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Pt. 6 of 12 pts

ANNEX E

TO

SIXTH MARINE DIVISION

SPECIAL ACTION REPORT

PHASES I & II OKINAWA OPERATION

6TH TANK BATTALION

HEADQUARTERS,
SIXTH TANK BATTALION, SIXTH MARINE DIVISION,
IN THE FIELD.

29 May, 1945.

SPECIAL ACTION REPORT

OKINAWA OPERATION

PHASES I AND II

SIXTH TANK BATTALION, SPECIAL ACTION REPORT

PHASES I AND II, OKINAWA OPERATION

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HEADQUARTERS
SIXTH TANK BATTALION
SIXTH MARINE DIVISION
IN THE FIELD.

SPECIAL ACTION REPORT

PHASES I AND II

CHAPTER I

GENERAL

1. This report covers the training and operation of the Sixth Tank Battalion from its activation through capture of NORTHERN OKINAWA. Our mission was to support the attack of the Sixth Marine Division in the seizure of YONTAN Airfield, and its advance to the northern tip of the island.

2. The purpose of this report is to point out the weaknesses and good points of the training and operation of this battalion, and to recommend changes in tactics and equipment for future operations.

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CHAPTER II

THE TASK ORGANIZATION

1. In the task organization, of the division's operation plan, the Sixth Tank Battalion was a part of the tank group. This group, under the command of the Commanding Officer, Sixth Tank Battalion, was composed of the following units:

Company B ----------	Captain Robert Hall, USMCR.
Company C ----------	Captain Hugh Corrigan, USMC.
H&S Company ----------	2dLt. Robert E. Wren, USMCR.
Tank Maintenance Platoon, Ordnance Company -----|	2dLt. Raymond E. Novotny, USMCR.

2. Company A was attached to the 29th Marines (Reinforced) and became a part of corps reserve. This company was prepared to land on any designated beach on corps order and was further prepared to land and revert one reinforced platoon to the tank battalion.

CHAPTER III

PRELIMINARY PLANNING

1. S-1.

a. Requests were submitted for replacements required to build this battalion up to 5% overstrength in preparation for the operation.

2. S-2.

a. Every effort was made to keep secret the plans for the invasion of OKINAWA in accordance with division orders.

b. As terrain affects the use of tanks more than other assault forces, detailed study was devoted to information concerning reefs, beaches, ground forms and natural obstacles. Data which particularly concerned the tank battalion were condensed and issued to the companies. As the battalion was to be loaded on eight different ships, with varying numbers of personne all intelligence material had to be carefully divided for each ship.

3. S-3.

a. Prior to the designation of the assault regiments it was discovered that this battalion was to be transported on a variety of ships. This included one LSD, two LSTs and five LSMs. As only one LSD had been assigned, with sixteen (16) LCM(6' for the assault it was decided to equip one company with T-6 flotation devices. These devices were to be used as it was decided that LSMs could not reef themselves in shallow enough water to insure that the tanks could reach the beach without drowning out. In addition LSMs would not be able to reef themselves soon enough after H-hour to get the tanks to the beach when they were needed. Company C was assigned these devices and installation was commenced during the last week of January. As more complete beach and reef reports were received it was decided that the RED BEACHES were the most suitable for flotation devices. This was due to an estimated greater depth of water over the reef at the RED BEACHES (T-6 devices require a minimum of 3.5 feet of water in order to negotiate a reef) than at the GREEN BEACHES. Furthermore, the RED BEACHES were dish shaped between the reef and the beach and if LCM(6)s were used and reefed at these beaches the tanks would have the possibility of drowning out before reaching the shore.

b. In view of the above factors Company C was ordered to furnish direct support to the 4th Marines who were to land on the RED BEACHES. Company B was ordered to land in LCM(6)s on GREEN BEACH TWO in direct support of the 22d Marines. Company A was ordered attached to the 29th Marines (Reinforced) and became Corps Reserve.

4. S-4.

a. As soon as this section was notified of the OKINAWA operation, it was known that certain advance plans and decisions would have to be made with regard to the amount of office equipment and records to be carried and still function in the field as a supply section for tanks. It was decided that all records, except a record of tanks and motor vehicle serial numbers would be left behind; that two field desks containing an adequate supply of stationary and blank forms, together with one typewriter would be carried.

b. Four extra tanks and three extra bulldozer blades for tanks were carried as allowed in the T/A for 30 days replenishment. All other preliminary planning was made by the division and carried out by this organization.

c. Because of the usual difficulty encountered in the field in obtaining water prior to the establishment of water points, it was decided to carry all additional water possible. This was accomplished by securing twenty expeditionary cans on each tank between the fording stacks. This then, gave the battalion a reserve of 5300 gallons of water.

5. Communications.

a. In preparation for the OKINAWA operation the battalion frequency allocation was made as follows: two frequencies were set aside as battalion primary and secondary; five frequencies were alloted to each company, one the company primary and a separate frequency for each platoon. With dual receivers in each command tank, the company commanders were to monitor the battalion primary and the company primary frequencies, and each platoon commander was to monitor the company primary and his platoon frequencies.

b. Provision was made for tank infantry radio communication with the establishment of a liaison net with GF12-RU16 sets in the tanks and SCR 536s with the infantry liaison teams.

c. Further communication with the infantry was provided with the installation of a tank-infantry telephone set in an armor plate box on the back of each tank. This telephone was connected directly into the tank inter-communication system.

d. A special tank liaison net was established using SCR 509-510 radio sets for operation with the command posts of infantry, artillery and tank units.

e. Each radio set in the battalion was deadlined, calibrated, brought to its peak operating efficiency and waterproofed preparatory to loading.

f. To aid in maintenance and repair, an automotive repair trailer was converted and equipped with communication repair facilities and two way radios were installed to provide the command post with radio communication should all tanks be operating in the field at one time. Sufficient communication equipment for the installation of the battalion command post was packed in rubber waterproof bags of one-man load capacity for the initial movement ashore.

6. Maintenance.

a. The battalion maintenance officer and three men were to go ashore at approximately H plus 3 hours and select a maintenance area in the vicinity of the battalion command post. The remainder of the men in the maintenance section were to remain aboard ship until called ashore by the battalion maintenance officer. The tank ordnance platoon leader was to remain aboard ship with the equipment and men and disembark them as called for by the battalion maintenance officer.

b. The repair plan was to issue the companies a complete serviceable part, which would require but 1st and 2nd echelon work for installation, in exchange for an unserviceable part. A battalion maintenance crew would in turn repair the unserviceable part and put it in stock for reissue. Any tank damaged beyond 1st and 2nd echelon repair would automatically revert to the battalion maintenance shop which would in turn replace that tank with one in operational shape. Any tank damaged beyond repair would be cannibalized for spare parts under the supervision of the battalion maintenance officer.

c. Sections of steel track blocks were spot-welded around the turret and on the front slope plate with the track guides towards the armor face. In addition sections of face

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hardened armor 1 and 1½ inches thick were welded to the sponsons. This extra armor was spaced from the tank about one inch. As sufficient blocks of this armor were not available to cover the entire sponson only a portion of each sponson opposite the driver or assistant driver and opposite the large gasoline tanks were so protected. This extra protection was added in order to protect vital parts of the tank from hollow charge projectiles and AT guns.

7. Chemical Warfare.

a. During the training phase of chemical warfare the battalion conducted a course of training films which showed the method of putting on gas masks, the use of the protective cover, the use of the ointments, the method of decontamination, and all other aspects of defensive chemical warfare. Also lectures were given by the chemical NCO covering the defense and decontamination. Periods of gas mask drill were held and a definite schedule of wearing the masks was conducted for several days. This was followed by the actual testing of each gas mask in tear gas and chlorine chambers. Each vehicle was equipped with one or more 1½ quart containers of decontaminating fluid. The battalion allowance of supplementary gear was carried along with spare masks, protective covers, and other individual equipment. Prior to embarking the impregnated clothing was loaded aboard each ship to outfit the total compliment of the battalion aboard. All equipment, other than individual, was carried by battalion and loaded on the two LSTs in our task group. The majority of the supplies were carried in the assault echelon. This was estimated to be a sufficient quantity to last until the arrival of the first echelon which contained replenishments.

8. Ordnance.

a. Spare parts for all weapons were carried by this organization. One critical item, spare .30 caliber co-axial machine guns solenoids, were not furnished by supply depots in the quantity needed. Consequently, soon after landing many of the co-axial machine guns had to be hand fired by the loader and not electrically by the gunner. This greatly reduces the effectiveness of this valuable weapon.

b. Each tank left the training area with four machine guns and eight spare barrels. The two spare machine guns were carried in improvised brackets within the tank. Four extra machine guns and sixty spare barrels were carried by the battalio ordnance section.

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c. Just prior to mounting out the III Amphibious Corps authorized a change in the unit of fire for the 75mm gun. This was authorized because of the unbalanced CINCPOA unit of fire. The CINCPOA unit of fire contains too much APC M61, W/BDF M-66A1 and not enough H.E., M48 SC W/fuze M-48, the most versitile type used in the Pacific Theater. In addition it contained shrapnel ammunition which is worthless in tank gunnery. Therefore, the battalion left with this new unit of fire. Each tank had stowed in it the following ammunition:

(1) 20 rds APC, M-61, w/BDF M-66A1.
(2) 15 rds Smoke, W.P., M-64, w/PDF, M57.
(3) 10 rds H.E. M48 w/fuze TSQ-M-54.
(4) 5 rds H.E. M48 w/fuze T-105.
(5) 50 rds H.E. M48 w/PDF, M48.
(6) 12000 rds caliber .30, belted 4-AP, 1-tracer.
(7) 600 rds caliber .50, belted 4-API, 1-tracer.
(8) 12 Grenades, hand, (Fragmentation MII, 4 W.P. M-15, 2 smoke colored M-16 and 2 smoke colored M-18).
(9) 12 shells, smoke, 2" M-3.

CHAPTER IV

TRAINING PHASE AND REHEARSALS

1. There were four phases of training which warrant discussion.

a. Immediately after the activation of the battalion, basic tank training of tank crews was undertaken. This fundamental training was necessary mainly because replacements received to replace battle casualties and those rotated to the States were basic infantrymen rather than trained tank personnel. In addition to a review of basic training, the following instruction pertinent to tanks was stressed:

(1) Nomenclature and operation of the M4A3 tank.
(2) Preventive Maintenance.
(3) Formation driving.
(4) Gunnery.
    (a) Nomenclature, stripping, assembly, immediate action, for .30 caliber, .50 caliber, 75mm, 2-inch mortar, and 81mm mortar (retriever crews only)
    (b) Machine gun firing from ground mounts. Machine gun firing from stationary tank. Machine gun firing from moving tank.
    (c) 75mm gun firing from stationary tank. 75mm gun firing from moving tank.
    (d) 75mm gun and machine gun firing from tanks at moving targets.
    (e) 2-inch mortar firing.
    (f) 81mm mortar firing. (retriever crews only)
    (g) Indirect fire of the 75mm and forward observation.
    (h) Map reading and reconnaissance.

After completion of this instruction, platoon and company tactics were taught.

b. Second phase of training was devoted to the coordination of tanks and infantry in the attack. It was prefaced by a demonstration prepared by Company B tanks and Company B, 4th Marines and was designed to show the methods of the tanks and infantry in the attack. An SOP was established for tank-infantry action, and the suggested formations were shown in this demonstration. During this second phase each infantry

company participated in two training problems; one in varying terrain of a fairly open nature, the other in dense undergrowth and jungle. Six tanks plus a command tank were normally assigned to an infantry company with the expectation that this practice would be followed in combat when the terrain permitted. preceding the problems a tank officer lectured to the assembled infantry company on tank capabilities, what tanks expected from the infantry, and what they could expect from tanks. He then demonstrated the rear phones, and the radio equipped liaison teams which each tank platoon furnished the front line units such as an infantry platoon or company. From this training each infantryman in the division became familiar with tanks and tank-infantry tactics.

c. The third phase covered two subjects, namely, the tank company in direct support of an infantry battalion and the tactical use of tank battalion liaison teams equipped with SCR 509 and 536 radios for direct communication.

It was believed that when the principle of massing tanks was used a tank company would be the largest number of tanks that could efficiently deploy with an infantry battalion. With this idea in view field problems were evolved in which the tank company and the infantry battalion perfected the principles of the tank-infantry team in the attack. Sufficient problems were conducted so that each tank company operated with most of the infantry battalions.

The use of the SCR 536 and 509 radios with liaison teams, furnished by the tank battalion for communication between the infantry and tanks during these problems, acquainted both the infantry and tank personnel in their tactical use.

d. During the forth phase tank companies and the tank battalion participated with infantry regiments and with the division on various problems. Between exercises with the infantry proficiency tests were given tank platoons and platoon leaders on marksmanship, formation driving, and indirect fire.

Frequent training films were shown during all phases of the program by using the battalion's 16mm projector. These proved very helpful. Lectures by infantry and artillery officers gave the tank officers a more understandable picture of the other arms of the service, and of the possibilities for cooperation.

Simultaneously with the training of the tank crews, a special schedule was carried on for training of maintenance sections in field expedients and maintenance and supply of vehicles at night. Maintenance men in each company were taught to drive a tank and the basic fundamentals of tank gunnery.

Another separate schedule was maintained for reconnaissance and liaison men of each company. Seventeen men from each company were assigned this duty. Five teams of two men each were trained in each tank company headquarters to operate the SCR 509 radios and the jeeps which accompany them for use with infantry battalion and regimental command posts, and artillery FDCs. One team of two men each was equipped in each platoon with an SCR 536 and trained for liaison duties with infantry companies and platoons. GF12-RU 16s were installed in all command tanks for use with the SCR 536.

It should be pointed out that the tank companies were not trained as a part of a regimental combat team, but were all taught similar methods of liaison so that both infantry and tanks felt at ease with each other regardless of their partner of the moment.

CHAPTER V

LOADING AND EMBARKATION

1. Plans set forth for the loading out of this battalion proved effective. The amount of shipping assigned for the loading of troops and material was not adequate as the battalion was unable to transport all of its organic transportation which is vital for the proper functioning of a tank battalion. Otherwise no difficulties in this phase were encountered.

a. Company A's tracked and wheeled vehicles were loaded on three LSMs. The remainder of the alloted tracked and whelled vehicles were loaded on two LSMs, two LSTs and one LSD. Company B tanks boated in sixteen (16) LSV(6)s in the LSD. Company C with T-6 devices was embarked on the two LSTs.

b. Ammunition: Two units of fire were stowed in five LSMs and two LSTs. Two units of fire were transported by the 29th and 22nd combat teams. One unit of fire was carried in the tanks. A total of five units of fire were carried.

c. All assault echelon equipment was carried in either trucks or trailers, or was deck loaded. The first echelon equipment was loaded on one AKA.

d. Personnel were distributed on one LSD, two LSTs and five LSMs, except for liaison teams who were embarked with the supported infantry units.

CHAPTER VI

MOVEMENT TO AND ARRIVAL AT OBJECTIVE AREA.

1. During the movement to the objective, troops were thoroughly briefed on the operation from maps and plaster models which each company possessed. Late information, including reports of Japanese anti-tank tactics, was distributed to all companies during the rendezvous at ULITHI. All hands learned the immediate objectives, phase lines, boundaries, recognition of land marks, avenues of egress from the beaches, the names of the towns, the plan of attack and the action to be taken by other elements of the 10th Army. Stereo pairs were employed for a careful study of the ground over which we would attack.

CHAPTER VII

ASSAULT PHASE

1. L Day.

a. Company B.

Company B landed at 0857 in direct support of the 22nd Marines, was assigned the task of supporting the third battalion in their attack inland from GREEN BEACH 2. When the troops and tanks progressed as far as the town of HANZA the tanks were halted by the narrow walled streets. The tanks were then temporarily released and stood by awaiting further orders. At about 1530 two platoons plus the company executive officer returned to support the Third Battalion 22nd Marines. By proceeding through the 4th Marine zone of action they detoured around HANZA and joined this battalion which was just south of HILL 400. As the attack progressed up this hill the terrain became impassable for tank operation due to steep slopes. As no enemy, other than occasional snipers had been encountered, these tanks were released, rejoined the company, and all returned to the service park.

b. Company C.

Company C landed at 0930 in direct support of the 4th Marines. It was divided into two groups, each composed of two platoons and a command tank. The dozer was in the group commanded by the company commander.

One group, commanded by the company executive officer in support of the 1st Battalion 4th Marines, landed on RED BEACH 3. Company C liaison teams equipped with a SCR-536, had accompanied the infantry company commanders ashore where they met these tanks and guided them to the infantry. As no fire was being received the infantry requested that these tanks follow until needed. The infantry progressed across YONTAN Airfield without opposition and onto the steep rolling hills beyond. At 1400 enemy fire was received and the tanks were then called on to destroy several cave positions. The tanks were released after this mission and returned to the battalion service park at 1600. During the landing one tank of this group, after jettisoning its pontoons, slipped into a pot-hole and was drowned out.

The company commander, with his group, landed on RED BEACH 2 in support of the 3rd Battalion 4th Marines. As the bulldozer tank, which was to accompany this group, sank enroute these tanks had great difficulty in leaving the beach because the only exits off the bluff-like sand dunes were narrow

trails. After leaving the beach a SCR-536 liaison team, which landed with the infantry, guided these tanks inland to this battalion. As no opposition was encountered this group followed the infantry. At 1600 they were released and returned to the battalion service park.

c. H&S Company.

H&S Company tanks landed on RED BEACH 2 from LSMs, at 1200, and moved into a previously selected service park and command post. All three companies that landed on L Day bivouaced at this service park which was approximately six hundred yards inland from RED BEACH 1.

2. L plus 1.

a. Company B.

The company commander with three platoons was ordered to support the 2nd Battalion 22nd Marines which now held MT. ZACHINI and was preparing to attack the town of NAGAHAMA. The company executive officer with one platoon was ordered to give direct support to the 1st Battalion 29th Marines. Of the company commander's group, two platoons took up positions on the high ground overlooking the town and prepared to deliver overhead fire. The remaining platoon and company commander moved east and joined the infantry on the coastal road. One company of infantry then mounted the tanks and proceeded north along the coast road. Shortly after leaving the town of NAGAHAMA the tanks were joined by the platoon and company executive officer who had been released by the 29th Marines after cleaning out ZAMPA MISAKA Peninsula. Together they advanced along the coast to the town of YAMADA without encountering opposition. Tanks and infantry then withdrew about a mile down the road and rejoined the rest of the 2d battalion and bivouaced for the night near NAGAHAMA. The two platoons which had been standing by for overhead support were released and returned to the battalion service park.

b. Company C.

This company was ordered to support the 4th Marines. Because of the unfavorable terrain over which this regiment was operating, the two platoons were immediately released and returned to the battalion service park. One platoon and a command tank was ordered to support the 1st Battalion whic was being held up just inland from YONTAN. This platoon demolished several cave entrances and a pillbox, and then covered the advance of the infantry by overhead fire. The other platoo meanwhile was sent to help the 2nd Battalion and together they advanced north on the CHINA-YUMADA road encountering no

resistance. About 1600 these tanks were released and returned to the service park.

c. H&S Company.

The battalion commander and S-3 in two tanks moved out to observe the tank action in the left of the division zone. Other elements continued normal function and expedited the landing of equipment.

d. Company A.

This company commenced landing at 1330. Although still attached to the 29th Marines, they reported to the battalion command post and bivouaced there. In the late afternoon one platoon and one command tank were released from this attachment and reverted to battalion control.

3. L plus 2.

a. Company A.

Company A, less detachments, moved into the 1st Division zone of action with the 29th Marines as 1st Division reserve although still under corps control. The Company A detachment reinforced by two tanks of Company C was sent with the Division Reconnaissance Company north along the coast road towards NAKADOMARI. After reaching NAKADOMARI, they turned east crossing the isthmus towards ISHIKAWA, located on the east coast. No enemy was encountered. This group returned to the service park at 1900.

b. Company B.

Company B, less two platoons, after remaining overnight with the 2nd Battalion 22nd Marines advanced, with this battalion, to KURAWA. The remainder of the company was ordered to support the advance of the 3d Battalion 22nd Marines from CHINA to YAMADA. This latter group, because of unpassable terrain, was released by the 3rd Battalion 22nd Marines and joined the company at KURAWA. After the junction of these two groups the company moved slowly along the coastal road with the 2nd Battalion 22nd Marines. All tanks were released prior to darkness and established a bivouac on division order, half way between CHINA and YAMADA.

c. Company C.

Two platoons plus the commanding officer reported to the 4th Marines but were not committed. Two other tanks joined the Company A detachment to operate with the Division Reconnaissance Company. At 1900 all tanks of Company C

were ordered to YONTAN Airfield area in order to repel an expected airborne attack. Together with the 1st Battalion 29th Marines they prepared a defense. The attack failed to materialize and they returned to the service park at 0630 on L plus 3.

d. H&S Company.

Neither the maintenance nor quartermaster sections could function as no vehicles or parts had yet been unloaded. The battalion executive officer and S-3 made a reconnaissance of the forward areas.

4. L plus 3.

a. Company A.

Company A, less detachment, remained in corps reserve. The detachment assisted the 4th Marines in the seizure of ISHIKAWA. No resistance was encountered and the tanks returned to a new battalion service park west of YAMADA.

b. Company B.

