuPont, Del. P&T Div file, Dredge Crews, Gen (C).



BARTH, HAINS CLASS HOPPER DREDGE

with veterans of overseas service.⁶⁵ The combination of longer training time and better qualified men produced excellent crews. However, only three of the four *Hains* class hopper dredges left the United States for the Pacific before the war was over. The *Davison*, upon completion, was transferred to the civil works organization.

The Chief Engineer of the European Theater of Operations would have preferred dredges of shallower draft. Perhaps observing that the *Marshall* class, drawing 24 feet when loaded, could not operate in some harbors and estuaries at low tide, he came to the conclusion that a smaller ship would have been more useful.⁶⁶ But, as the experience of the *Marshall* had shown, the range of tides was so extreme in many European ports that not even the *Hains* class could have dredged continuously. The greater hopper capacity, the ability to dredge larger boulders, and the center suction pipe without overhang along the side enabled the *Marshall* to work close in to wet docks, remove submerged rubble that would have been impossible for the smaller ship, and

make a long run to the dumping ground with a larger payload of silt and rock. At Antwerp and Bremerhaven the *Marshall* dredged at all stages of tide without grounding, although at Bremerhaven it did occasionally "plow through the silt on low tide."⁶⁷ In the Pacific, the dredges were useful in enlarging northern Australian ports and deepening existing channels to accommodate Liberty ships. Along the New Guinea coast there was too little time for dredging, but fortunately the precipitous nature of the coastline allowed large vessels to unload close inshore onto floating docks and temporary wharves. In the Philippines, the dredges became important again. The hopper dredge *Hains* and the cutter dredge *Raymond* removed a shoal bar across the channel into Tacloban Harbor, Leyte, and deepened the harbor itself. In Manila, where

⁶⁵ Information from A. Jelland, 1st Mate of the *Essayons* (formerly wartime commanding officer of the *Barth*), 13 May 1953.

⁶⁶ *Final Engr Rpt, ETO*, p. 272.

⁶⁷ Incl to Ltr, Lt Col William E. Miller to C of Mil Hist [Jan 54].

the whole harbor had silted up under Japanese neglect, five dredges removed some 3,250,000 cubic yards of sand and debris.⁶⁸

The Engineers had been dissatisfied from the beginning with the organization of the port reconstruction units into groups, but had no tangible evidence against the arrangement until the spring of 1944. At this time Trudeau of ASF returned from a visit to the North African theater and reported that the 1051st Engineer Port Construction and Repair Group was short of men. Units were attached for only limited periods. The group was not self-sufficient as to guards, medical facilities, mess, or transportation. Worst of all, it could not operate its equipment on a two-shift basis. Gorlinski seized this opportunity to comment. The most objectionable feature of the group theory, he wrote ASF, was that success depended upon how many and what type of units were attached for a particular operation. To make the right decisions as to such units required full awareness on the part of the theater staff of the demands such operations entailed. As to inadequacies in equipment, Gorlinski noted that the group was issued a minimum amount with the idea that it

would be supplemented to meet the needs of particular situations. Several months later the War Department assented to a nineteen-man increase in enlisted men—an addition that permitted two-shift operation of construction machinery and lifting gear.⁶⁹

Port repair ships in Europe proved an extremely valuable adjunct to the port construction and repair groups and attached units, particularly as machine shops. Since the Navy performed most of the port salvage work, the heavy lifts with which the ships were outfitted did not come in for as much use as expected. None of these units had sufficient training but they were gradually brought up to standard in the course of operations. One of the key ports which these units helped to reconstruct, Cherbourg, was cleared for shipping in twenty-three days.⁷⁰

⁶⁸ *Engineers of the Southwest Pacific 1941-1945*, Vol. VI, *Airfield and Base Development* (Washington, 1951), pp. 296, 443-52.

⁶⁹ (1) Extract of Rpt on ASF Installations in North African TofOps, 25 Mar 44, Incl with Memo, CofS ASF for CofEngrs, 12 May 44, sub: T/O&E 5-52, Engr PC&R Group, with 1st Ind, 3 Jun 44. 320.2, Engr PC&R Group (S). (2) T/O&E 5-52, 16 Sep 44.

⁷⁰ *Final Engr Rpt, ETO*, pp. 271-74.