Company B, less the 4th platoon, supported the 3d Battalion 22d Marines and prepared to cover their advance from positions on a high ridge by overhead fire. After this battalion reached ISHIKAWA two platoons and a command tank moved across to the east coast where they joined the 1st Battalion 22nd Marines. Infantry then mounted the tanks and together they proceeded to the outskirts of YAKA. A patrol of infantry supported by one tank platoon and the executive officer's tank entered the town and received some fire from a small group of enemy infantry. Tanks took these targets under fire and nine enemy were killed. The 4th platoon reinforced by a dozer tank, moved north with the 2d Battalion 22nd Marines from NAKODOMARI. They advanced several miles along the west coast road. After the day's operations the company assembled at NAKADOMARI and returned to the service park near YAMADA.

c. Company C.

One platoon with the company executive officer was ordered to support the 4th Marines but impassable terrain prohibited their use, consequently, they were soon released. During the afternoon the company displaced forward to the new service park.

d. H&S Company.

At 0830 permission was granted by G-3 to displace the service park to YAMADA. This movement commenced at 1000.

5. L plus 4.

a. Company A.

Reverted to battalion control and marched to the service park at YAMADA.

b. Company B.

Remained in the battalion service park and spent the day in maintenance of vehicles and equipment.

c. Company C.

The 3rd platoon reinforced with a bulldozer tank from H&S Company, joined the Division Reconnaissance Company with orders to proceed from NAKADOMARI to CHUDA. Upon reaching ONNA the tanks were released due to a destroyed bridge which could not be by-passed. No resistance was encountered. The 4th platoon plus a dozer tank and a command tank was ordered to reconnoiter the east coast road with the 4th Marines. Upon reaching KIN the tanks encountered the enemy, killing two, and destroyed and enemy fuel truck and driver. All tanks returned to the tank battalion service park.

d. H&S Company.

Continued displacement to the new service par

6. L plus 5.

a. Company A.

Company A less one platoon, was sent to support the 4th Marines who were moving north along the east coast between ISHIKAWA and KIN. As no enemy were encountered the tanks displaced forward by bounds behind the infantry and in reserve. All tanks returned to the service park at 1800.

b. Company B.

Company B, less one platoon, supported the 29th Marines, in their march north, along the west coast as far as CHUDA. They transported infantry on top of the tanks. No resistance was encountered and the company returned to the battalion service park at 1600.

c. Company C.

Spent the day in maintenance in the service park.

d. H&S Company.

The town of IMBU was reconnoitered and selected as the next battalion service park. The maintenance.

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section continued work on tanks and other sections carried out normal functions.

7. L plus 6.

a. Company A.

All tanks left YAMADA for IMBU, dropping extra equipment there and then crossed the island at CHUDA and reported to the 4th Marines. The tanks were held in reserve and released at 1600 to return to the battalion service park at IMBU. No resistance was encountered.

b. Company B.

Displaced forward to IMBU.

c. Company C.

Company C, less one platoon, after dropping extra equipment at IMBU, supported the 29th Marines. The tanks joined the advance guard and followed the point by bounds, prepared to attack on call. No resistance was encountered and they returned to the IMBU service park at 1600. The 2d platoon, plus one tank dozer, was ordered to support the Division Reconnaissance Company. Together they proceeded north as far as NAGO, and then headed northeast to NAKAOSHI. They reached the ocean near NAKAOSHI at 1600, encountering slight opposition and killing several enemy infantrymen while enroute. The patrol then returned to the battalion bivouac area.

d. H&S Company.

Displaced forward to IMBU.

8. L plus 7.

a. Company A.

The 3rd platoon, reinforced by a bulldozer tank, supported the Division Reconnaissance Company. Probing westward from NAGO, they found both roads blocked by blown bridges a few miles beyond NAGO (0618-H and 0219-U). They were released at 1330 and returned to a forward battalion service park at 0818-M about one mile north of NAGO.

b. Company B.

Company B, less two platoons, supported the 2d Battalion 29th Marines, which moved westward from NAGO along the coast road of the peninsula. The tank advance was halted by two destroyed bridges. Tanks were released at 1600 and returned to the forward battalion service park at 0818-M. The 3rd and 4th

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platoons supported the 3rd Battalion 29th Marines, which headed north from NAGO along the main road, and then turned west along the shore road on the northern side of the peninsula. Tanks and infantry moved together as far as GAGUSUKA where a destroyed bridge halted the tanks. Later they were released and rejoined their company at 0818-M, the forward battalion service park.

c. Company C.

Spent the entire day on maintenance at IMBU.

d. H&S Company.

Tank units operating on the MOTOBU Peninsula were ordered to bivouac in 0818-M and preparations were made by the battalion to displace there on the following day.

9. L plus 8.

a. Company A.

Displaced to the new battalion service park.

b. Company B.

This company supported the 29th Marines and advanced as far as AWA. At this point a destroyed bridge stopped the advance of the tanks. As no by-pass could be found the tanks were released and returned to the battalion service park at 1300.

c. Company C.

Proceeded from IMBU to the new battalion service park and spent the remainder of the day on maintenance. At 1700 an urgent call for tanks was received from the 29th Marines and the 1st platoon was ordered to support the 1st Battalion 29th Marines which was involved in a fire fight on the NAGO-ITOMI road. Tanks remained with the 1st Battalion 29th Marines for the night in order to make an early morning attack.

d. H&S Company,

At 1300 the battalion command post and remainder of the battalion displaced forward to 0818-M, and a strong perimeter defense was established with the tank companies

10. L plus 9.

a. Company A.

The 3rd platoon was ordered to support the 1st Battalion 22nd Marines. They moved north along the west

coast road to MAJIYA where a platoon of this battalion mounted the tanks. They proceeded north together to the town of MASUYA, where the tanks were released and returned to the service park. The company executive officer with the 1st and 4th platoons was ordered to support the attack of the 1st Battalion 29th Marines on ITOMI in conjunction with one platoon of Company C already there. Because of the lack of suitable tank terrain only the Company C detachment could be utilized, consequently these tanks were released at 1100 and returned to the service par

b. Company B.

Spent the entire day on maintenance work.

c. Company C.

The 1st platoon which had spent the night with the 1st Battalion 29th Marines attacked toward ITOMI, jumping off at 0800 with a fire team alotted each tank for protection. Only sniper fire was encountered. The tanks were halted by a destroyed bridge 200 yards from ITOMI. They were released at 1030 and returned to the battalion service park. The remainder of the company spent the day on maintenance.

d. H&S Company.

Work on the area commenced in an effort to build a temporary maintenance shop. The defensive positions were strengthened and supply dumps established.

11. L plus 10.

No operations.

12. L plus 11.

a. Company A.

The 4th platoon supported the 2d Battalion 22nd Marines in a road march north along the west coast road. Advancing with a patrol, they reached the town of ICHI, at 1800, and were halted at a destroyed bridge. The Company less the 4th platoon, was ordered at 1230 to support the 22nd Marines, and subsequently joined their 4th platoon. A bivouac area was selected at 2835-K and the company, less the 3rd platoon, bivouaced there. The 3rd platoon unable to continue with the remainder due to road conditions returned to the battalion service park.

b. No other companies operated tanks.

13. L plus 12.

a. Company A.

The 3rd platoon joined the company prior to the attack hour and the infantry mounted all the tanks at HENTONA. A rapid advance along the coastal road continued without opposition. In the afternoon the infantry and tanks reached the HEDO Cape, the northern tip of the island and established a perimeter defense.

b. No other companies operated tanks.

14. L plus 13.

a. Company A.

This company, less the 2d platoon, remained in bivouac area at HEDO Cape. The 2d platoon continued around the tip of the island and down the east coast as far as 3750-S where a bridge and portion of the road had been washed out. As they could not continue the advance they were released and returned to the company bivouac area.

b. No other companies operated tanks this day.

15. L plus 14.

a. No tanks operated this day. Company A was ordered to remain in support of the 2d Battalion 22nd Marines until further notice.

16. L plus 15, 16, 17, 18, 19, 20.

a. No tanks operated.

b. During the period 15-20 April inclusive, constant patrolling was carried out in the vicinity of the battalion service park. Several enemy soldiers were killed by these patrols. During the nights the battalion outposts killed a total of 17 well armed enemy belonging to groups who encountered our perimeter defenses.

CHAPTER VIII

ENEMY TACTICS, ORGANIZATION AND EQUIPMENT.

1. The enemy in NORTHERN OKINAWA attempted no anti-tank defense except a passive one of blown bridges, and a few poorly disguised mine fields. No tanks were lost to enemy action.

CHAPTER IX

ESTIMATED RESULTS OF OPERATION.

1. Tanks traveled a distance of over eighty miles (road measure) from the beach to the northern tip of the island spearheading the advancing infantry columns along the roads. In addition they covered many more miles on the eastern coast, MOTOBU Peninsula, ZAMPA MISAKI, and other missions. No claim for territory secured can be made by tanks on this operation, or any other, because they can never secure or hold ground without the infantry.

2. The known enemy casualties were 33. Only fourteen of these were killed by tanks, the others by patrols, and in defense of the bivouac area and service park.

No enemy were captured.

3. Seven light machine guns, fifteen rifles and some munitions were destroyed or captured and are the only identified result of action against the enemy. However, a number of caves and one pillbox were taken under fire when the infantry pointed them out as occupied positions holding up our forces.

4. No tank battalion personnel were killed, wounded, or missing as a result of enemy action.

CHAPTER X

COMMENTS AND RECOMMENDATIONS OF THE COMMANDER.

1. S-1 Section.

a. The tank company should be augmented by one officer and sufficient men to organize an eighteen man reconnaissance-liaison section. Each infantry regiment requires an officer and a radio at their CP, each battalion requires a liaison team with a SCR 509 radio at their CP, and each tank platoon requires a radio equipped two-man team for liaison with front line troops. These men when trained in reconnaisance can be of great assistance in finding routes of travel for tanks and in reporting on terrain features. Tanks are peculiarly sensative as to the type of ground over which they operate, and only a foot or visual reconnaissance can give the tanks the detailed information required. In addition, let it be pointed out, that the most difficult and important part of a tank-infantry team is liaison and communicatio between the two forces.

b. The number of radio maintenance men assigned a tank battalion is far from adequate. Each company should have two men added to their maintenance section, and H&S Company four including a Master Tech and Tech Sergeant, all radio repair specialists. This increase in personnel is required because of the large number of radios and radio equipment in the battalion.

c. An ammunition section should be added to H&S Company to assist in supplying fuel and ammunition to the companies. With a unit of fire of 4600 rounds of 75mm, plus other ammunition and fuel, insufficient personnel are available to handle the amount consumed. On a comparative basis, an artillery battalion with 12 guns with a unit of fire of 3600 rounds, has a total of thirty men and six NCOs allotted its battery ammunition sections in the T/O, while the tanks with 46 guns and the above mentioned larger unit of fire have no personnel at all. It is believed that 20 men and 3 NCOs is the minimum number required.

d. It is desired to point out that a tank company with its large amount of equipment and great fire power is only commanded by a captain. In an infantry regiment the weapons company is at present commanded by a major. This seems to be a paradox. It is recommended that for greater effeciency the tank company be commanded by a major.

e. Replacement personnel secured for this organization

were basic privates and were received too late to give them the instructions required to properly acquaint them with their duties and to train them in their assigned task as tank crewmen. There is no apparent reason for sending basic privates overseas to tank units when suitable terrain, equipment, classrooms, and instructors could be made available in the States. Field units are not properly equipped in any of these respects, nor have they sufficient time in which to train these basic privates as basic tank crewmen and at the same time give them advanced training. The ammunition, fuel, vehicles, weapons, and spare parts used up on this instruction take up too much valuable shipping space which could better be used to supply vitally needed items which do not seem to be available at present. When a tank replacement is received overseas he should be trained, at least, as a basic tank crewman so that he can immediately take his place in a tank crew. This is especially true when replacements are received in the combat zone. A unit in the line cannot run a replacement school in a rear area.

f. In view of the increasing use of tanks in this theater of operation it is recommended that in all higher operational staffs a tank section be established. This would greatly aid the tank battalion commander because such an officer could coordinate personnel distribution, equipment allocation, and other numerous problems which are peculiar to tank organization and not as yet well understood by non-tank officers.

g. The present T/O provides no quartermaster mechanical personnel for a tank battalion. It is recommended that the tank battalion be furnished sufficient personnel to properly maintain its large amount of organic wheeled vehicles. This then would relieve the already overburdened tank mechanics of this additional work.

2. S-2 Section.

a. Originally the battalion had no plaster relief map, scale 1:5,000. We were told we would have one such map per ship available at the time of sailing. These maps were not supplied; we obtained only one. One relief map scale 1:7,500 was obtained from the 15th Marines which was of little value for study of terrain and could only be used in a general way to orient and show boundaries and phase lines. One rubber relief map scale 1:5,000 was furnished and used and was very satisfactory. The ease in handling the durable rubber map makes it superior to an equal scale plastic map. One company which was split and aboard three different ships, did not have a relief map of any sort for

schooling on the way to the objective. One company split between two ships had a relief map per ship and was satisfied with the scale 1:5,000. The companies aboard the LSD shared one plastic relief map having a scale of 1:5,000, and in turn, found it satisfactory.

b. The maps issued were of three scales, vis, 1:100,000, 1:25,000 and 1:10,000. A map of the scale 1:100,000 is not adequate for day-to-day operations, but does give a clear condensed picture of the island and its major towns and roads. This map was worth while but only as a suppliment. The 1:10,000 map had been requested for use in the tanks. However, due to the speed of advance these maps were out of date after the second day. The map of a scale of 1:10,000 would have been of great help had it contained information and detail normal to that size. However, it was merely an enlargement of the 1:25,000 and consequently was no better in any way for our use. The scale 1:25,000 map was thus the only map used that had worthwhile results. On the first issue of the maps at the training area insufficient copies were issued to cover the needs. Upon request more were issued. Due to the organization of a tank battalion more maps are required than for other units of equal size. Each tank is a separate force in itself and as such must be equipped with maps. In addition to this there are a large amount of reconnaissance and liaison teams which need maps to coordinate tanks and infantry. Thus, the tank battalion must have a minimum of 100 maps to function effeciently. As progress was made up the island to the north we literally ran off the map, and, when new maps covering the remainder of the northern part of the island were issued, the tank battalion received less than half the required number. Due to the lack of oposition and small number of engagements, no serious handicaps resulted from this shortage.

3. S-3 Section.

a. For detailed report on the T-6 Flotation device see Annex A of this chapter.

b. For detailed report on the LCM(6) see Annex B of this chapter.

c. It was decided during the planning phase that the tanks should land in a scheduled wave rather than in a call wave. This was based on two considerations. First, that the infantry would need the tanks as soon as possible after landing and that an assault wave would land the tanks at about the correct time after the infantry had landed, reorganized and was ready for the

advance inland. Secondly, past experience of other tank battalions brought our attention to the fact that frequently call waves were late in landing. Consequently, it was decided that the sixth wave, landing at H plus 20 minutes, would be the best for two reasons, namely, that if the tanks were delayed in getting ashore only a small assault wave followed which could easily go around the tanks and that an earlier wave would restrict searching for a favorable route across the reef, should the landing craft ground some distance from the beach, because succeeding waves would be required to pass the tank wave.

LVTs were assigned to lead the tanks in to the beaches, two for the tanks with the T-6 devices and four for the LCM(6)s. Three of the LVTs assigned to the LCM(6)s did not arrive. The one that did join the tanks was embarked on an LST with the tank battalion and under their initial control. As all the LCM(6)s except one cleared the reef and made a dry landing this guide LVT was not needed. The LCM(6) which was stuck on the reef finally disembarked its tank on the reef at about H plus 1½ hours. This tank managed to find its own way ashore without assistance. The two guide LVTs with the T-6 devices each accompanied one column of tanks. These LVTs materially assisted the T-6 tanks in locating deep water over the reef and thereby contributed to the success of the operation. As the landing was unopposed it is difficult to state whether or not the tanks should have landed when they did. The best method of bringing tanks in from a reef is by having men on foot to guide them in, however, landing at such an early time would make this proceedure extremely hazardous if fire in any volume was received from the beach. The T-6 device tanks should have been landed with the first assault wave so that their 75mm guns could have been used and thus derive the maximum benefit from the device. In general the time of landing, H plus 20 minutes, from LCM(6)s with guide LVTs embarked with the tanks and attached in sufficient time prior to the mounting out, so that the LVT crews could be instructed in what is expected of them, should be about the correct landing time. In this manner the infantry would have tank support immediately after landing even though it is possible that one or more LCM(6)s would be lost with the tank in the attempt to land the equipment so early.

High tide prevailed at the chosen lamding time which is best for the successful landing of tanks equipped with the T-6 device. However, tanks equipped with fording kits are greatly handicapped in landing over a reef at high tide. At low tide the pot holes are more visable and the difference in the overall depth of water is often the difference between successfully reaching the beach and drowning out. It is therefore recommended that tanks be landed at low tide over reefs unless the depth of water at high tide is such that the landing craft carrying them can reach the beach proper, as it was in this case.

d. For the close support of an infantry battalion, by a tank company, all of the tanks must be committed under the present T/O. The usual formation is for the company commander to directly command two platoons in the support of one infantry company and for the exeutive officer to command the remaining two platoons in the support of the other infantry company. This leaves the company with no tactical reserve to meet unforseen difficulties. Furthermore, the platoon leaders became nothing more than section leaders whereas the company commander and executive officer assume the responsibility of platoon leaders. The company commander, while directing the support of one infantry company, loses control over his company as he has to release one half of his company to his executive officer. If the company commander and the executive officer assumed their duties, as provided for in the present T/O, the two platoons supporting each company would be commanded by the senior platoon leader. This is not desireable.

It would be better in this formation and in others to have an eighteen tank company with five tanks to the platoon. One platoon would be supporting each infantry company and the company commander would have a third platoon in reserve. The company executive officer would then be a relief company commander or else in charge of the company service park and engaged in such duties as directed by the company commander.

Experience under normal operating conditions, not in combat, has shown, and this is based over a number of years of personal experience, that 20% of the tanks in any one unit are under minor repair at any one time. In a fifteen tank company this amounts to three tanks or one platoon. As the command tanks and the dozer tanks are not a part of a platoon, and hence are not a part of any basic fighting formation, only nine tanks in the company or less than two normal five tank platoons, used in other military formations, are available. This is obviously too few tanks to support a regiment of infantry which is the normal mission of a tank company. When combat losses are sustained in the tank company it very rapidly reduces its fighting strength to an oversized platoon. With the eighteen tank company the 20% out of action is only four tanks which leaves the three platoons with four or three tanks each. This is still an effective fighting unit of three platoons and the comapny can still operate as such.

e. The number of tank companies in each battalion should be increased to five; one light company of M24 tanks, one large capacity (CB-H1) flame thrower company and three medium or heavy tank companies. The three medium or heavy companies would support its normal regiment, the light tank company would act as

a division reserve and the large capacity flame thrower company would be used in conjunction with the assault tank companies.

In the Asiatic War a very definite need of a light tank arises. Roads and bridges are not as sturdy as those in the United States, furthermore, the main crop is rice and light tanks would be able to venture where a heavier tank could not. During this campaign a light tank company would have been invaluable during the advance up the island. They could have safely traveled ersed the small bridges and could have gone over terrain where the medium tanks could not go. The transporting of an additional light tank company in each division would add very little to the transportation problem. Their weight (20 tons) allows them to be transported on APAs and AKAs and brought ashore in LCM(3)s. In contrast the medium tank has to be transported ashore in LCM(6)s, carried in an LSD, or in LST or LSMs.

The battalion headquarters should be increased from one to three command tanks, two mediums and one light. At the present the battalion staff has only one tank to control the battalion which is insufficient for the task. Tanks should always travel at least in pairs for mutual protection. The third tank would be available as a reserve if the others are under repair and it being a light tank could keep up with the li ht company if on a separate mission such as reconnaissance in force with attached infantry.

The high capacity (CB-Hl) flame thrower tanks should be organized into an eighteen tank company similar to the other recommended tank companies. These tanks should be organized into a company rather than an additional platoon of another company. This is desireable for training, maintenance and supply reasons. This type of tank is needed in the marine division for mopping up purposes, reduction of pillboxes, caves and other similar missions that require flame for destruction rather than explosives

As the war leaves the atolls and the Marine Divisions approach the homeland of Japan changes needed in the organization of a tank battalion become increasingly apparent. Defenses are now in depth and the enemy is devising more effecient anti-tank measures. Furthermore, a war of movement is developing. Heretofore, tanks could operate mechanically in the length of time required and the only losses were those due to enemy action. Now the campaign stretches over several months and its tanks are out of action due to normal wear and tear it indicates the need for a larger tank company. In addition, new tactical missions and different terrain indic es that a light tank with heavy armament and a flame thrower tank is vitally needed.

f. The headquarters and service company for a tank

battalion is too unwieldy and should be broken up into two companies, a headquarters company and a service company.

Headquarters Company would consist of:

(1) Staff sections.
(2) Engineer tank platoon.
(3) Reconnaissance and liaison platoon.
(4) Command tank section.
(5) Company headquarters.

Service Company would consist of:

(1) Tank maintenance groups (all echelons of tank maintenance).
(2) Motor transport platoon (consisting of all the transportation now in the battalion).
(3) Supply section.
(4) Ammunition platoon.
(5) Small arms and gun repair section.
(6) Communications section.
(7) Company headquarters.

If the above two companies were activated in lieu of one company, then the command functions with the needed engineer troops for mine removal and road improvement could be allocated where desired from headquarters company. The engineer platoon should be equipped with six engineer tanks. No tank dozers should be in the companies.

The service company could then be charged with the repair of tanks and other equipment, the supply of equipment and the distribution of fuel, oil and ammunition.

To sum up the above recommendation the tank battalion would consist of the following units:

(1) Three (3) medium tank companies, 18 tanks each.
(2) One (1) light tank company, 18 tanks
(3) One (1) high capacity flame thrower company, 18 tanks.
(4) One (1) Headquarters Company.
(5) One (1) Service Company.

g. The present M4 series of tanks is not an infantry-accompanying tank, but is designed for the exploitation of a break through. What the Marine Corps requires, in this theater of operation, is a tank with heavy armor such as the M26. An increase in the size of the gun is neither justified nor necessary. The 75mm gun is most effecient with its various types of shells and its ability either to fight tanks or to reduce caves or pillboxes. In no event is the M4 series with the 105 Howitzer needed or desired. The muzzle velocity is too low, the ammunition too bulky, the rounds semi-fixed, and the number of rounds carried in the vehicle too few. If the M26 with a 75mm gun is not available, then the M4A3 with 75mm gun should be retained and 2½

inches of spaced armor be added to the sponsons and turret at the base depots in the States.

T To sum up, the characteristics of the ideal tank to be used against the Japanese are as follows:

(1) Heavy armor, at least sufficient to stop shaped-charge projectiles, and the Japanese 47mm AT gun projectile.
(2) Medium sized gun, such as the 75mm, with fixed ammunition.
(3) Extremely wide track, to give the tanks flotation sufficient for swampy ground.
(4) Medium to slow speed typical of infantry accompanying tanks.

h. It is recommended that LSMs not be used for the transportation of assault tanks. This vessel grounds in such a great depth of water and is so vunerable to fire, from the beach, that it cannot be beached until after the landing beaches are comparatively safe. The LSM, however, can be used to transport a reserve company of tanks that are scheduled to land at a late hour.

i. Because of the increased use of mines, by the Japanese forces, as a counter measure to tank employment, it is recommended that further attention be given at once to the technique of mine detection marking and removal. In addition mine removal teams should be added to the T/O of the tank battalion.

4. S-4 Section.

a. Equipment.

(1) Without the use of the bulldozer tanks on this operation the rate of advance of the infantry and tanks would have been much slower. This battalion was equipped with one bulldozer tank per company, plus three spares in battalion headquarters. Each of the bulldozers was in use virtually all the time. These dozers constructed by-passes around bridges and widened and improved roads so that trucks and large vehicles could use them. Although their effeciency is not nearly so great after reaching the job as an engineer bulldozer, their mobility, protection and speed enables them to reach the point where they are needed and commence work long before a regular type dozer. It is therefore recommended that six additional bulldozer tanks with crews be added to the T/O of the recommended headquarters company as part of the engineer platoon and that the blade attachment as furnished each company be abolished.

(2) It has been proven that the forward volute springs on bulldozer tanks are not sufficiently strong to carry the weight of the blade. It is therefore recommended that the heavier springs be supplied for installation on these tanks.

(3) In the soft ground of rice paddies the extra flotation afforded by the duck bill track extension device greatly aided the passage of tanks. A wider track is urgently needed particularly on the bulldozer tanks which cannot use the extension due to interference with the arms of the bulldozer blade.

(4) The TD-18 tractor, with power control unit, now presently allotted in the T/O for a tank battalion was not furnished this organization. It was urgently needed on this operation, but it should be furnished with an angle dozer so that roads into and out of the service park may be constructed and maintained. On the march this tractor, with angle dozer can be used to pull the parts trailer, 4 wheel, 2 ton.

b. Supply.

(1) Adequacy of all types of mounting out supplies for this organization was about ninety nine (99) percent.

(2) Resupply of Class I, certain types of Class II and V, generally speaking was good. However, considerable amount of trouble was experienced with regard to the resupply of 91 octane gasoline. Furthermore, 50 weight oil was landed soon enough but not in sufficient quantities. Constant scouring of the various beaches and contact with shore party commanders enabled us to barely supply the fuel and oil necessary to operate our tanks.

(3) Another difficulty encountered, with regard to resupply of fuel, was transportation. Our first 2½ ton truck was not landed until the evening of L plus 2.. The rest of the cargo trucks were not received until the afternoon of L plus 6. The first six days we were forced to call upon shore party trucks and amphibian tractors who were already overburdened with other transportation problems. The division was contacted, but was unable to furnish the necessary transportation at the time. After L plus 6 our transportation was somewhat alleviated and we were able to transport the necessary fuel, but had we been operating to the extent as was expected, the transportation brought with us would not have been sufficient to haul the fuel, ammunition and supplies required by the battalion. It is recommended hereafter that all organic vehicles be brought to improve transportation difficulties.

(4) Difficulties in securing personnel for the handling of fuel, ammunition, rations and other supplies were experienced. In order to properly supply an organization of this type with sufficient amounts of fuel, ammunition, in an operation

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or during a training period it is essential that at least twenty (20) men and three (3) NCOs be assigned for that duty only.

(5) Resupply of motor vehicles and tank spare parts up to L plus 20 was accomplished by this organization. It should be noted at this time that after L plus 20 resupply of certain fast moving spare parts will be urgently needed and cannot be supplied by this organization. The reason being that these parts were not furnished in quantities requested prior to embarkation.

(6) The following recommendation is made concerning the five man gasoline cookers. Cookers of this type could be greatly utilized by personnel in a tank battalion. The cooker could be carried quite easily inside the tanks. This cooker would enable the men to have hot food at any time. It could be used for boiling water (sterilization purposes) shaving and bathing when the situation permits. Fueling of this cooker would present no difficulties for a tank battalion. The present emergency cooker (Hot Box Type) does not furnish enough heat; furthermore, it has a tendency to smoke up the men's mess gear to such an extent that when the mess gear is replaced in his pack, it spoils clothing, poncho and anything else therein.

c. Unloading of material.

(1) Having two LSTs allotted for all battalion vehicles and gear greatly simplifies loading, maintenance enroute, and unloading. However, there are two great flaws in this system of combat loading. If no beaches are found which are suitable for LST landings much gear may be damaged while moving it from the reef to the beach. This happened to this organization. Regardless of the type of landing beach a LST does not beach soon enough after H hour to land radio jeeps for the assault. Furthermore, if the LST is hindered from beaching, by enemy action or reefs, an organization may be badly handicapped for several days by having no trucks whatsoever to handle vast quantities of fuel and ammunition required, and no radio jeeps for liaison. A solution for this problem is the loading of that portion of organic transportation most urgently needed during the first few hours after landing on AKAs or APAs to be boated in LCMs and landed with the first group of vehicles to come ashore.

5. Communications.

a. Although a telephone switchboard is provided for the tank battalion in the T/A, and wire is strung for the companies from this battalion, no personnel are authorized to handle this equipment. It is recommended that a wire section of six men plus an NCO be added to stand switchboard watches and maintain wire communications.

b. SCR 510 jeeps proved to be inadequate for liaison with infantry battalions and regiments. The SCR 510 does not have sufficient range in many instances, and a jeep is not always sufficiently mobile to reach battalion command posts. It is recommended that two SCR 510s and jeeps in each company and battalion headquarters be replaced by weasels mounting the SCR 508s.

c. The most important problem in tank-infantry teamwork at present is communication between front line troops and tanks. The telephone is a help, but has the following faults:

(1) The tank has difficulty in getting anyone to get on the phone when they want to speak to the infantry.

(2) When someone does answer its usually not an officer or a person in command.

(3) Phones are often damaged.

(4) When tanks are ahead of the infantry and fire is being received it is difficult and often impossible for an infantryman to run up to the tank, speak over the phone and get away without being wounded or killed.

(5) Usually the tank contacted is not the tank in command of the formation.

(6) The infantry unit commander should contact directly the tank unit commander but he is often nowhere near a tank telephone.

The SCR 300 installed in the tank is only a partial solution because of the number of times a message must be relayed before the tank unit commander receives or sends a message to the infantry commander, causing delay and mistakes. The main fault of the SCR 300, is thatfittis not portable enough in a moving situation, nor can the SCR 300, on the ground, be safely carried as far forward as an infantry platoon headquarters.

We have partially overcome these troubles by installing a GFRU in the tank and giving a liaison team on foot a SCR 536. This set is compact, light, and highly portable, and the GFRU relays this AM transmission through the tank interphone system so that tank commanders can not only talk to his tanks but to the infantry by throwing a switch. The difficulties that arise from this system are two fold. First the immense amount of interference received by the RU from the outside transmissions make receptions difficult and second the same difficulty of installation and maintenance of an extra radio as in the case of the tank mounted SCR 300.

It is urgently recommended that a pack set weighing about ten pounds be developed and furnished which will contact the SCR 508 directly. The present SCR 509 is too heavy and awkward to be used with front-line troops.

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d. A radio repair truck should be allotted in the T/A as a mobile repair shop. This is vitally necessary and needed. Other tank battalions have reported use of similar vehicles, and in this battalion an ordnance automotive machine shop truck was of necessity converted for this purpose. This type of repair truck has proven to be of immense value as radios must be repaired in a dry spot and in a place where power is available.

e. The present tank-infantry telephone as provided leaves much to be desired. Further research should be immediately undertaken to perfect this item of equipment. In its present form the handset is not durable and the set should have a self-retracting telephone cord.

6. Medical.

a. There was no illness, losses, or replacements of medical personnel.

b. Resupplying was adequate and accomplished through the agency of the Division Field Hospital.

c. The supply of DDT and pyrethrium bombs was inadequate, and precautions should be taken in future operations to insure an adequate supply. Anti-Flash Burn protective ointment was placed in each tank and the men instructed in its use. This ointment was used on L Day, but not on succeeding days due to the fact that no heavy action was encountered by the tanks.

7. Maintenance.

a. The present tank maintenance platoon of the ordnance company should be abolished as all tank maintenance and supply should be under the control of the senior tank commander. Echelons of maintenance cannot be divorced from each other in combat. Furthermore, the men that repair the tanks should be under the control of the tank battalion and should answer to the tank battalion rather than to another organization. This would tend toward greater effeciency and better tank repair with less confusion than in a divided command.

b. There is no equipment either in battalion headquarters maintenance section, or in the tank ordnance platoon, capable of moving heavy parts such as track, engine, etc. Nor, is there any equipment provided to swing turrets or move tanks when immobilized in the battalion headquarters service park while awaiting repair. An additional tank retriever allotted to the battalion headquarters maintenance section would eliminate this difficulty. An "A" frame is not sufficient because it requires

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a firm footing such as a cement or hard ground which is rarely available, nor is it mobile enough to fill all the needs of battalion maintenance section. It is therefore recommended that an additional retriever with crew be added to the T/O for each tank battalion service company.

c. With the present deep fording kits the exhaust adapter is so constructed that it is impossible to adjust the tank tracks without either removing the adapter or constructing a special wrench. It is recommended that the exhaust adapter be modified so that the tank track can be adjusted without the fabrication of a special wrench. The exhaust adapter does not effect the performance of the tank but does prevent dust and exhaust fimes from being blown up into the faces of the infantry. In this respect the exhaust adapter is very valuable and should be constructed strong enough to withstand usage over an extended period of time.

8. Ordnance.

a. The unit of fire as authorized for mounting out by the III Amphibous Corps should be made standard in the Pacific Theater and the CINCPOA unit changed accordingly. The CINCPOA unit of fire contains too much APC and also contains shrapnel, which is of no value. More HE is necessary so that enemy installations may be destroyed. The III Amphibous Corps unit is as follows:

(1) 15 rds. smoke, W.P., M64, w/PDF, M57.
(2) 15 rds. HE, M48, w/fuze TSQ M-54.
(3) 50 rds. HE, M48, w/PDF, M48.
(4) 20 rds APC, M61A1, w/BDF, M-66A1.
(5) 10 fuzes T-105 (concrete piercing).

ANNEX "A" TO CHAPTER X

SPECIAL REPORT ON T-6 FLOTATION DEVICES.

1. In January information was received that the 4th Base Depot had received sufficient T-6 flotation devices to equip one company of 15 tanks for this battalion. Preliminary studies of the beaches assigned to the division, disclosed that between the reef, off the RED BEACHES, and the shore the bottom fell away. This constituted a grave problem for if a LCM(6) was reefed, due to insufficient depth of water at the reef's edge, the tank would possibly be drowned out on it's way ashore. At the same time this information was received an army ordnance officer and six enlisted men, trained in the installation of the T-6 device, reported for duty with the division. At this point it was decided to install one such device for test purposes pending further reef studies of the target. Company C was ordered to furnish one tank for installation and test. The device was installed in three days by the army technicians, battalion maintenance section and Company C maintenance section working under the direction of the battalion maintenance officer. A demonstration was then held for the division commander. This demonstration was successful but further installation of devices on tanks was held in abeyance due to the terrific man-hours of labor required to install one device, namely 2200, and the fact that it was not known if the device would be used. Soon after the demonstration the division was informed that only one LSD would be provided for the operation and that five LSMs would be substituted for the other promised LSD. As LSMs require about seven feet of water to ground and as further reef studies continued to show deep water between the reef and the beach, it was decided to install the T-6 devices on one company to take the place of LCM(6)s. The installation of these devices was ordered on Company C tanks. By the employment of all available welders in the battalion, the attached army technicians and a few men who could be spared by the 6th Engineer Battalion and the 78th Naval Construction Battalion, fourteen additional devices were installed under the direction of the battalion maintenance officer. The installation was completed in two weeks working 24 hours per day. The most time consuming part of this installation was cutting and welding. To accomplish this approximately fifty men, eleven arc welding machines and three cutting torches were used. Three tanks were worked on at one time using an assembly line procedure. An additional crew of electricians was used to install the electrical jettison charge and electrical bilge pump wiring. After each tank was completed and waterproofed it was tested for leaks and defects. Fourteen of the fifteen tanks worked

satisfactorily on the first test. The one that did not operate properly leaked, but was rewaterproofed and passed the test. No special kit was available for the bulldozer tank so one standard kit was adopted for transporting the tank with blade attached. Several test runs were made with this converted kit and in every test when the forward pontoons were blown, the blade fell into position and was secured to the jack by a 6X6 truck-trailer hitch which was installed in lieu of the standard eye and pin arrangement.

2. Prior to embarkation three T-6 tanks were successfully launched from the new type LST with inferior ramp, Valuable information on lauching and time required for launching (about four minutes) was gained.

3. All tanks including the bulldozer tank were loaded on LSTs, eight on one and seven on the other. The tanks with the mounted T-6 flotation device can be parked two abreast and four deep in the tank hold of an LST. To embark the tank with the T-6 device there is a difference in the type LST used, the old type having an elevator and the new type having the ramp for loading the top deck of the ship. Using the old type, the tanks can be backed through the ramp door and on the tank deck without stopping. However, the overhead on the new type LST is approximately 1½ feet lower than the old type. On this ship one must raise and lower the steering device of the T-6 device in order to clear the beams. On disembarking from both type LSTs one must jockey the tank over the hump aft of the bow doors, raising and lowering the steering device. All drivers must be cautioned to drive in 1st gear going very slowly into the water. Those tanks that gunned their engines, going into the water off the ramp, completely submerged and then came to the surface. If the tank commander has his hatch open for safety, and goes into the water too quickly, water will be taken into the turret, later causing radio trouble. On our tanks we used a rope steering device operated by the tank commander, as a modification kit did not arrive in time for installation. This rope steering device is impractical as it is difficult to manipulate, physically hard to operate and requires the tank commander to be in an exposed position. The latter would be very dangerous if the device was used on a heavily defended beach. The interior steering device modification kit should be used. Before embarking all tanks were equipped with new charges for jettisoning the pontoons. Upon landing on the beach two charges in one platoon failed, one in another, and a broken wire in another, all necessitating the tank commander's getting out of their tanks to install new charges or to repair the wire. This, also, on a defended beach would prove dangerous.

4. Enroute from the disembarkation area the tank with the bulldozer attachment had engine failure. As the electrical bilge pumps cause a terrific drain on the tank batteries the auxillary generator was started to keep the battery charged. After running about two hours this in turn failed. As the battery drained, the pumps couldn't cope with the bilging of the tank. Eventually the battery failed and the tank filled with water. Several times the crews hailed passing boats for assistance but it was refused. In one instance they drifted close to an LST and requested a lead to charge the battery. This was refused. At 1600 the tank was so completely full of water that the flotation device could not hold it up and it floundered about 3000 yards off shore.

5. Another tank after reaching the reef became stuck on what was believed to be a coral head. As the tracks were on the reef the flotation tanks were jettisoned and the tank started for the beach. The tank swerved to one side and fell into a deep pot hole and completely filled with water. After the tank was retrieved the following day it was found to have one track missing. This track broke and fell off the tank on the way into the reef. Failure of this track caused the loss of this tank.

6. If it is desired to land tanks in the 1st wave in lieu of armored amphibian tractors, the T-6 flotation device for tanks is a worthwhile installation. It will enable tanks to cross a coral reef, provided the tank can negotiate the shelf. It is also advantageous for crossing pot holes in a reef or crossing a barrier reef. However, if tanks are landed later than the 1st wave, it is deemed more practicable to beach the tanks at the reef in LCM(6)s from an LSD.

7. Company C traveled approximately 7000 yards to the beach, traveling in the water from 0700 to 0920. This is entirely too long a period of time for a tank to be in the water. It is advised that the LSTs or LCTs carrying the tanks equipped with the T-6 device be brought in as close as possible to the beach.

8. It is also advisable to construct a special kit for the tank with a bulldozer blade if this kit is not in production.

9. Some of the accessories contained in the T-6 kit such as running lights, boat hooks, compass, etc. is unnecessary gear and should be eliminated.

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ANNEX "B" TO CHAPTER X.

SPECIAL REPORT ON THE LCM(6).

1. The LCM(6) was used by this battalion in the assault wave. These boats were launched from an LSD. Sixteen were carried, enough to accommodate an entire company plus the vehicle, tank recovery.

2. It was noted, in contrast with the LCM(3), that this boat with a medium tank appeared to be more stable and rode a great deal better. It is recommended that in future operations the LCM(6) always be used in lieu of the LCM(3) to transport medium tanks ashore.

3. Our greatest difficulty arose when an attempt was made to embark a medium tank with dozer attachment installed in the LCM(6). The ramp opening was large enough for the blade but the tank was unable to back completely into the boat due to the side attachment that holds the blades arms to the side of the tank. It was noted that the bottom of the hold of the boat lacked about 8 inches in width to accommodate this tank and attachment. Permission was obtained to enlarge the hold by the tank maintenance section. This was accomplished by cutting a section out of the inner sides of the boat, cutting and reinforcing one frame, then welding in place the cut out section. Gaps left were covered by welding sheet metal in place. This enlarged the hold 12 inches between the 2nd and 4th frames. During this operation the water tight integrity of the boat was retained as well as well as all inspection plates. When this alteration was completed the tank with dozer attachment was embarked and it fitted with sufficient space. This tank and LCM(6) made a successful landing with the other LCM(6)s.

4. The landing of the tank dozer with the remainder of the company in the assault wave, was desired because photographic studies of the routes of egress from GREEN BEACH 2 showed a necessity for road improvement so that the tanks could get off the beach. It is recommended that prior to an operation, and at a boat repair basin, sufficient LCM(6)s be altered so that a tank battalion will be able to take its tank dozer already mounted, as was done in this case, otherwise last minute alterations of boats must be made or else the attachment be taken separately and installed at a later date after the landing.

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Pt. 7 of 12 pts

ANNEX F

TO

SIXTH MARINE DIVISION

SPECIAL ACTION REPORT

PHASES I & II OKINAWA OPERATION

6TH ENGINEER BATTALION

SPECIAL ACTION REPORT

of the

SIXTH ENGINEER BATTALION

SIXTH MARINE DIVISION

for the

OKINAWA OPERATION

1 April to 21 April, 1945

INDEX

CHAPTER I

SYNOPSIS

1. The purpose of this special report is to outline the part played by the SIXTH ENGINEER BATTALION in the first phase of the OKINAWAN operation up to and including L-plus-20. This tells of the preliminary planning and training at GUADALCANAL and of the deficiencies which became apparent during the operation.

2. This Battalion was activated in November, 1944, at GUADALCANAL. It was formed from three letter companies, each of which had been a part of reinforced regiments. Headquarters and Service Company was formed from replacements sent out from the states. Training began 15 November, 1944, and continued until about 1 March, 1945. This battalion was responsible for maintenance and repair of bridges and roads in the Sixth Division area, and as a result, a large proportion of the men were engaged in this type of work as well as camp improvement for other units, which included drilling wells, hauling gravel and operating a sawmill. Our construction equipment was in constant use so that the mechanics were busy on maintenance. As a result, training for many of the men was almost nil.

3. The SIXTH ENGINEER BATTALION landed on L-Day, except for Headquarters and Service Company, which landed on L-plus-1. The Division's progress was so rapid that by L-plus-3 the island had been crossed. In the meantime, the Battalion repaired the YONTAN Airfield and improved the beach and trans-island roads, replaced destroyed bridges and started the operation of water distillation and purification units.

4. On L-plus-3, the Sixth Division started its drive North. Engineer Companies were placed in direct support of the assault regiments, who in turn placed a platoon equipped with bulldozers and mine removal personnel in support of the leading element of the advance. This was a very rugged and mountainous section, with few and narrow roads and many bridges. The enemy in his retreat had destroyed most of the bridges and mined the roads, but the leading engineer platoons dozed rough by-passes around demolished culverts and bridges, removed mines and made hasty road repairs. The advance was rarely held up by the smaller obstacles. Several of the large and deeper estuaries required bridges. These were placed by the engineer companies who followed closely the leading assault battalions improving the hasty repairs made by the advance platoons. By L-plus-10, the battalion established its final bivouac in about the center of the MOTOBU Peninsula. From this central location the engineer companies radiated north, east and west to support the movements of the infantry regiments. Water points were established all over the northern end of the island so that the widely dispersed units would have comparitively short hauls to the water points.

As time allowed, surplus men and equipment were put to work widening and improving the narrow MSR which had begun to deteriorate under heavy military traffic.

5. Throughout this report, the phrase "war of movement" appears. The Marine Corps engineer battalions are organized and equipped for amphibious operations. It was quickly discovered that this battalion was sadly lacking in transportation. The companies displaced forward on an average of every other day and it was necessary to shuttle trucks back and forth about four times to move the gear forward. Since the trucks and equipment was in use during the day, it meant that the movement had to be made at night with consequent confusion and loss of gear. There was a shortage of Machinery Trailers, so that the tracked equipment had to walk wherever it went. This accelerated the wear on the equipment, which coupled with a serious shortage of spare parts, caused a large percentage of our equipment to be deadlined by L-plus-20.

CHAPTER 2.

TASK ORGANIZATION

1. The ENGINEER GROUP, as outlined in Operation Order 1-45, was under the command of Major Paul F. SACKETT and consisted of the following organizations:

Sixth Engineer Battalion (less detachments)
58th Naval Construction Battalion.

From the Sixth Engineer Battalion, the letter companies were attached to the Regimental Combat Teams as follows:

Company "A" to the 4th RCT.
Company "B" to the 22nd RCT.
Company "C" to the 29th RCT. (III Corps Reserve)

Both these battalions furnished a total of 24 two-man detachments to operate supplementary water distillation units aboard the LST's of the convoy.

2. The letter companies reverted to battalion control on L-plus-1. Thereafter, the assignment to engineering missions was based on the task. Every effort was made to place the company in direct support of the RCT to which it had originally been attached. An engineer liaison officer was assigned to each RCT to co-ordinate the work of the supporting company with the effort of the RCT.

3. The 58th Naval Construction Battalion reverted to III Corps control on L-plus-6. In the meantime they had, under direction of Major Sackett, been engaged in widening and improving the beach exits, repairing the YONTAN Airfield and roads in that vicinity.

4. The Commanding Officers and Staff for the Engineer Group were as follows:

Sixth Engineer Battalion: Major Paul F. SACKETT - USMCR.
58th Naval Construction Battalion:
Lieutenant Commander Robert E. TURRENTINE, Jr.

CHAPTER III

TRAINING AND PLANNING

PART I - PERSONNEL

1. One of the biggest problems confronting the S-1 section during the preliminary planning for the operation was the lack of trained personnel to fill the vacancies in the specialist jobs. Numerous shifts of personnel between companies and between jobs within the companies were made in order to insure the most efficient operation of the Battalion as a whole. Replacements received in December, January and February brought the battalion up to strength in numbers, but most of these replacements were riflemen with no engineering experience. The record of each man was carefully checked to ascertain his past experience, both civilian and military, in order to place him in a job where he could be most useful, with the least amount of training.

2. Since most of the personnel of the S-1 section had never been on an operation before, much study and training was requred in the setting up and operation of a command post, preparation and submission of reports, operation of a message center and maintaining communications. Many lessons were learned along these lines during the Command Post Exercises held during December and January.

PART 2 - INTELLIGENCE

1. In the planning phase, an intensive study was made of the zone of action from aerial photographs, maps and available literature. Attention was concentrated on subjects of an engineering interest. These included general terrain, soil and climatic conditions, beaches and hydrography, roads, bridges, steams, water supply, enemy engineering material, supplies and equipment. These studies were incorporated into the "D-2, STUDY OF THE THEATER OF OPERATION, PART I".

2. There was a wealth of information concerning the area about YONTAN Airfield as well as fairly good photographic coverage. Maps were good of this area. The planning for the north end of the island suffered from a lack of photographic and map coverage. Through reconnaissance, this deficiency was rectified to an extent after landing.

3. All intelligence information proved to be reliable and sufficient except as noted above. It is suggested that concentration be made in the future on obtaining immediate and current photographic coverage. This is the most ready and satisfactory source for prelininary terrain studies and for corrections to existing maps.

4. Briefing of personnel was started immediately after embarkation. Throughout the voyage, organized classes were held and literature, maps and photographs were made available to all hands. A previously prepared relief model, scale 1:5000, proved to be of great help in terrain studies.

PART 3 - TRAINING

1. In preparation for the OKINAWAN operation, the training program for the Engineer Battalion was separated into two distinct phases: Military and Infantry training. Due to the fact that the Battalion was constantly involved in Division housekeeping and maintenance, it was possible to devote only three weeks of intensified training to each of these phases. Many of the personnel could not complete even this limited amount of training due to the work required of the Battalion.

2. Military engineering consists of a wide variety of subjects, training in each of which is highly essential to develop competent Engineer Personnel. To conduct this phase of the training program, courses were established in the following subjects:

A. Roads and Airfields.

A complete knowledge of road and airfield construction, drainage and capacities and operation of equipment are necessary for rapid and adequate road and airfield construction. It was with these objectives in mind that this course was established.

B. Camouflage.

All of the phases of camouflage were completly covered. This included everything from individual concealment and camouflage to the camouflage of vehicles and structures.

C. Bridging.

By repeated handling of the various portable bridges, including the Bailey Bridge, the 20 ton Ponton Bridge, and the 20-35 ton Temporary Pier, the men were trained to erect these structures in the shortest possible time, and under difficult conditions. Training also was conducted on the timber trestle bridge, using both finished and nateve timbers. Reinforcing of existing bridge structures was also considered as this type of work might be encountered. At the completion of this training, the men were prepared to erect any type of bridge, under any conditions.

D. Engineer Reconnaissance.

This course included intensive training in Scouting and Patrolling, map reading, use of the compass and sketching, combined with a thorough knowledge of just what type of information must be obtained by reconnaissance before roads, bridges and water points could even be planned.

E. Water Supply.

As the production of good, potable water is one of the more important functions of the Engineer Battalion a thorough course in both purification and distillation was conducted. This included the use of the Badger Still and also the operation of the portable and mobile water purification units.

F. Demolitions.

This subject includes the storage, handling and usage of all types of high explosives, as well as a limited amount of work in the laying of minefields. By becoming familiar with and learning the uses of the various explosives, the men were prepared for any demolitions job which might arise in combat.

3. A short course in enemy mines and their removal was conducted to supplement the work covered in the Demolitions Course. The object of this was to completely familiarize the men with the mechanical functioning of enemy mines, as well as the tactics employed by the enemy in laying them, so that removal could be carried out promptly and with as little danger as possible.

4. These courses were not intended to develop experts; such accomplishement was too much to expect in such a short time. However, they did supply an excellant review for the experienced men as well as thorough training for the replacements.

5. The second phase of the training program involved three weeks of intensive training in the organization, tactics and organic weapons of the Infantry. During this period, arrangements were made for all personnel to fire their own weapons on the Rifle Range as well as the Rocket Launcher, the 30 caliber and 50 caliber machine guns, the rifle grenade and hand grenades on the various combay and infiltration ranges. As planned, this was a very thorough course in Infantry training; however, due to working details required of the Battalion, all hands did not complete their training in this subject.

6. From the above information it can be clearly seen that the training program conducted by the Engineer Battalion in prepearation for the OKINAWA operation was sound and thorough. As conducted, it was very successful, but it would have been much more effective had more time been allotted the Battalion for the training of their personnel.

7. In addition to the training of their own personnel, the Engineer Battalion also conducted courses in Camouflage, Mine Removal and Demolitions, for personnel from various units in the Sixth Division. The Camouflage course was attended by 200 officers and men. As some of these men failed to attend the full course, it was necessary to hold the course a second time for their benefit. The mine removal school was attended by 900 officers and men. Approximately 200 officers and men from the various units attended the Demolition School. The fact that these schools were ordered held while our own schools were in progress caused considerable confusion and loss of time.

PART 4 - SUPPLY

1. The general plan of supply of engineer equipment was set forth by III Phib Corps Warning Order. This order specified the major items of engineer equipment to be taken. This was later amplified by the Sixth Division Administrative Order 1-45.

2. To comply with these orders, a plan of preparations was set up. This consisted of repairing and processing mobile equipment, and segregation of sets of equipment. It was necessary to set up a check system to cover all components of engineer equipment. This was especially necessary in the cases of water supply equipment and the various bridges all of which consist of many individual items.

Furthermore, a majority of these items were received only a few days prior to embarkation. This checking proved valuable as shipping errors had caused shortages and substitutions that had to be corrected. All of the pre-fabricated bridging would have been useless unless these errors and omissions had been discovered.

3. As a preliminary plan to check the unloading, the supply personnel was divided into teams and instructed in the methods to be followed in checking the material on the beaches. As it turned out, ingineer material was not segregated into dumps, but was mostly stored in the mescellaneous dumps. However, these crews were able to keep a fairly accurate log of the location of the gear. This was particularily valuable in the early phases of the operation for bridges. This material was scattered in several places, but the records made it possible to pick up the necessary components. Most of this material was used up nearly as fast as it was unloaded. The same system was followed on all gear, but there was generally not such an urgent demand for the other items. However, it was possible to locate such items as distillation units and have them in operation soon after they were landed.

CHAPTER IV

TRAINING AND REHEARSAL.

1. The training of the engineer battalion as a unit began on 15 January, 1945, and continued through 21 January. This was in two phases: a Command Post Phase and a Troop Phase. The Command Post phase began on Monday, 15 January and ran until Wednesday when a division critique was held. The Battalion Headquarters set up their Command Post at the mouth of the SEGILAU River and proceeded to write orders to their subordinate units as the situation unfolded. This training proved very valuable to the staff members, as many of them lacked this type of experience.

2. The Troop Phase began on Thursday and terminated Sunday noon. During this period, the various engineer companies were either attached or placed in direct support of the RCT. Actual pioneer roads were constructed and two bridges were built across the ARULIGA River. The critique which followed this phase was very valuable to the engineers. The Commanding Officer was able to give definite examples of the advantage of keeping the engineer companies under battalion control rather than attaching them to a RCT.

3. Rehearsals began of 28 February and continued for six days. The letter companies were embarked aboard their assigned transports and were engaged in the maneuvers. A landing exercise was held on the north coast of GUADALCANAL which concluded the rehearsal. Headquarters and Service Company, and Battalion Headquarters did not participate in this phase.

CHAPTER V

LOADING AND EMBARKATION.

1. Loading commenced at GUADALCANAL on 4 March, 1945, when LST #916 arrived at DOMA COVE to take aboard the low priority gear of Headquarters and Service Company; this was loaded by the morning of 6 March. LST #1030 arrived at DOMA COVE on 6 March, 1945, to take aboard the high priority gear of Headquarters and Service Company; this was loaded by the evening of the 9th of March. Loading of these two ships was slow and laborious, since this company was responsible for loading three tactical bridges as well as 125,000 FBM of bridge timbers. This material had to be loaded on the beach, trucked aboard the LST, and then unloaded and understowed. Since the total weight of this bridging and lumber was about 450 tons, the labor involved can be readily imagined. Once this material and the heavy crates of equipment, spare parts and company gear was aboard, loading of th vehicles and trailers was rapid. Two officers and 20 men from Headquarters and Service Company embarked on LST #916 and shoved off on 9 March, 1945. Fourteen officers and 192 men (including the surgeon and corpsmen) embarked on 11 March, 1945, and shoved off the same day.

2. Battalion Headquarters, consisting of 8 officers and 52 men, embarked on APA, USS SUMTER, on 14 March; the convoy weighed anchor on the morning of the 15th. This ship carried small detachments from many organizations. It is believed that it was undesirable to separate Battalion Headquarters from Headquarters and Service Company for obvious reasons. While LST #1030, carrying the bulk of the Headquarters and Service Company personnel and combat equipment, did not beach until L-plus-1, the Battalion Headquarters could have come ashore on call on L-day in an LCM as easily from the LST as from the APA.

3. The letter companies, being each attached to a RCT, loaded and embarked at the same time as the regiments. Platoons of each engineer company were assigned to the BLT's. Therefore, each company was loaded on three or four APA's, together with their high priority equipment. Low priority equipment, together with a few men was loaded on the AKA's assigned to the RCT's.

4. The 58th Naval Construction Battalion loaded and embarked of two LST's between the 6th and 10th of March. The Construction Battalion carried with them much more equipment than the Sixth Engineer Battalion, consequently, they were unable to load all their equipment on these two vessels. Fortunately, we had some room on the second LST and were able to carry some of their trailers.

5. The Engineer Battalion was responsible for the distribution of engineer supplies; concertinas, barbed wire, pickets, sandbags and high explosives. The stakes and barbed wire were palletized on standard 4' x 6' sled-type pallets under the supervision of engineer personnel. This material was distributed to the various beaches from which the APA's and AKA's of the RCT were to be loaded. Considerable confusion resulted. Some loading officers had no room for these supplies while others conveniently "forgot" them. What remained on the beaches was loaded out in the First Echelon. Fortunately, this operation was such that large quantities of engineer supplies were not needed during the assault.

CHAPTER VI

MOVEMENT TO AND ARRIVAL AT OBJECTIVE

1. The LST convoy left TULAGI on 12 March. The convoy of APA's and AKA's left GUADALCANAL the morning of 15 March. The convoys rendezvoused at ULITHI, arriving there on the 21st and leaving there on the 26th of March. The trip was uneventful until the night of 29-30 March, when the convoy was attacked by a few Japanese planes; these were shot down before getting within bombing range. During the days, patrols from escort carriers patrolled the convoy but on the evening of L-day, Japanese planes again attacked, but again were shot down. L-day, 1 April, was indeed a lovely day. The weather was clear and bright, the sea smooth. The convoys laid about 8 miles off the beaches until it was ascertained that the danger from enemy artillery was small, when they moved in to within a few miles.

2. Companies "A" and "B", attached to the 4th and 22nd RCT, began landing at H-plus-1 and were all ashore, including most of their high priority equipment, that afternoon. "C" Company, in III Corps Reserve, did not land until L-plus-1 and L-plus-3, except for one platoon temporarily attached to the Shore Party which landed at H-plus-4. Battalion Headquarters was called ashore and landed at H-plus-10. Headquarters and Service Company began unloading the first LST on L-plus-1, but the second LST, carrying the low priority cargo, was not completely unloaded until L-plus-10.

3. Briefing of the troops began on GUADALCANAL. This battalion had an excellent relief map of the YONTAN area made by our mapping section. This was exhibited to the men and lectures given by various officers on the part to be played by the engineers. This relief map was later set-up in the mess halls to give the men an opportunity for detailed study.

4. The S-3 section laid out a schedule of training for the engineer personnel aboard ships. This included a general review of all engineering subjects in regular daily classes. These were followed by lectures on infantry tactics and weapons. These lectures served to bring to the surface many neglected points. The entire week before L-day was devoted to a study of the plans for the operation. Initially, lectures on the operation were given to the officers and non-commissioned officers who in turn passed this information on to the men. All lectures were conducted in a discussion form so that all hands would get the benefit of the questions and answers. Sufficient maps and aerial photographs were available to give everyone a thorough orientation on the terrain and plan of operation for this island. On some of the APA's, the ships were so crowded that it was difficult to find area to conduct classes.

CHAPTER VII

PART 1. ASSAULT PHASE

The Engineer Group of the Sixth Marine Division in the OKINAWA operation consisted of the Sixth Engineer Battalion, FMF, with the 58th Naval Construction Battalion attached. The 6th Division, as a unit of the III Amphibious Corps, was a part of the newly-formed 10th Army.

Eleven days of naval bombardment and carrier-based aerial attacks preceded the landings in order to prepare the island for invasion. The 2nd Marine Division feinted a landing on the southeastern coast of OKINAWA on March 31, which drew the bulk of the Japanese forces to that sector, and provided some measure of surprise for the main bodies which landed on the west shore of the island opposite the YONTAN Airfield a day later.

The landing was almost unopposed and progress up the uniform slopes from the beaches was surprisingly rapid. The Airfield, which was to have been our third days objective, was secured at H plus 3. An unusual incident occured as the Marines crossed the airfield. A Japanese aviator, unaware of the attack, circled the field and came in for a perfect landing. As he stepped from the plane, he was cut down by nearby riflemen.

"A" Company of the Sixth Engineer Battalion was attached to the 4th Marine Regiment, and landed immediately after the assault waves at H plus 1 on Red Beach. "B" Company, attached to the 22nd Marine Regiment, landed at H plus 3 on Green Beach. "C" Company, attached to the 29th Marine Regiment, was held in III Corps Reserve. This company landed in small units ranging from H plus 4 to L plus 3. The Sixth Engineer Battalion Headquarters was on Green Beach at H plus 10, and the Headquarters and Service Company of the battalion began unloading operations on L plus 1.

One platoon from Companies "A", "B" and "C" had been assigned to help the Shore Party in unloading operations. Unloading went so smoothly that these platoons were released on the morning of L plus 1. At the same time, the Engineer Companies which had been attached to the 4th and 22nd RCT reverted to Engineer Battalion control. Thereafter, all engineering missions were performed under the direction of the Engineer Battalion Headquarters.

The 58th Naval Construction Battalion landed on L plus 1, and on L plus 2 were assigned the task of widening egress roads from the beaches and aiding on the reconstruction of the YONTAN AIRFIELD. This Battalion was detached from the Sixth Engineers on April 7th, and was placed under the command of the III Amphibious Corps.

On the morning of L plus 1, Companies "A", "B" and the Shore Party platoon from "C" Company had all their high priority construction equipment ashore and were immediately put to work in improving and widening the narrow roads leading from the beaches to the YONTAN AIRFIELD and improving the field itself. This work progressed very well and there was no congestion on the beaches and one strip of the airfield was ready for the landing of OY-1 Reconnaissance Planes on the evening of that day. By L plus 3 all three runways of the airfield were repaired and ready for emergency landings of fighter planes. The 802nd Army Engineers took over the maintenance of the field the next day.

On L plus 2 and L plus 3 the 4th and 22nd Marines pushed eastward to the Pacific Ocean. Companies "A" and "B" were each placed in direct support of one RCT and followed close behind the assault Regiments widening the narrow roads, building by-passes around demolished bridges and replacing culverts. Meanwhile, unloading of low priority equipment of the letter companies and of H&S company was proceeding smoothly, and as the equipment came ashore it was put to work in improving hasty by-passes and roads which had been punched through by the leading companies.

Water distillation units were set up on the beaches on L plus 1. By L plus 2 water purification units were in operation and from then on followed close behind the assault regiments.

During the operation, constant reconnaissance was maintained with references to bridges, roads, culverts, and other facilities which would assist materially in the progress of the Sixth Marine Division in its northward movement. Enemy attempts at demolition of highway facilities in its retreat to the rugged MOTOBU peninsula and the northern tip of OKINAWA were inept, and in very few instances was the Divisions progress impeded to any great extent. This facilitation of movement was accomplished because the Engineering Companies were available to all units at all times, and the companies' ability to be near at hand for new construction and hasty repairs as they arose. Reconnaissance reports were speedily translated into operational orders, and the necessary manpower, equipment and materials were instantly shifted to execute these orders. The rugged terrain, and narrow highways traversing the edges of the steep mountains presented real problems, and all earth-moving equipment was put to maximum use in widening these trails and improving roads to facilitate the movement of troops and supplies.

By L plus 3 the island of OKINAWA had been crossed and the Sixth Marine Division wheeled and started northward, Company "A" was placed in direct support of the 4thRCT which drove up the East Coast. Company "B" supported the 22nd RCT which drove up the West side along the East China Sea. Each Company put one platoon well forward in support of the assault battalion of their RCT. This platoon cleared road blocks, removed mines, and built hasty by-passes around demolished bridges for the passage of tanks and other combat vehicles. The remainder of the company followed close behind "catching up the rough spots", repairing or replacing bridges and widening the narrow roads where possible to allow two-way traffic. The rapidity of the advance scattered the work of the companies over a wide area, but the efficient handling and grouping of engineer equipment was ably accomplished by the frequent interchange of company equipment.

A masonry bridge on the East coast near KIN, completely destroyed by demolitions during the enemy's retreat, slowed the advance of the Marines and accompanying tanks. Two platoons of engineers working at night and within constant range of enemy sniper fire hastily constructed a 35-Ton Temporary Pier Bridge, 120 feet in length, permitting the passage of the combat teams and supporting units within a short time. In many instances enemy demolitionists failed to destroy the bridges completely and the engineers utilized the remaining structural members as foundations for new bridges, saving much time in hasty bridge construction.

While companies "A" and "B" were driving northward, H&S and "C" followed close behind them still further improving the roads and repairing the bridges.

This was a period of rapid movement. The company C.P.'s and Battalion Headquarters displaced forward on the average of every other day. Since the companies were working all day, the movement often had to be done at night, so that there was little rest for the men. In spite of the hand work and long hours, there were no complaints from the officers and men and whenever extra work was required the order was cheerfully obeyed.

It was during this period that part of the engineer gear of the various companies was temporarily lost. The companies, particularly H&S did not have enough transportation to move all their gear at one time. When the company got orders to displace forward it was necessary to load part of the gear on trucks, move it ahead, unload it and then send back for the remainder. It always happened that during the displacement there was a rush call for bridging material. So instead of hauling the rest of the gear forward, the trucks were sent back to the bridge dump. It was sometimes days before trucks were available to move the rest of the supplies forward. If equipment or supplies were left unguarded they were soon "borrowed" by other units bivouaced in that area.

On L plus 9 the assault regiments reached NAGO, a large town on the South edge of MOTOBU Peninsula which juts westward from the island. The 22nd RCT continued northward across the peninsula and along the West coast to the northern tip of the island, followed by Company "B". The 29th RCT was assigned the task of driving westward on MOTOBU to eliminate enemy resistance in this area and "C" Company was placed in direct support of them. The 4th RCT, upon reaching the end of the East Coast road at ORA went into bivouac there. When it developed that almost the entire enemy force was entrenched in a very mountainous section of MOTOBU the 4th RCT was moved westward across the island to aid the 29th. "A" Company, still remained in direct support of the 4th and followed them over.

From NAGO westward on the MOTOBU Peninsula the enemy had done a more thorough job of demolition. Every bridge had been demolished and there were numerous tank traps blasted in the roads. The enemy was careful to place these obstacles at points where no by-pass could be constructed for the tanks. Those that were placed on the narrow coast roads were in spots at the foot of cliffs where no back fill was available while those in the valleys were always located where the road passed through rice paddies. When the crater was in a cliff road, it was necessary to send the trucks long distances to find material to fill the crater. When the tank trap was blown on a road through a rice paddy, the 8 Cu.Yd. Scraper was employed to bring material forward to dump into the cavity, or hasty timber treadways were used to span the gap.

This Battalion had carried with it for this operation four Temporary Piers, one Ponton Bridge with steel bulk, one Bailey Bridge and 125,000 FBM of bridging timbers. This material was assigned a low priority and was unloaded slowly between L plus 3 and L plus 10. It had come in on a number of ships and, in spite of the efforts of our S-4, was scattered over a number of beaches. Beginning on L plus 4, large amounts of bridging material were required, and it was a very difficult problem to find the type and quantity required, and round up the necessary trucks to haul it. Fortunately, the Shore Party agreed to move the remaining bridge material from the YONTAN beaches to NAGO where it was more centrally located for work on MOTOBU Peninsula. This saved a 45 mile round trip haul by truck and greatly reduced the time necessary to repair bridges. When time allowed, bridging materials were moved forward and stockpiled in areas where aerial or ground reconnaissance had shown there was need of bridge replacement.

The majority of the bridges destroyed by the enemy were concrete deck and beam spans of 20 to 30 foot spans. The engineer platoon operating with the assault battalion would construct a hasty by-pass around it to permit the passage of tanks and trucks. That night the required bridging material would be loaded at the dump. The first thing in the morning the remainder of the company would arrive at the site and start replacement or repair of the bridge. Some of the bridges had not been completely destroyed and it was possible to erect timber bents under the ends of the slab to strengthen it enough to carry all traffic.

The Bailey Bridge, a prefabricated steel truss structure was erected at night by a company of engineers on one of the main highways along the West coast of MOTOBU Peninsula between the towns of AWA and SUGA, enabling the 4th and 22nd Regiments to advance against heavily armed enemy units isolated in the rugged terrain of the MOTOBU Peninsula. A concrete arch bridge had formerly spanned this stream and had been partially demolished; it collapsed after the assault troops had passed across it. A 130 foot span of Bailey Bridge was erected to replace it without delaying the daytime movement of supplies to the combat teams which had already crossed the gorge. This was the first time this type of bridge had ever been erected by Marine Corps engineers in combat. The officers and men who performed that difficult task of assembling and launching this bridge from a narrow road carved in the side of a high cliff were particularly commended for their fine work.

Roads were maintained at all times by equipment not engaged in the forward areas, and all sutiable sources of highway fill were investigated in order to acquire good bases for the existing roads. Two Diesel Shovels were put to constant use for loading fill for the improvement of the roads, and despite the absence of good stone several varieties of shale

and coral were utilized and proved themselves equal to the task of making the roads withstand the rigors of wet weather. Two torrential rainfalls during the first twenty days of the operation made many of the roads impassable, but as soon as road equipment could get to work, the engineers put the roads in good shape for military traffic. At all times, road patrols and pull grader equipment worked over the road surfaces to maintain road crowns and drainage ditches, and minimize any damage to Marine Corps equipment.

Somebody has said that around YONTAN there was "a good network of poor roads"; on the MOTOBU Peninsula the roads were few and poor. Native traffic consisted of bicycles, two-wheel horse drawn carts and an occassional light bus or truck. The few roads quickly went to pieces under the pounding of heavy military traffic. This was particularly true when two-way traffic was permitted on narrow roads; trucks endeavoring to pass would run off the hard surface and into the ditch. This blocked the drainage and broke down the shoulders; which started the complete disentegration of the road surface. For the first eight days of the campaign, amphibian tractors were permitted to operate over the roads. These vehicles are unusually wide and their cleated tracks will quickly tear up a road. As the result of a request by the Division Engineer, an order was published forbidding them to leave the beaches.

Drainage for all MSRs presented a serious problem because the rice paddies adjacent to the roads kept surface water from running off. The drum culvert was put to good use. Oil drums with heads removed, and welded together into suitable lengths were placed under the roads and covered with fill. These proved effective in lowering the water table near the highways. Existing culverts were made from a poor type of native concrete and were subject to destruction by heavy traffic. By inserting lengths of native vitrified tile pipe or drums into these broken culverts, excavation was reduced and road tie-ups minimized.

The amount of road being maintained by this battalion between the period L plus 10 and L plus 20 was very unusual. Ordinarily an engineer battalion attached to a Division has only one or two supply roads to maintain. On this operation this battalion maintained all the MSRs North of NAGO: Three roads westward on MOTOBU Peninsula and one running straight northward to the tip of the island. This totaled about 80 miles and does not include secondary or temporary roads. Because of this large amount of road, it was necessary to assign a sector to H&S Company, as well as to each letter company.

Before leaving GUADALCANAL, classes had been conducted in mine detection and removal. This proved well worth while, since the enemy had planted numerous mines along the

highways. Mine detecting and removal squads accomplished the leading elements of the advance. So that casualties from mines were very few. However, on L-plus-23, a reconnaissance truck belonging to this battalion hit a land mine, killing two men and injuring three.

Water supply was adequate throughout the operation. During the first two or three days, distillation units at the beaches provided the only water. Fresh water sources in YONTAN area were few, but purification units were set-up on those which were considered worthwhile. The furthur north the division advanced, the more frequent the water sources became. This was fortunate, since the battalions and regiments were scattered over a wide area and it was necessary to set-up numerous points in order to take care of these dispersed elements.

The situation never demanded that the Sixth Engineer Battalion be put in the line as infantry. After the enemy was cornered on MCTOBU where numerous patrols filtered through the attacking regiments to disrupt communications in the rear areas. For about a week, attacks on water points or engineer bivouacs were nightly occurences. No enemy ever penetrated the perimeter defense nor was any water point put out of service. It is estimated that this battalion killed 60 enemy soldiers in a period of 10 days.

CHAPTER VII
Part 2.

SHIP TO SHORE MOVEMENT

1. The reef at the YONTAN beaches was an unusually difficult one for landing supplies. High priority fear from the APA'S was brought to the edge of the reef in LCM's. From this point, at low tide, the wheeled vehicles could wade ashore. There were numerous pot-holes in the reef which were unmarked on the first day. A number of the vehicles fell into these and were drowned out. One TD-18 tractor fell into an unusually deep hole and was never recovered. This condition improved when lanes were marked for the drivers.

2. Bulk cargo from the APA's and the AKA's was brought to the edge of the reef. Here it was transhipped into amphibian tractors or "Ducks". These vehicles carried their cargo directly to the dump area; in some cases they carried it forward to the unit to which it was consigned. By L-plus-3, a number of channels had been blasted through the reef to allow the LCM's to beach where their cargo could be loaded directly into trucks, but there were never enough of the channels to eliminate reef transfer entirely.

3. The equipment of H&S Company, and most of the battalions bridging was loaded aboard LST's. These LST's were run up to the reef and at low tide the tractors and vehicles could be run ashore at low tide. Due to the shortage of waterproofing kits, few of the trucks were prepared for deep water fording; these were towed ashore by tractors. The tractors had been fitted with fording accessories improvised by the heavy equipment officer, and these were able to work when the water was about 3½ feet deep. Bulk cargo and bridging was transhipped from the LST's into "Ducks" or LVT's. These vehicles ran right aboard the LST, were loaded by hand, and then carried their cargo to the engineer dumps. A large part of the bridging was unloaded by lighters. The barges were pulled alongside and the material loaded aboard by the ship's crane through the hatch of the LST. These lighters were grounded at high tide and the bridging trucked to the dumps at low tide.

PART 3. SHORE PARTY

1. One platoon of engineers, consisting of one officer and 34 men, was assigned to the Shore Party. Their major equipment consisted of 3 bulldozers, one TV-9 crane, two power saws, five water distillation units and mine detectors. Part of the personnel was landed on the assigned beaches at H-plus-1 to detect and remove mines to allow the passage of combat vehicles. Discovering no mines, these men stood by or made reconnaissance for suitable dump areas. Their equipment was landed around H-plus-6. The dozers were put to work improving the exit roads from the beaches, leveling the selected dump areas and digging in the medical collecting station. Unloading operations, because of little enemy interference, proceeded smoothly, so these platoons reverted to engineer control on the morning of L-plus-1.

PART 4. COMMUNICATIONS

1. Just before leaving the staging area, the T/A of this Battalion was increased to include five TBX Radios. Nine radio men were assigned to operate the sets. These radios proved invaluable in this operation. Time after time, the only communication between the battalion headquarters and the companies was by radio, for the advance was so rapid, that it was always difficult and sometimes impossible to maintain wire communication. Since the average stay in any CP was around two days, some one or two of the companies would be on the move every day. The only possible communication during the move was by air. The radius of the TBX on this operation, because of the rugged terrain, proved to be about 8 miles. When the companies were separated 12 to 15 miles, it was necessary to relay the messages, either through stations of our own or through other units. This caused delays and interferred with other nets. At night, incoming long-

range CW was so powerful that it sometimes blacked out our signals. A more powerful radio would have removed or reduced these difficulties. Therefore it is recommended that the Engineer Battalion be given five TCS Radios, jeep mounted in place of the present TBX Radio, and that the radio personnel be increased by four to allow 24 hour operation on all sets.

PART 5. MEDICAL REPORT

1. In the first twenty days of the campaign, the battalion suffered ten battle and sixteen non-battle casualties. One man was killed when the truck in which he was riding went over a cliff. This was the only fatality suffered by the battalion up to "L" plus 20; two men were killed by a land mine on L-plus-23 after the Division area of operations was declared secured. Of the ten battle casualties, 4 were caused by bomb fragments, 1 by mine fragments, 3 by grenade fragments and 2 by gunshot wounds. All except the grenade casualties were evacuated.

2. Of the 16 non-battle casualties, 2 men accidently shot themselves, one man was killed in an accident, as stated above, and the rest were injuries of one sort or another sustained in performance of routine work. Only 3 of these were returned to duty. Fourteen men were admitted to the Division Hospital with medical diagnoses, 6 of these men have been returned to duty.

3. Health of the Battalion has been generally excellent. Despite the sudden change in environment from a tropical climateto a cold temperate one, and exposure to the element required by combat conditions, there were no cases of Pneumonia or severe respiratory infections. The end of the second week of the operation, many of the men reported to the sick bay with mild colds and acute "cat" fever which imcompacitated them for only a day or two. None of these were hospitalized, but several were bunked in the sick bay for the first day or two of their illness and then returned to duty.

4. Sanitary conditions were well maintained considering the rapid pace of the capaign. Each company area was sprayed with DDT insecticide in oil and rice paddies were usually drained without much trouble. Personal maleria controlled measures were well carried out. The men realized their importance and took Atabrine faithfully. Despite malaria control measures, mosquitoes were troublesome, either because of grass breeding or a variety which has a long flight range. For no evidence of breeding was found in any water within a radius of a half a mile of the camp perimeter. There were no cases of Malaria.

5. Potable water, which had been both filtered and chlorinated, was provided in adequate amounts for cooking and drinking purposes, and whenever conditions permitted, for showers and washing clothes. Despite the fact that flukes and amebic cysts were found in untreated water, pre-treatment and filtration resulted in water fit for drinking. Garbage was burned and buried in an efficient manner. Heads were adequate and well policed.

6. No difficulty was experienced with the food as long as emergency K-rations were used; but soon after the introduction of 10-in-1 ration, cases of gastro-enteritis began to appear. This was attributed to the fact that there was an excess of food for a single meal and cans of stew, bacon and other meat products were opened and used over a period of one or two days without any refrigeration. As soon as company galleys were set-up. these episodes disappeared.

7. Despite the principals set forth in the Division Medical SOP against bivouacing in or near native villages, H&S Company on several occasions, set-up in or at the edge of these villages. In several instances, this was dictated by military expediency and security. But, at other times, a better choice could have been made.

8. Four Corpsmen were attached to each of the letter companies and for the first week operated more or less independently. All Corpsmen performed their duties in very efficient manner. Three of the H&S Corpsmen were evacuated as non-battle casualties and have not been returned to duty.

9. Recommendations:

(a) Whenever possible, the Medical Department should be consulted in the selection of bivouac areas and given sufficient time to arrange for cleaning and decontamination of such areas before moving in.

(b) When 10-in-1 ration is eaten in the field, platoon leaders and NCO's should supervise closely the preparation and serving of this ration and the subsequent cleaning of mess gear. Precautions should be taken that all open cans are discarded after each meal. Such supervision will result in a minimum of waste and prevent outbreaks of food poisoning.

PART 6. NARRATIVE REPORT OF SUPPLIES

1. Although a large portion of the equipment was received during the last month before embarkation, the battalion started on the operation fully equipped, except for five gasoline powered chain saws, twenty-eight 3000 gallon canvas tanks and some jungle medical kits. There were some tractors which should have been replaced before leaving, but

they were operative. Loading proceeded very well except for getting explosives and fortification material on some AKA's belonging to other organizations. The responsibility and authority was not clearly defined on this portion of the loading.

2. The unloading was very successful considering the beach and the fact that there was so much tonnage of engineering equipment and supplies. This was greatly augmented by the co-operative attitude of all of the Shore Party personnel. The principal trouble was caused by the material becoming scattered; this was unavoidable. Engineer gear was unloaded from many different ships and received on every beach in the Division sector.

3. The principal problem in the early phases of the operation was that of displacing the material forward. It was impossible to move all of the gear forward because of limited transportation which meant that much of it had to be left on the beach. As unexpected requirements came up, material and special equipment would have to be rushed forward which again meant that on some moves, certain items had to be left in the bivouac area. Time and transportation were not sufficient to do otherwise. When the beaches were placed under III Corps control, some items of supply which had been placed in dumps were lost to the individual organizations. This may have made a more equitable distribution of supply, but this battalion lost most of its supply of welding gases and special lubricants. These have been sorely needed and have never been adequately supplied.

4. During the later phases of the operation on the north end of the island, it was possible to gather up most of the equipment and supplies and get them into a central location.

5. The problems of supply have been met very satisfactorily with few exceptions. There never has been a shortage of food, water or fuel for our troops.

6. The problem of re-supply has not been very good. Very little re-supply has been received from the 7th Field Depot. If it had not been for the aid of the Army, our water supply would have failed for the lack of chemicals and the replacement of canvas tanks. This would have been a very serious situation.

7. The supply of spare parts has been very poor. Verbal promises were made by the 7th Field Depot that supplies would be available as soon as they were unpacked. Then the question of who was authorized to approve issue arose. This was later clarified by the III Phib Corps. However, the spare parts situation has always been very unsatisfactory. To the present time, this organization has benefited very little from the 7th Field Depot. It seems that more effort could be expended on the problem of obtaining spare parts.

8. A marked lack of discipline was noted among all troops, especially those in rear areas, in regard to the care and preservation of equipment and supply. This does not apply to operators of major pieces of equipment. The troops were prone to waste food, clothes, and individual equipment. It is felt that this is largely a lack of proper indoctrinization of company officers and non-commissioned officers. The general idea seems to be that since there is no accountability in combat that responsibility also ceases. There is also a general idea among some troops that material picked up along the road or near the battle line becomes personal property and is at the disposal of the individual. A great deal of property is lost or at least is not properly distributed for this reason. This is especially true of weapons.

PART 7.
SPECIAL RECONNAISSANCE MISSIONS.

1. Due to the rapid movement in this operation there was few opportunities of making engineering reconnaissance ahead of our lines. However, an officer and a platoon of engineers were kept right with the leading assault battalion. This officer was able to make an engineering estimate of bridges and obstacles encountered and notify this Headquarters of the requirements to effect repair. When the information from these officers was insufficient, either the engineer liaison officer attached to the RCT or a staff officer was dispatched to obtain more complete details.

2. Several reconnaissance flights were made in OY-1 planes. This was a very satisfactory method of obtaining preliminary engineering information and it was unfortunate that there were no more opportunities for such flights. The enemy had no anti-aircraft artillery on the northern end of OKINAWA, so that the reconnaissance plane could fly close to the ground and circle around if necessary. This gave the observer an excellent opportunity to note the condition of roads and bridges and check the road net against the maps. Attempts to gain engineering information by having an officer ride the deck of the tanks was none too successful. At this period, the tanks kept behind the leading infantry element (and the engineer pioneer platoon).

3. An Odograph, jeep mounted, was borrowed from the III Corps for a period of three days. This device was run over many of the inferior roads within the Division zone of action and chartered them on a scale of 1; 25,000. This overlay could then be laid on the standard map to find out how closely the actual road corresponded with that shown on the map. The maps on which this operation were based were accurate along the sea, but it was discovered that many of the roads shown on our maps were either non-existent or were not where shown. Also, it was discovered that there were several valuable trans-island roads which were not shown at all. It is unfor-

tunate that this Odograph was not available in the early phases of the operation to give a reasonable and fairly accurate survey of the interior roads.

4. An Altimeter, or Aneroid Barometer was carried in the jeep mounted Odograph. Elevations were taken at all low and high spots of the road. These, after being corrected, for chages in barometric pressure, were used to give a rough check on the accuracy of the contours of the existing maps. The conbination of the Odograph and the Altimeter proved very useful in the limited time it was used.

CHAPTER VIII

NARRATIVE OF ENEMY TACTICS.

1. The enemy troops which first opposed the Sixth Marine Division were probably mechanics from the YONTAN AIRFIELD. It was quite apparent that they had little knowledge of demolition; the demolition charges placed on bridges were not correctly located and were not always adequate in quantity. Beginning at CHUDA, the demolition work was evidently done by more experienced personnel with greater effect. But even with this, bridges were only partially demolished, probably because of the poor type of explosives employed. Highly skilled demolitionists would have completely demolished all bridges, blown craters in all possible by-passes around these bridges and would have caved in long stretches of cliffs onto the narrow roads. Had the German Army Engineers been responsible for the demolitions, some coast roads would have been impassable for months.

2. To aid the rapid advance of the assault troops, engineer platoons, each with one or two bulldozers, were placed in direct support of the assault battalions. When an obstacle was encountered, the foot tropps could in most cases get around it and very often the tanks were able to make a detour. The engineer platoon, following close behind the assault troops, constructed by-passes and fords around demolished bridges and culverts for the passage of trucks and ambulances. Fortunately, there was no rain for the first ten days, and many of the streams were dry and in others a drum culvert, welded from empty gasoline drums, was sufficient to pass the water. As time allowed, these by-passes were later improved by placing additional culverts and surfacing or, the broken bridge was repaired or a timber trestle erected.

3. Many of the bridges demolished were of simple flat-slab concrete of 15 to 20 foot span. The demolition charge had been placed at one end only, and the resulting explosion dropped that end of the slab into the

bed of the stream without breaking the slab itself. In this case, after the initial by-pass had been constructed, it was possible to fill in on top of the broken span and still leave sufficient waterway underneath the inclined slab. If the slab was completely demolished, trestles of framed timbers were constructed using the original abutments. Some were so completely destroyed that the by-pass was improved to become the MSR.

4. A number of concrete bridges crossing estuaries were completely demolished. In all but one case, tanks were able to ford at low tide. At these sites, by-pass roads were constructed to the narrowest point of the estuary where Temporary Piers of either 20 or 35 tons capacity were erected. There were four of these Temporary Piers erected, the longest of which was 120 feet.

5. On the south coast road of MOTOBU PENINSULA, the Japanese had partially demolished a concrete arch bridge of 120 foot span across a deep gorge. The assault troops passed across the span followed by a few 1-ton trucks and two bulldozers. Without warning, the arch collapsed, injuring 7 engineers and effectually cutting off the assault troops from support and preventing the evacuation of wounded. A Bailey was the only type of military bridge which could be used at this site. Permission was received to use 130 feet of Bailey Bridge stored at NAGO BEACH. This was erected by the Sixth Engineer Battalion under very difficult and peculiar conditions. The bridge was hauled and erected within 24 hours. It had a span of 130 feet and a capacity of 20 tons, later reinforced to carry 35 tons.

6. Tank traps were found in a number of places on the MOTOBU PENINSULA. Many of them had been dug by hand Where tank traps were found on narrow roads carved out of the cliffs, it was often a difficult matter to find material for filling the craters. In this case, trucks were sent back and were loaded by hand with rock or corduroy to fill them sufficiently to allow the passage of tanks and trucks. Later these craters were filled and tamped to a good surface. In some places, culverts had been blasted out of roads passing through rice paddies. Neither tanks nor trucks could by-pass through the paddies. Fill was hauled into the crater by an 8-yard pan, or else the gap was corduroyed. Fortunately, there was ample stocks of corduroy material neatly piled along the highways at frequent intervals.

7. The enemy made small use of land mines; probably because of the inexperienced troops making up the opposing force. When mines were encountered they were generally crudely placed and hastely camouflaged. The exception to this was the "Tape Measure Mine" which was well concealed. Details from the engineer company supporting the assault troops removed mines without danger or difficulty since they

were not covered by enemy fire. In some cases, when these mines were discovered by the infantry, they were detonated intentionally, instead of calling for engineer mine removal specialists. This created a crater which had to be filled in before vehicles could advance.

8. Abatis were reported in a number of cases but since the trees in OKINAWA are relatively small, this obstacle could easily be pushed aside by tank dozers or bulldozers. Abatis were apparently not wired into place and had no mines or booby traps attached to interfere with their removal.

9. The following types of Japanese Land Mines were encountered:

(a) The "Tape Measure Mine", or Model 93, was frequently found. This, as previously mentioned, was cleverly concealed. The Japanese have found that this mine contains so little explosive that a single one will cause little damage. In this campaign, these mines were found buried 3 or 4 in one hole; only the top one had a firing device.

(b) The Single Horned Mine, J-18. The enemy has not learned how to use this mine, originally designed for beach defense, as a land mine. It was crudely placed and was easily detected and removed.

(c) Improvised Non-Magnetic Mines. These were wooden boxes, approximately 12" square, filled with 15 to 20 pounds of Picric Acid, The firing device was of a pull-type, the trip wires leading out from the spot where the mine was buried to bushes along the sides of the road so that the mine would be detonated by vehicles or passing troops. There were reports that this same mine was used to booby-trap the entrances to caves.

(d) Aerial Bombs, weighing 53 Kg., were discovered in many places buried as land mines. These had a pressure type firing device but were poorly concealed. Intentional detonation of these mines by friendly troops caused serious craters in the roads.

3. It was noteworthy that all the mines found had the safety pins removed and were properly fuzed for firing. Previous reports from other operations indicated that a large percentage of the mines had not been properly armed, so apparently, the enemy has better instructed his men in mine laying. No mine fields were encountered on

OKINAWA in the proper sense of the word. Roads and defiles were not mined in depth and the mine fields were not protected by wire, A-P mines or infantry fire. The mines that were placed were only of "Nuisance" value. In no case were mines planted on edges of craters to interfere with the back-filling operation.

4. There were reports that enemy patrols rolled land mines down the hill sides and onto the highway just south of CHUDA. This area was under III Corps control and no definite report was received by this Battalion. In at least one case, an enemy patrol re-mined a road previously cleared. The mine, probably a 53 K.G. Aerial Bomb, completely destroyed a reconnaissance vehicle belonging to Headquarters of this Battalion, killing 2 men and injuring 3.

5. No land mines were fitted with anti-lifting devices. The few booby-traps encountered were crudely constructed and poorly placed.

6. A new type Incendiary Hand Grenade was found in a enemy dump near CHINA. This grenade consisted of a cylinder, about 3" in diameter by 10" long. It was filled with petroleum jelly (Napalm?) in which was mixed rubber pellets. To one end is attached short wooden handle which contains the firing device; a "tap" igniter with a 5-second delay. Various types of Naval Fuzes were found near the midget submarine pens at UNTEN, but these are not of engineering interest.

CHAPTER IX

ESTIMATED RESULTS OF ACTION

1. In a period of 21 days, from L-day to L-plus-20, the Sixth Marine Division secured all of OKINAWA north of an east-west line drawn thru the south edge of YONTAN. This is approximately 300 square miles. Thus this one division secured 48 percent of the islands 640 square miles.

2. The Engineer Battalion was not in combat in the true sense of the word, but attacks on engineer bivouacs and water points were frequent. It is estimated that this battalion killed a total of 60 Japanese soldiers in the three weeks of this campaign.

3. The battalion did no damage to the enemy. On the other hand it rapidly removed all obstacles placed to impede the advance and repaired, replaced or by-passed all damaged bridges. Enemy land mines or booby traps, set to damage our own vehicles or wound our people, were detected and neutralized.

4. The losses of this battalion in the period to L-plus-20 were quite small. There were ten battle and 16 non-battle casualities. Of the battle casualities, four were caused by bomb fragments, one by mine fragments, three by grenade fragments, one by gunshot wounds. Of the 16 non-battle casualities, one was killed in a truck accident, two men accidently shot themselves and the rest were injuries sustained in the performance of routine duty. Not included are two men killed and three injured when their reconnaissance truck hit a land mine on L-plus-23.

CHAPTER X

COMMENTS AND RECOMMENDATIONS OF THE COMMANDING OFFICER

S-1

1. Due to very light opposition and by having the letter companies in direct support of assault regiments, personnel records and allocation was negligible as far as S-1 was concerned. Company Commanders handled any personnel requirements directly. The normal functions of this section were very light as is the case generally while in action.

2. The number of reports of various types required of a separate battalion when so many higher echelons are involved are voluminous which required more than the allotted number of typewriters to cope with them. Many reports of other sections had to be written in long hand or printed. Considering this, it is believed that a daily personnel distribution or assignment report would be of great value for the organizations use. It could readily be determined, by reference to such a report, the number and specialty of available personnel.

S-2

1. The very rapid advance of this Division made engineer reconnaissance almost impossible. The attack never stopped long enough to find or utilize forward OP's. The road and bridge system was our main concern and nearly all of this was on the coastline preventing reconnaissance except by going forward of the front lines. S-2 on several occasions went along with the tanks to determine future engineering requirements, but their coverage was limited and the tanks were not utilized a great deal. Two reconnaissance flights were made and much valuable general information was gained. For final evaluation of details, however, actual ground reconnaissance is necessary. The best solution evolved was to have equipment and personnel in direct support of assault elements ready at a moments notice to perform engineer missions, thus assuring the advancement of our troops.

S-3

1. Aside from many reports, which higher echelon changed the requirements on many times, S-3 did not have the usual full duties. The Division Attack Order normally assigned Engineer Platoons or Companies in direct support of assault regiments were normally fulfilled. Battalion operation orders were not necessary, therefore, field messages were forwarded for special orders or missions. The Mapping Section of both S-2 and S-3 were combined for road survey work to expedite a big job. Other needs for the personnel were limited. Assistant operations officers lacking construction or field experience could not be depended on to fulfill their normal mission, but were used as officer messengers or given the responsibility of getting material and equipment on the job especially at night.

S-4

This section due to the nature of the operation, carried a heavy load and responsibility. The "war of movement" in which we were engaged necessitated leaving much heavy equipment and bulk supplies in rear areas. Transportation deficiencies prevented proper movement and storage of bridge materials and timber. As the front lines extended further, more equipment had to be left along the route of advance. A large portion of the battalion bridging was still to be unloaded when we had arrived as far north as NAGO. All these obstacles made it nearly impossible to keep properly informed on equipment and supplies. Certain equipment was commandeered for use in rear areas and running it down was difficult. Accurate records and location of bridging material were impossible and several jobs were delayed because of shortages or time lost in searching out supply dumps. Inadequate transportation for hauling this equipment, particularly the heavy Bailey Bridge, was always a hinderence to expeditious accomplishment of our mission. S-4 discusses more fully these deficiencies and recommends changes to prevent recurrence on similiar operations.

COMMENTS AND RECOMMENDATIONS OF S-4

1. The water distillation units should be given higher priority ratings on the debarkation schedule. It is true that they were given a high priority on the ships, but too often the ship had low priority on the unloading schedule. This was not serious on this operation, as plenty of fresh water was unloaded and more was available from the ships. However, if more opposition had been encountered on the landing, the water supply could have become acute.

2. The engineer equipment and supplies were scattered between too many ships. Each component of engineer troops attached to various units had equipment with them. The equipment and supplies of H&S Company was loaded on LST #916 and

and LST #1030. The remainder was loaded wherever cargo space could be found. The result was that these items became mixed with other gear and was put in the miscellaneous dump to be segregated at a later date. This made it virtually impossible to assemble such sets as water supply equipments which consist of over forty assorted boxes and crates. Some material was lost as a result of this. Some boxes are certain to break open and only the most highly trained personnel could be expected to identify them.

3. The Engineer Battalion was held responsible for the procurement, distribution and records of all barbed wire, drive posts, concertinas, and demolitions. This involved the unloading, storage and distribution of 470 tons of gear. This was too much extra work for the organization and was an especial hardship since a large portion of the organizational gear was received at the same time. This fortification material was distributed directly to the beaches of the various RCT's. The loading officers on these beaches were reluctant to assume responsibility for this material and left some of it on the beaches including some of their own organizational allowances. It would have been much better to have issued each organization their organic allowances and them have them held strictly responsible for it.

4. A great deal of bridging material was required on this operation and will probably be required on future operations. It is safe to state that more lineal feet of bridging have been installed in the combat phases of this operation than has been installed in all past Marine Corps operations during this war. This required roughly 550 tons of bridging material, of which 160 tons was heavy bridging timber in 18 to 36 foot lengths. This should have been in 12 to 16 foot lengths as ordered and Base Depots should be required to cut the timber as specified. This would eliminate cutting losses in the field and greatly facilitate loading and unloading. It is strongly recommended that trailers be provided for a minimum of 50% of all bridging material required. This would speed up unloading and expedite the movement of the material to the installation site. With the favorable conditions of this operation, it required the full co-operation of the Shore Party and Motor Transport Battalion with a priority over all other material to keep from holding up the advance of the Fourth Marines in one instance, where a bridge was necessary. In all cases, it was difficult to get the material to the sites on schedule. The trailers would prevent such delays which might prove very serious.

4. Administrative order 1-45 required that all vehicles be waterproofed. The supply of kits to do this work was inadequate. This battalion required a minimum of 24 kits and received 5. The material furnished was not entirely satisfactory and more research and planning should be done on the problem. The Hampton Roads Port of Embarkation, U.S. Army, Newport News, Virginia, has evolved a very satisfactory method

of doing this work and have specifications for the material required. Since the vehicles have to be stored in the ships for a considerable time without running it would be adviseable to fill the crank cases of all gasoline motors with lubricative oil AXS-934 prior to embarkation. This will prevent corrosion of the cylinders, rings and pistons. On long movements, this oil should also be sprayed into the spark plug parts.

5. A reasonable amount of water proof packaging material should be provided for each unit. This would make it possible to protect all critical items. Strapping steel and machines should be provided in a variety of sizes for securing boxes and crates. The standard 5/8 inch steel used is not strong enough for any but the lightest of boxes.

6. Pallets could be employed more extensively. This would require more cranes on the beach, but would expedite the movement of material and prevent sets of equipment from getting scattered. Considerable training would have to be done on this as palletizing material is a highly technical process. If improperly done, the loads break and the whole process of unloading is disorganized.

7. The tongues and hitches on all trailer-mounted engineer equipment should be strengthened and improved in design. Over half of tongues or hitches break at least once. This often happened as the equipment was coming off of the boat ramp and left the equipment stranded in the water and prevented further unloading until improvised hitches could be made. This often caused long delays. Serious damage was caused to some equipment by tides rising and preventing movement until the next low tide.

8. It is invaluable to have every piece of gear marked with the units insignia. In this battalion this means that thousands of marks must be put on with two colors of oil paint. This is a slow laborious process which consumes many man-days of time which could be profitably spent on training. This job could be greatly shortened by the use of decalcamania symbols which can be easily applied and always give a clear symbol which is easily identified. Much material such as bridge members and water pipe were not marked. This was found to be very confusing on the beach.

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Pt. 8 of 12 pts

ANNEX G

TO

SIXTH MARINE DIVISION

SPECIAL ACTION REPORT

PHASES I & II OKINAWA OPERATION

DIVISION SHORE PARTY

SPECIAL ACTION REPORT

OKINAWA JIMA OPERATION

Sixth Pioneer Battalion
Sixth Marine Division

ANNEX GEORGE TO THE DIVISION
SPECIAL ACTION REPORT

S. R. SHAW,
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Commanding.

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FOREWORD

As a matter of convenience to the reader, the various recommendations contained in this report are summarized below:

1. Future Sixth Marine Division Shore Party organization be based on Echeloned Shore Parties from BLT through RCT to Division.

2. Promotions be authorized for Engineer Personnel in the Pioneer Battalion prior to any operation and an attempt be made to keep full T/O strength in NCO's.

3. Officer Ranks in a Pioneer Battalion be raised to provide Captain Platoon Leaders and Major Company Commanders.

4. Underwater Demolitions Team and Underwater Reconnaissance personnel be assigned by T/O to the S-2 Section of the battalion.

5. Engineer Equipment operators and vehicle operators be alloted in order to provide two (2) for each piece of equipment or vehicle.

6. Greater emphasis be placed on landing high priority Shore Party heavy equipment by providing initial specific craft for the task.

7. Complete and thorough control, liaison and statistical collecting agencies be set up and trained to function in echelons higher than Division and that clear definitions of the duties of each be made.

8. Increase in number of heavy boom cranes to:
   3 crawler type attached to each RCT Shore Party.
   1 truck mounted allowed organically to each Pioneer Company.

9. TD-14 Swing cranes be provided to the number of four (4) to each Pioneer Company.

10. Type of TD-14 Swing crane be changed from cable controlled to hydraulic control of the Austin-Western type. Failing in this to improve mechanically the existing cable type to insure positive stop on the boom elevating mechanism.

11. Increase allowances of welding equipment for all companies (including H&S) to 1-300 amp Arc Welder and 2 Oxy-acetylene sets.

12. Further allowances be made for cargo handling equipment ie, slings, barrel chimes, box hooks etc.

13. Six (6) floodlight trailers and equipment be added to the T/BA of the Pioneer Battalion, two (2) per company.

14. Fire fighting equipment be allowed to include, four (4) Chrysler pumper trailers and twenty (20) Foamite extinquishers per battalion. (Expendable supplies for Foamite extinquishers be furnished to provide for at least six (6) refills).

15. Additional dump trucks be provided in order to bring number in letter companies to four (4) and in H&S Company to three (3).

16. Each letter company be provided with four (4) "Jeeps" instead of two (2).

17. JASCO be provided additional equipment to:

a. Provide each RCT Shore Party with a 610 radio contact to Regiments.

b. Provide each BLT Shore Party with a beach loudspeaker system.

c. Further allotments of switchboard and telephone equipment to handle any emergency traffic.

18. Additional beach flag material be provided. Nine (9) sets of Flourescent Satin per Pioneer Battalion is deemed adequate.

19. Nine (9) sketching outfits be allowed a Pioneer Battalion in order to provide one (1) for each BLT Shore Party.

20. Two (2) BAR's per Pioneer Squad be allowed. Fifty-four (54) total for Pioneer Battalion.

21. Medical gear be plainly marked as such and be boated with the personnel who are to use it.

22. A limited amount of sanitation supplies be brought in early for beach sanitation.

23. Emphasis be placed on instructing all troops in Sanitation and Hygiene.

24. Transportation be provided Division Evacuation Station for emergencies - outside transportation is not always available.

25. The use of casualty distribution centers afloat be highly recommended for future operations.

CHAPTER I

Puprose of the Report and Summary of the Mission.

The purpose of this report is to outline the training, planning, organizing and operating of the Sixth Marine Division Shore Party before and during the OKINAWA JIMA Operation. This report has the further purpose of tabulating and recording the activities of the Shore Party and of necessity will thus contain portions of a statistical nature.

The report is intended also to act as a guide to the Division Shore Party in preparing for future operations. It is with this view in mind that various recommendations and suggestions are made. It is with some pride that we point to the cargo unloading statistics and feel that they give a standard of performance by which our future operations may be evaluated.

The various missions which the Shore Party was charged with fulfilling may, for the purposes of this report, be considered in two sections, one dealing with the Sixth Pioneer Battalion and the other dealing with the Sixth Marine Division Shore Party.

The Sixth Pioneer Battalion was charged with missions as follow:

1. To organize and train all attached personnel in Shore Party Operations.
2. To organize, operate and supervise operations of the Sixth Marine Division Shore Party in the assault phase.
3. To control distribution of supplies to forward units in the assault phase, until regular supply agencies could come ashore and be organized.
4. To be prepared to assume Pioneer Engineer duties or Infantry duties on call or upon completion of the Shore Party tasks.

The Sixth Marine Division Shore Party was charged generally with the missions as follow:

1. Under supervision of the Pioneer Battalion to organize and defend the beaches, Pioneer personnel to occupy key and control positions.
2. Construct egress roads and lateral roads in the Shore Party areas.
3. Construct, operate and control beach dumps.
4. Unload assault shipping.
5. Control evacuation of casualties over beaches.

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6. Control evacuation of POW over beaches.
7. Control civilians in Shore Party Area.

In addition a further mission was assigned the Shore Party by III PhibCorps, that of unloading resupply and maintenance shipping.

CHAPTER II

Task Organization.

The task organization for the accomplishment of the assigned assault missions was as outlined in Appendix I, "Shore Party Plan".

Units represented were:

6th Pioneer Battalion
6th Engineer Battalion
6th JASCO
6th Motor Transport Battalion
6th Military Police Company
6th Service Battalion
11th Special NCB
58th NCB
26th Replacement Draft
33rd Replacement Draft
Infantry Battalion Supply Sections
* 6th Amphibian Truck Company
* 814th Amphibian Truck Company
* 4th Amphibian Tractor Battalion
* 9th Amphibian Tractor Battalion

* Attached to Shore Party after completion of assault missions.

CHAPTER III

Preliminary Planning.

S-1 Section:

The initial planning of the S-1 Section was carried out in accordance with Sixth Marine Division General Orders # 12, # 14, and # 25. The administrative sections of the companies and the battalion were thoroughly briefed in all phases to keep the required records, prepare the daily and weekly periodic reports.

A special unit journal section was activated within the administrative section. This section was planned and built around the principle of a message center. The proper forms for the records and journal were prepared.

The morale of the troops was excellent. Athletic gear, games, reading material and radios were provided, and were made available to the troops. Plans were made to embark some of this equipment for distribution aboard ship.

S-2 Section:

The S-2 Section was planned and organized to undertake any of various missions, combat intelligence, surveying and mapping, underwater reconnaissance and liaison. Specific planning for the operation resulted in the formation of liaison teams to accompany each RCT Shore Party. These teams were to be boated with the command group of the RCT Shore Party and upon landing of the Division Shore Party to report all observed action.

Complete aerial photo studies of the proposed landing beaches were made and the information desseminated to the various Platoon Leaders. (See Appendix I, "Shore Party Plan" for beach analysis). These analyses were made from a purely Shore Party standpoint.

S-3 Section:

Early planning for the operation and organization of a Division Shore Party was commenced at the time of the formation of the Pioneer Battalion. It was initially decided that an echeloned Shore Party, built up from BLT Shore Parties through RCT Shore Parties to Division Shore Party, would facilitate control and further provide for any tactical eventuality. General Order # 28, Sixth Marine Division Shore Party SOP, was followed in close

conformity, however, adjustments as to number of personnel and equipment were made and channels of control and responsibility were clarified. Adjustments were also made in order to fit the Shore Party to conform as closely as possible to Pacific Fleet Transport Doctrine.

Planning continued during all phases as to time of landing of personnel and equipment, types of equipment to land initially and initial employment of personnel and equipment. Results of this planning were embodied in the Shore Party Plan (Appendix I).

Close liaison was maintained with the Division TQM office and as a result the various loading and unloading problems were anticipated and solved in order to insure a smooth continuous flow of supplies to forward units where and when they were needed.

S-4 and QM Section:

The equipment to be loaded out by the Pioneer Battalion was specified in Sixth Marine Division Administrative Warning Orders # 1-45 and 2-45. In great part these orders were complied with in bringing the battalion to full strength. However certain recommendations made by the Pioneer Battalion were considered by the G-4 office who authorized several items of Engineer and Ordinance equipment over and above T/BA allowance.

Attempts were immediately made to obtain the authorized increases, but certain difficulties were encountered. For example the additional Flourescent Satin which had been approved for beach markers was unobtainable. The sets had to be improvised from target sleeves and parachutes. Similar difficulties were met in obtaining an outfit, sketching for each BLT Shore Party, approved by G-4, but T/BA authorization of only four (4) outfits per Pioneer Battalion were available.

In the case of Ordinance gear the authorized increase of twenty-seven (27) BAR's, over T/BA allowance of twenty-seven (27), was not procured until two days before embarkation which did not permit proper training in the handling, or employment of the weapons. BAR ammo belts were never made available and such substitutes as gas mask carriers were used.

The lighting system of beach exits and vehicle routes proposed by Pioneer Battalion and approved by G-4 and G-3 was not employed in the operation for lack of sufficient lights and because tactically it developed to be unnecessary. Had the circumstances warranted their use, the un-

loading at target might have been hampered. (See recommendations).

Approximately 20% of the battalion gear necessary for full T/O strength was not received up to one week before loading out. The items had been on requisition from two to four months previous. Necessarily therefor training with such material was impossible.

Motor Transport and Equipment Section:

Prior to being alerted for the OKINAWA JIMA Operation, all motor transport and heavy equipment was kept in a good state of repair by means of a regular preventive maintenance program and constant inspection of equipment for detection of improper handling or use. Upon being alerted, the following steps were taken to insure the maximum operational efficiency of the equipment landed on the beaches:

1. Re-packed all vehicle wheels.
2. Re-lined and adjusted brakes.
3. Changed all batteries.
4. Motor tune-up on each vehicle and tractor.
5. Re-wound and covered all winches.
6. Mounted expeditionary can racks on all equipment.
7. Checked and equipped each vehicle with T/BA tools and equipment.
8. Assigned a mechanic with small mechanic tool kit as assistant driver on each truck, and insofar as was possible on each tractor.
9. Distributed the few repair kits and spare parts kits available to the various pieces of equipment in the form of small kits for minor emergency repairs.
10. Water-proofed vehicles and tractors insofar as possible with the limited amount of material available.
11. Sand-bagged floors of all vehicles to protect drivers against land mine explosions.
12. Mounted armored cabs on heavy bulldozers.
13. Put tire chains on all vehicles.
14. Fabricated and mounted tow cables and slings on all pieces of equipment.
15. Combat loaded all vehicles with high priority gear.

CHAPTER IV

Training Phase and Rehersals.

It was decided early in the training phase that although two of the battalion companies had had actual combat experience, training should start with a basic assumption that all personnel were new to their jobs. This was deemed necessary because previously the three companies had operated as autonomous units and it was felt that uniformity and recognition of battalion control and responsibility was of prime importance in the successful completion of the missions assigned. Further upon the formation of the battalion considerable reorganization became necessary in order to complete the Battalion Staff and fill out the companies.

Training in the below listed subjects was conducted both in the field and in the classroom. In addition to general troop training in these subjects, special NCO and Officer discussions were conducted.

Disciplinary drills and training:

The personnel of the battalion had in general just returned from combat and as a natural result military discipline had deteriorated. Those personnel who had not participated in combat actions were green replacements or had recently arrived overseas. The initial period, after arrival in the training area was spent in camp construction during which time, no time, or very little at best, was spent in disciplinary training. Although frequent company inspections had been held, the company commanders had no standard of conformity and as a result differences were noticed.

Frequent inspections, drills and lectures were outlined, rigid standards were set up and strict compliance was insisted upon.

Basic Infantry and Weapons:

A definite lack of practise in the new weapons of the Infantry and in their tactical employment exists since the Pioneer Battalion is not equipped with such weapons. The emphasis in the Pioneer and Engineer training is upon engineer subjects, and as usual with such troops, the performance of engineer work for non-engineer units detracted from the time available for infantry training.

The training undertaken by the battalion in these subjects started from the basic principles of weapons and individual combat through successive stages of Scouting and Patroling, Weapons employment, Squad, Platoon and Company tactics in defense and attack. Frequent Range Firing problems were introduced employing individual weapons and machine guns. Some training in other infantry weapons (Flame throwers, Mortars and Bazookas) was introduced although such weapons are not organic to this battalion.

As a result of extensive training, within the time limits, in the above subjects, the Infantry Combat efficiency of the battalion was increased but many deficiencies still existed. These deficiencies will probably never be overcome however, because of this inherent emphasis in any Pioneer unit upon Engineer construction tasks and training, and because of lack of weapons organic to Infantry units.

Engineer Equipment:

The companies integrated into the battalion had been formed on old Tables of Organization and Tables of Basic Allowances and when additional equipment was received, on the basis of new Tables of Basic Allowances, a major deficiency in equipment operators resulted.

An extensive program designed to train operators was initiated. Training progressed through successive stages from simple operational tasks to major engineering projects. During this training period constant emphasis was placed on job repair and maintenance. Upon completion of this program, although the operators were not of the caliber expected of civilian operators, it was felt that the operators could do a workmanlike job on any military engineering project. Basic principles of equipment operation had been mastered as had the fundamentals of maintenance and repair, sufficient time had not been available however, to completely train the operators and as a result operational damage was excessive.

Other Engineer subjects:

Training in other types of engineer construction was undertaken, this program was designed on an on-job basis, Subjects undertaken included, carpentry, welding (Oxy-acetylene and Electric arc), rigging, hasty bridging, field construction methods and materials, explosives and demolition, water purification and camouflage.

While some specialists in these subjects were present in the battalion, it was felt that all hands should have at least a basic knowledge of these subjects and that a greater number of expertly trained personnel, in specific subjects, was needed.

Camp construction was used as material for instruction in these subjects. Those personnel having a working knowledge of the subjects were used as crew leaders. Some purely instructional construction was undertaken especially in the two subjects, camouflage and rigging. Upon the completion of this program extending over the entire training period, the Pioneer Battalion was ready to undertake all but major construction projects.

Shore Party organization and Function:

This subject was handled in both the classroom and in the field. Considerable time was spent in the classroom analyzing the Shore Party SOP and the Transport Doctrine. Organization was outlined and each specific task assigned to Pioneer Battalion personnel was explained and discussed. This same procedure was followed in the instruction of attached personnel.

Classroom instruction placed particular emphasis on organization of the Pioneer Platoon and the allocation of jobs within the Platoon. Each individual was assigned a specific primary task and given thorough instruction, in addition instruction in secondary tasks was given as well as instruction in the overall integration of a Shore Party.

Field instruction in Shore Party operations will be discussed in a later paragraph.

Shore Party unloading aids and expedients:

This subject was analyzed and discussed by the officers and NCO's of the battalion prior to actual field test. Feasability and material availability were of prime importance. The mechanics of construction and operation were a matter of field experience and ingenuity.

The general concensus was that, in the final analysis, manpower assisted with standard rigging design would be of more practical value than any other method. Machinery, especially heavy boom cranes and swing cranes, is, of course, the ideal way of handling heavy cargo loads but under conditions then existing labor seemed to offer the only solution. In consequence, extensive training was given in

standard rigging practice.

Shore Party organization, function and tasks in the field:

This program was initiated during the middle of the training period.

Each Pioneer Platoon and Company was assigned the training task of constructing and developing a model beach. These beaches were developed under ideal conditions and all items deemed necessary on a beach were constructed.

Upon completion of these beaches, Shore Party drills were conducted with each and every task and function of the Shore Party under control by an experienced officer or NCO. These drills were initially conducted by individual units, Pioneers, JASCO and other attached units. All units were then combined and drilled as a complete Shore Party.

After each Shore Party had reached a high state of proficiency in drill on the Model Beaches, simulated landings, in cooperation with the Sixth DUKW Company, were conducted on virgin stretches of beach. Complete details were constructed and all details ironed out in preparation for Regimental and Division manouvers. Concurrently with these drills and exercises, frequent CPX problems were conducted; details of communications and control were worked out.

Staff and Command function:

Upon the formation of the Sixth Pioneer Battalion, few, if any, officers then on the rolls of the battalion had had any training or experience in staff and command functions. A Battalion Staff was organized by assigning personnel upon recommendation of the Company Commanders. Previous Shore Party experience, civilian or previous military experience and temperment were considered in making these selections.

This staff, approaching the subject without preconcieved ideas on staff functions and methods, was trained on an on-job basis. Frequent conferences with Division Staff Officers were invaluable in training these junior officers.

It was realized that the Pioneer Battalion, being a unique organization, functioned in many ways differently from an Infantry Battalion. Staff functions in some cases coincided with Infantry doctrine but in others divergencies were noted. This was particularily clear in the S-2, S-3 and S-4 Sections.

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Considerable research failed to reveal any clear cut definitions as applicable to a Pioneer Battalion. This same condition also existed in the writing and organizing of Shore Party Orders. It was decided in order to clearly outline the missions of the Shore Party and its component parts, that the Shore Party Plan should be written in the form of a five paragraph field order.

After discussions, definitions and delineations of staff functions were outlined and a workable organization resulted. Frequent staff and command meetings were held within the battalion and minor divergencies from procedure were corrected and all personnel reached a common basis of understanding.

An invaluable aid during the above program was the Sixth Marine Division Staff and Command School. The Pioneer Battalion officers profited from these lectures and applied the instructional material to the everyday problems encountered.

Training of Medical Personnel:

The organic Medical personnel of the battalion, while of sufficient strength for garrison purposes, was obviously inadequate for Shore Party operational use. Reinforcing units from Divisional Units were attached for these operational tasks and subsequently trained according to Shore Party doctrine.

It was assumed that all these Medical personnel were well and thoroughly trained in their various professional duties. This assumption was the basis of all subsequent training. The bulk of the training thus consisted of mechanical drill and classroom work in organization and proceedure as applicable to a Shore Party Medical Section.

Medical Officers and Corpsmen were organized into BLT Shore Party, RCT Shore Party and Division Shore Party medical groups and trained as units, each member being assigned a specific task and drilled therein.

Lecture courses were conducted in order to clarify the medical position in a Shore Party group. Frequent examinations were given on these subjects. Additional instructions were given in professional subjects including care, handling and transportation of battle casualties, Hygiene and Field Sanitation, and uses and dosages of various drugs and medicines.

A full size beach evacuation station was constructed and all hands participated in at least one operational drill. In addition to these purely mechanical drills the personnel participated in at least one Shore Party practice landing prior to the division maneuvers.

Division Maneuvers:

Prior to these maneuvers details as to methods of record keeping, operational reports and orders were worked out with the various concerned Division Staff Sections.

Some artificial conditions were introduced by force of circumstance, shortage of boats, terrain difficulties, etc, but on the whole the Shore Party Phase of these maneuvers was conducted satisfactorily. During these maneuvers especial pains were taken to insure complete and thorough functioning of communication and command channels. Some deficiencies were noted and subsequent purely Shore Party maneuvers were held in order to correct them.

Token loads were handled by all Shore Parties, dumps, roads and CP's were constructed and battle conditions, insofar as practicable were imposed. Emphasis at this time was placed on correct and accurate procedure rather than speed. Proper reconnaissance was insisted upon, as was the proper use of the terrain. In short, complete Shore Party organization function was insisted upon and results as to control and responsibility were ironed out and at the conclusion of the maneuver it was felt that great strides had been made. Training and planning had Paid Off.

CHAPTER V

Loading and embarkation.

The mechanics of loading out the division for the operation fell upon the shoulders of the Pioneer Battalion as a Shore Party function, while the planning and allocation of loads was a TQM function.

Due to restrictions on the loading out beaches and safety regulations, a number of widely separated localities had to be prepared for the loading out. These areas and work required to suitably develop them are enumerated below:

KUKUM BEACH:

This area was used primarily to load fuel and rations. The beach had been previously used by U. S. Army units and required very little improvement in order to serve as a satisfactory loading point.

The jobs undertaken here by the Pioneer Battalion were; preparation of dump areas, designation of separate dump areas and boat loading points, and supervision and coordination of loading supplies. Designation and assignment of working parties was also handled by the Pioneer Battalion. This applies to all beaches worked.

KUKUM BONA BEACHES (LST landings 1-6):

These beaches were used to load the organizational and combat gear of the 29th Marines, Reinforced. These beaches while ideal for beaching small craft were restricted in storage area due to proximity of the camp to the waters edge.

Camps were moved and storage areas cleared and leveled. This work was assigned to "C" Company of the Pioneer Battalion as was the supervision and mechanical handling of the gear.

BEACHES SOUTH OF BONEGI (LST landings 20-22):

These beaches had previously been used by the 22d Marines, Reinforced, and little development was required. Supervision of loading was all that was required and was provided by "B" Company of the battalion.

BEACHES NORTH OF BONEGI RIVER (War Dog Detachment):

This beach required extensive development work and was assigned to the 58th NCB. Beach was cleared, dump areas cleared and access roads constructed. Loading supervision was provided by "A" Company of the battalion.

4th MARINE BEACH (LST landing 23):

Extensive development of this small beach was undertaken by the battalion as a battalion project. Loading platforms, short piers, roads and culverts were constructed. Supervision of the small amount of gear to be loaded was assigned to "A" Company.

III CORPS MEDICAL BEACH:

This beach required extensive clearing and development, roads and culverts were constructed. In general, it may be stated that this development was the most ambitious development undertaken by this organization. This beach was used to outload Division units.

DOMA COVE:

This beach provided ideal loading conditions. Development during maneuvers greatly simplified the ultimate task. A small amount of tree removal was done as was some leveling and grading.

Loading and Embarkation of the Battalion:

The battalion was loaded and embarked by platoons, each platoon being the nucleus of a BLT Shore Party. This resulted in the battalion being split into ten (10) parts, nine (9) platoons and a Headquarters Section.

Combat loading plans were coordinated between the Pioneer Battalion, the Infantry Battalions, and the TQM office in order to insure high priority unloading of Shore Party equipment. Loading and embarkation was, with some minor adjustments, carried out to the satisfaction of all parties concerned.

Within one RCT it was found that loading plans and procedure was entirely unsatisfactory. Shore Party teams were split up between various ships and commanders separated from their units. Some BLT's failed to provide for the loading of Shore Party equipment and supplies which resulted in much last minute juggling.

CHAPTER VI

Movement to, and Arrival at OKINAWA.

As platoons were embarked aboard separate ships, training and briefing of troops was handled by each individual platoon leader. Complete maps and information bulletins were issued to these platoon leaders prior to embarkation. In addition, the BLT Commanders held conferences in order to disseminate late information as it became available.

Opportunity was taken during the step-over at Ulithi to hold a conference of all Shore Party Commanders. Last minute details were ironed out and latest available information was diseminated. The Division Shore Party Commander, in addition to holding this conference, visited as many of the ships on which Shore Party personnel were embarked as time permitted. Personnel, equipment and supplies were checked for state of readiness.

CHAPTER VII

Assault Phase.

The initial assault phase was carried out in accordance with the Shore Party Plan (Appendix I). The boat assignments previously arranged were carried out.

The reconnaissance parties of the various BLT Shore Parties landed with the 4th wave at about H plus 15 minutes, and immediately proceeded upon the initial task of reconnoitering for dumps, roads, etc. Little or no enemy resistance was encountered which allowed freedom of movement. As the results of the reconnaissance became apparent, the various other elements of the Shore Parties were called into the beach and organization commenced. The reconnaissance parties of the RCT Shore Parties landed with the reserve companies and immediately reconnoitered the Regimental beaches. Communications were established with the command sections already boated and at the line of departure. Two channels were available, a radio net established by JASCO, and radio established by the Beachmasters. Visual communication channels were also available. The system of calling in further elements of the Shore Parties rather than by timed waves was very successful and should be carried out in future operations. The rapidly changing picture however forced the RCT Shore Party Commanders to take control before BLT Shore Party command could be fully developed.

Elements of the Division Shore Party landed at H plus 4 hours and H plus 6 hours and established a Division Shore Party CP at 7993-P5. At 1800 the CO, Sixth Pioneer Battalion as Division Shore Party Commander assumed control of all beaches in the Sixth Marine Division zone of action. Efforts of the companies were coordinated. Company "A" operated RED Beaches 1 and 3 and Company "B" operated GREEN Beaches 1 and 2. The reserve Battalion Shore Parties were commited and ordered to reinforce Shore Parties already ashore. Company "C", RCT Shore Party of RCT-29, landed about 1800 and was assigned the initial mission of operating and controlling all dumps on all GREEN Beaches. Considerable difficulty was experienced in organizing GREEN Beach 2 because the Corps Reserve (29th Marines) was landed and held on that beach for a considerable period of time. Such a mass of personnel on the beach and in its general vicinity made it difficult to locate Shore Party personnel on the beach. Disposition of units is shown on Figure 1 (overlay of Beach Situation on evening of L-Day). Some difficulty was experienced in bringing ashore heavy equipment, suggestions as to remedies for this will be found in a later chapter.

Orders were recieved to carry out night unloading, especially understowed ammunition. Approximately 10 DUKW's were used for each LST. Since a large portion of the Shore Party occupied defense positions an equitable distribution of labor could not be made and the burden fell naturally on a few personnel.

On L plus 1 day general unloading of APA's and AKA's and LST's commenced at 0600. Weather and surf conditions were favorable and unloading proceeded at a rapid rate. During high tide small boats were beached in great numbers and unloaded on the sand. No attempt was made to segregate the cargo at that time, emphasis was on rapid unloading. During this period labor was pulled off the dumps and used to unload small boats.

During low tides LST's, LSM's and LCT's approached the reef so that vehicles, tractors and guns could be moved across the reef. The reef on Beach GREEN 1 was particularily well suited for this movement and little difficulty was experienced. High priority was given Engineer equipment, especially road building equipment.

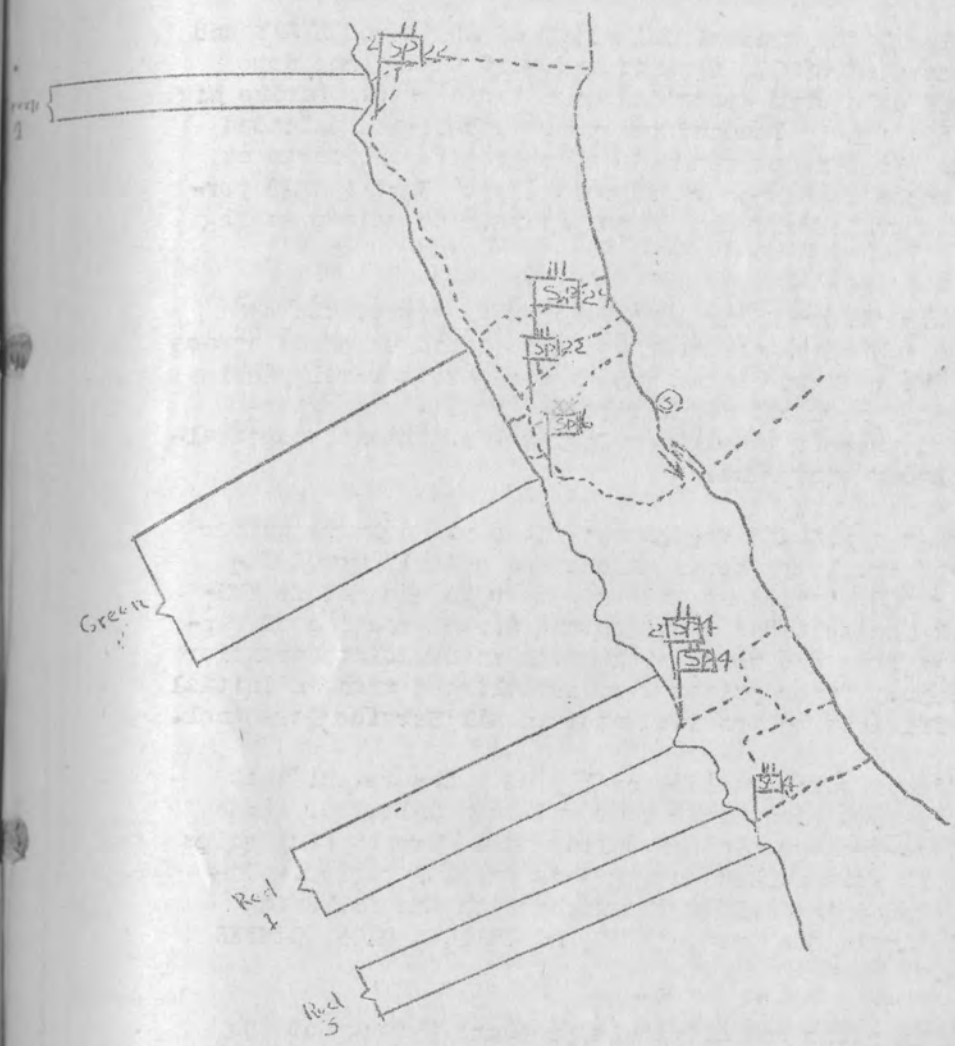
Unloading continued throughout the day. A large number of troops and artillery being landed and quickly moved inland. The rapid advance of the troops up to and across YONTAN AIRFIELD necessitated at times the direct routing of supplies to them from the beach without an intermediate transfer at beach dumps. Water points were established with an initial capacity sufficient to provide water to all Service Personnel.

Unloading reports at 1630 on L plus 1 day reveal that approximately 6000 deadweight tons had been unloaded. (see Figure 3, Time-tonnage plot of unloading). Twenty (20) ships of TransRon 12 were worked during this initial period. Unloading continued throughout the night with the following ships remaining in the area, WAYNE, MC INTYRE, GAGE, SUMTER and CAMBRIA.

Civilians presented difficult problems throughout the day. A temporary stockade and First Aid Station was established and initial aid was administered by Shore Party Medical personnel. Rations and water were also supplied.

Evacuation stations were established on all beaches. The stations were dug in and sand-bagged, DUKW's were made available to the aid station for casualty evacuation to ships.

Unloading proceeded staisfactorily on L plus 2 throughout the day. Additional Corps Troops and vehicles moved over the GREEN Beaches. On RED Beach 1 construction on a pontoon



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Date: L Day +1

Fig. 1 Overlay of Northern Hegushi Beaches

causeway commenced. Heavy surf impeded somewhat the installation but work was continued and the causeway was ready for operation on the following day.

Communications with all units had improved, all wire was overheaded and additional trunks were laid to all major units.

It is apropos at this time to commend the Sixth JASCO Shore Party Teams on the splendid work they had accomplished. In addition to fulfilling the normal Shore Party communication missions many other missions were assigned them. The BASTILLE PETER switchboard had in fact ceased to be a Shore Party exchange, but a Division and Corps rear area board. The situation in this exchange necessitated direct lines from the Division Shore Party to RCT Shore Party switchboards. In addition to being heavily taxed in this manner higher echelons required that personnel and equipment be alloted to them for their own exclusive use. This threw an additional burden on already overworked personnel. Prior planning on the part of these higher headquarters would have made these drains on the Sixth Division Shore Party unnecessary.

On L plus 3 high priority of unloading was given to all Aviation Units, Naval Construction Units and Aviation Engineer Units. Activities on Beaches RED were devoted exclusively to this cargo. The causeway on RED 1 proved invaluable in unloading vehicles, LST's and LSM's were able to discharge vehicles at all stages of the tide.

A Division Shore Party Evacuation Station was established, it was of splinterproof construction and large enough to handle approximately 50 casualties. All casualties were processed through this station.

Dump areas, egress roads and lateral roads were improved, road surfaces repaired and graded as well as could be done with available equipment. Additional water points were established in the Shore Party area.

L plus 4 unloading proceeded without incident. By 2000 of this day, 13 APA's and AKA's of TransRon 12 had been unloaded, in addition 15 LST's had also been unloaded. The Division QM took control of all division dumps on this day, prior to this they had been under Shore Party control and all issuing had been carried out by the Shore Party Commander.

Heavy surf and high winds prevented unloading of any cargo on L plus 5 so all efforts were devoted toward the improvement of facilities ashore. Roads and dump areas were

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further improved. All division ammunition was consolidated in one dump to the rear of GREEN Beach 1.

The rapid advance of the Sixth Marine Division northward toward MOTOBU PENINSULA necessitated further logistical support. As Motor Transport was not sufficient to provide this support, amphibious means were decided upon. One platoon of Company "C" (BLT Shore Party) was dispatched overland to establish a new beach at KURAWA. The rapid advance of the Division forced further displacements on this unit to NAGO with a short stop at CHUDA. The CHUDA area was partially developed and turned over to Army Engineer Units upon the move to NAGO. The unit arrived at NAGO on L plus 8 and proceeded to develop the area. The balance of the RCT Shore Party (RCT-29) was dispatched by water to NAGO area. Development of the area proceeded according to Figure 2 (Overlay - NAGO area).

Cargo unloading in this area proceeded and continued until L plus 30, when outloading was ordered in order to move the Sixth Marine Division into the southern Zone of Action.

By L plus 7 all Sixth Marine Division assault shipping had been unloaded.

Unloading of assault shipping completed the Division Shore Party reverted to control of Corps Service Group. Garrison supply, resupply and maintenance shipping was then unloaded over the beaches.

Unloading problems continued but were typical of those previously met and solutions were readily available. Problems of control and responsibility from 10th Army through III PhibCorps Service Group were however of a type not anticipated or previously encountered and caused confusion and misunderstanding. This was and is a direct result of a failure in higher echelons to appreciate the organization and capabilities of a Marine Division Shore Party and attempting to apply Army Port Battalion methods.

Statistical analysis of cargo handled in the northern HAGUSHI Beach Area (2/3 of the Division Shore Party working this area) during the month of April reveal the following:

Assault shipping of the Sixth Marine Division was completely unloaded by noon of L plus 7. In addition, assault shipping of other units was handled over these beaches. Tabulated in the following chart is a list of ships worked and tonnage cleared during the period. It is interesting to note that almost one half of the total tonnage handled during the month of April was handled during the period

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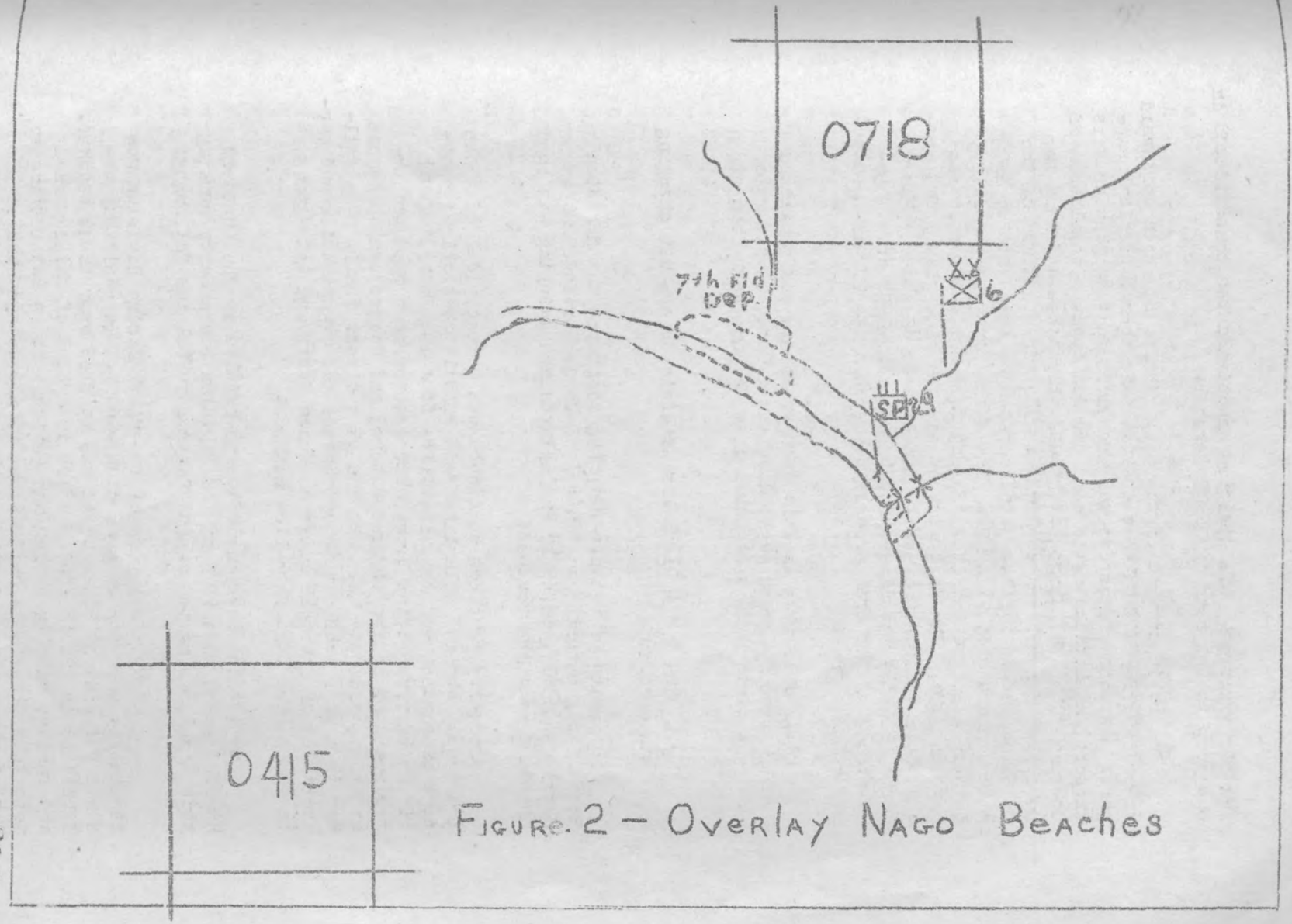

FIGURE. 2 – OVERLAY NAGO BEACHES

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1 April - 7 April, during which period assault shipping was worked. Figures on ships from TransRon 12 marked with an asterisk are accurate and taken from TQM loading records, the others are estimated by averaging loads from known ships of the same type.

SHIP NAME OR NUMBER	PERCENT UNLOADED	VEHICLES	PERSONNEL	DEAD WEIGHT TONS
* CAMERIA	100%	81	940	793.7
* MC INTYRE	100%	88	1599	729.4
* ADAIR	100%	59	1551	706.1
* GAGE	100%	64	1389	700.1
* CLAY	100%	139	1668	745.1
* LEON	100%	94	1559	774.7
* CLYMER	100%	57	1289	666.9
* MIDDLETON	100%	66	1257	814.0
* NOBLE	100%	37	1515	592.0
* MONROVIA	100%	67	1317	763.6
* WAYNE	100%	36	1391	659.5
* SUMPTER	100%	61	1381	705.2
* MENIFEE	100%	65	1262	701.9
* CASWELL	80%	115	210	2048.5
* AQUARIUS	82%	93	256	1477.8
GILLIAM	100%	50	1000	750.0
CATRON	100%	50	1000	750.0
CIRCE	100%	90	220	2000.0
PROCYON	100%	90	220	2000.0
DEVOSA	35%	40	200	1700.0
SHELLIAK	10%	10	200	200.0
HYDRUS	25%	25	200	500.0
LEO	22%	20	200	440.0
ALLENDALE	70%	35	1000	525.0
LACERTA	90%	20	200	1800.0
BARROW	6%	10	---	50.0
MENARD	33%	15	1200	248.0
ARCTURAS	10%	10	200	100.0
* LST 708	100%	88	245	598.1
* LST 568	100%	56	265	607.2
* LST 576	100%	62	264	604.3
* LST 704	100%	45	264	610.8
* LST 947	95%	17	264	363.9
* LST 451	100%	89	264	594.2
* LST 794	95%	22	266	612.8
* LST 945	100%	35	267	592.2
* LST 769	100%	22	265	587.5
* LST 833	100%	21	267	528.6
* LST 1030	100%	59	225	547.4

SHIP NAME OR NUMBER	PERCENT UNLOADED	VEHICLES	PERSONNEL	DEAD WEIGHT TONS
* LST 916	92%	33	28	519.5
* LST 125	100%	40	22	587.0
* LST 752	75%	8	141	642.8
* LST 926	50%	81	204	713.6
* LST 1015	100%	77	204	783.3
* LST 712	100%	33	232	544.1
* LST 681	100%	35	192	554.8
* LST 483	100%	31	452	454.5
* LST 1013	50%	30	209	486.3
* LST 952	100%	17	214	354.0
* LST 791	65%	18	221	282.2
* LST 951	100%	17	116	344.0
* LST 627	100%	32	200	424.2
19 other LST's with average % unloaded	58%	485	2612	6370.0
		3130	32325	43219.0 **

** Tonnage figure includes Dead Weight tonnage of vehicles. Correction applied using an average weight of vehicle of 3.14 tons (An average taken from 625 vehicles). Gives total corrected value for cargo handled of 33,400 tons.

A graphical representation of tonnage handled per day (Figure 3) for the month of April reveals that:

Average rate of unloading for the 30 day period was 101 tons per hour.

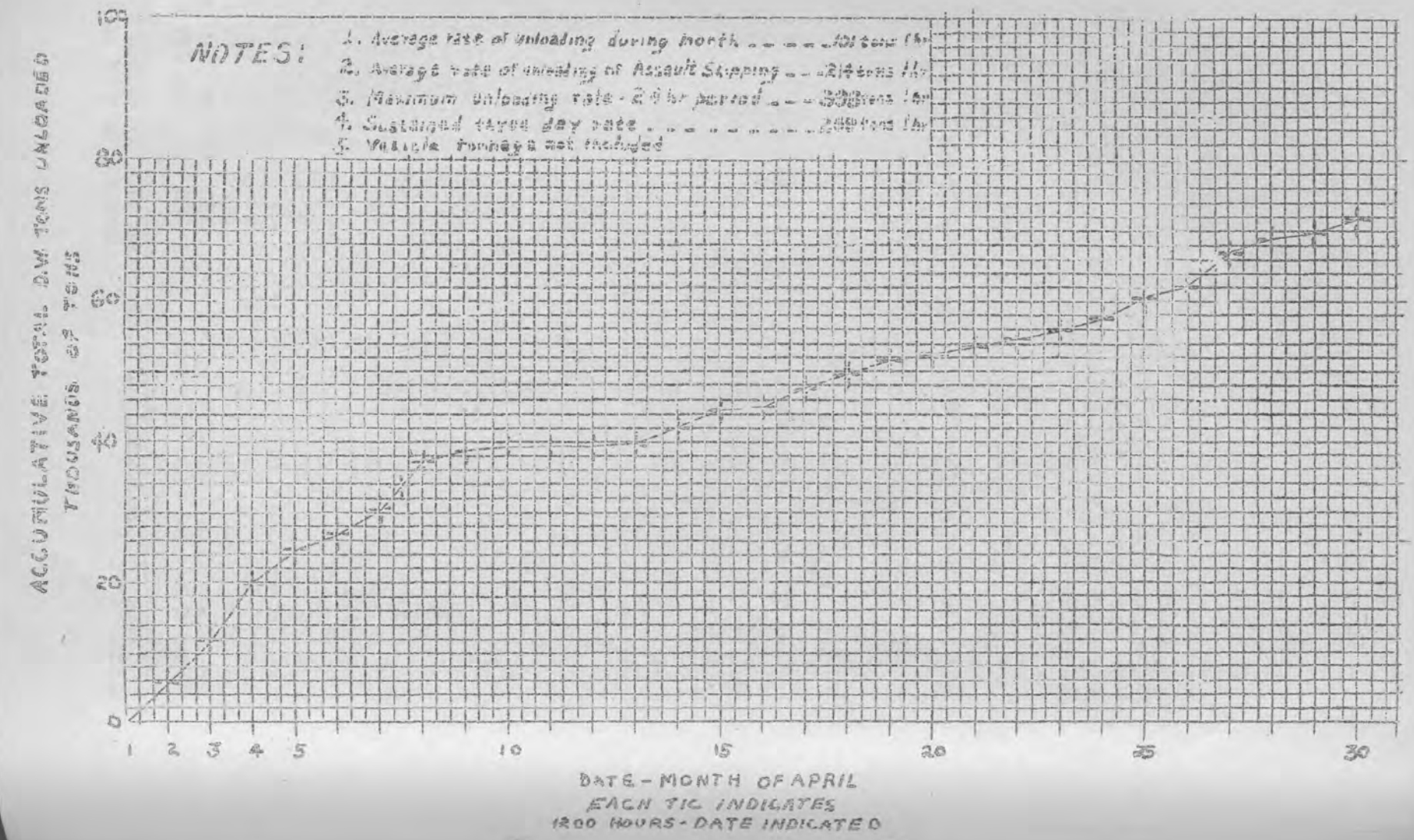
Average rate of unloading of assault shipping was 214 tons per hour.

Maximum rate of unloading over a 24 hour period was 398 tons per hour.

Due to continual changes in personnel, accurate records as to total man hours worked during the month are unobtainable but a reasonably close estimate results in a figure of 783,000 man hours total. This figure when combined with the tonnage figure gives a figure of .09 tons handled per man hour. Figure as to man hours includes all personnel present for 24 hours a day (Administrative, Labor, etc.).

DATE - MONTH OF APRIL
EACH TIC INDICATES
1200 HOURS - DATE INDICATED

TONNAGE - TIME PLOT OF SHORE PARTY UNLOADING
4th PIONEER BATTALION - 6th MAR. DIV.
N. HAGUSHI BEACHES - OKINAWA JIMA.



Shore Party operations on the northern HAGUSHI Beaches after 30 April continued normally with an average tonnage handled per day of approximately 2000. Beach developments at this time are shown on Figure 4 (HAGUSHI Beaches overlay as of April 30, 1945).

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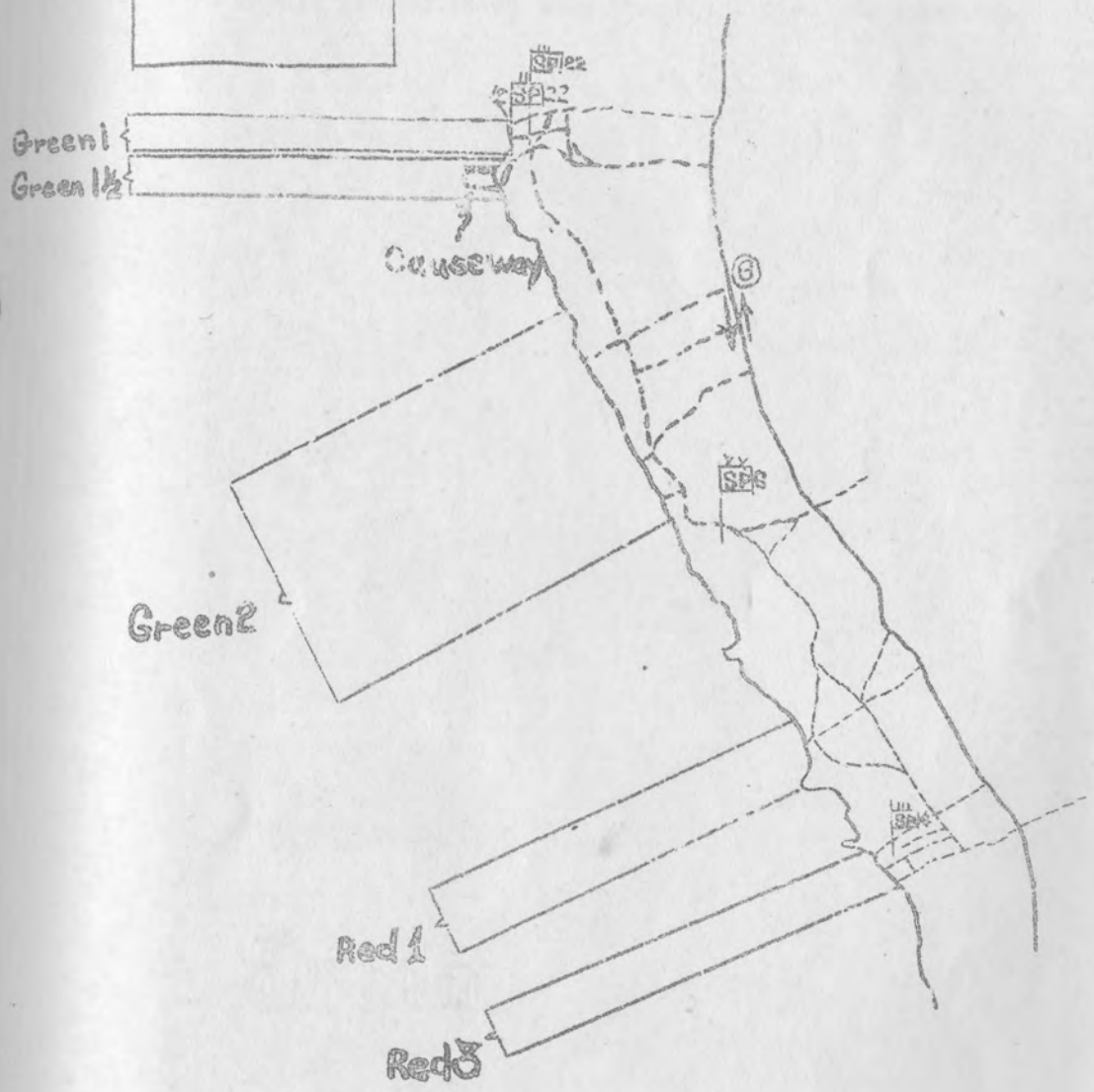

FIGURE 4- OVERLAY N. HAGUSHI APRIL 30

CHAPTER IX

Results of Action.

Only reportable results are on personnel:

KIA	2
WIA	6
MIA	0

The KIA occurred in a security patrol action conducted by "C" Company in the NAGO Area as did two (2) of the WIA. The remaining four (4) WIA were wounded on the HAGUSHI Beaches by friendly AA Fire depressed to fire on the beaches or by falling AA Fragments.

CHAPTER X

Comments and Recommendations.

S-1 Section:

One of the primary difficulties experienced in this operation was due to the shortage of NCO's in the first four pay grades. Corporals performed the duties of Staff Sergeants and Sergeants, and Privates First Class the duties of Corporals. There were some promotions available and given to line personnel, however there were no promotions authorized for Engineer, Communication and Quartermaster Personnel. The tabulation below represents the personnel status of the battalion prior to the operation.

	COMPANY									
	"H&S"		"A"		"B"		"C"		TOTALS	
RANK	Auth	Act	Auth	Act	Auth	Act	Auth	Act	Auth	Act
SgtMaj.	1	1							1	1
1stSgt.	1	1	1	1	1	1	1		4	3
MTSgt.		1	1		1	1	1	1	3	3
QMSgt.	1								1	
GySgt.	1	1	1		1	1	1	2	4	4
TechSgt.	3	1	1		1		1		6	1
SupSgt.	1								1	
PltSgt.	2	1		1					2	2
StfSgt.	3	2	4	2	4	1	4	3	15	8
CCK			1	1	1	1	1	1	3	3
Sgt.	11	7	7	2	7	7	7	7	32	23
FldCk.	1	1	2	1	2	2	2	2	7	6
Corp.	15	16	28	19	28	24	28	16	99	75
ACk.	2	2	4	5	4	3	4	4	14	14
FMCorp.	1							1	1	1
FMlc.	1		1		1	1	1		4	1
PFC & Pvt.	39	57	139	164	139	150	139	163	456	534
TOTALS	83	91	190	196	190	192	190	200	653	679

In order to overcome this handicap, special emphasis was placed on the training of Key NCO's. There was as a result a great number of junior NCO's capable of performing the higher ranking duties assigned to the fullest satisfaction of their respective Company Commanders.

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The absence of NCO's, in itself, affects the efficiency of any organization. If in addition to this, Corporals continue to perform the duties of Staff Sergeants and Privates First Class those of Corporals without the slightest possibility of a promotion, the unit itself suffers. It was noticed on several occasions by a junior officer that a junior NCO performed higher assigned duties to the fullest satisfaction and after realizing that he was not to be promoted, lost interest in the work.

It is highly recommended that promotions be authorized the Pioneer Battalion in accordance with the Tables of Organization.

Under present Shore Party Organization the Shore Party Commander of a BLT Shore Party is a Lieutenant and the Regimental Shore Party Commander a Captain. Even though little difficulty was experienced in this operation it is felt that more senior officers should be in command of the respective Shore Parties. The BLT Shore Party Commander has approximately five hundred (500) men under his command with officers in many cases senior to him attached. The RCT Shore Party Commander operates under a similar situation.

It is recommended that BLT Shore Party Commanders have the rank of Captain and RCT Shore Party Commanders have the rank of Major. This would necessitate a change in T/O for the Pioneer Battalion in order to provide Captain Platoon Leaders and Major Company Commanders. However if this change in T/O can not be made the present arrangement is considered more satisfactory than the appointment of higher ranking officers from without the Pioneer Organization to act as Shore Party Commanders.

Little could be done to increase the morale of this battalion. The state has been excellent from the initial landing until today, despite the continuous demands of hard labor, loss of sleep and inclement weather all hands carried out their duties with highest spirit.

S-2 Section:

In general it is felt that the planning and organization as carried out in the formation of the S-2 Section was very satisfactory. Except for shortages in some types of equipment the section was not handicapped in performing its assigned duties. It is recommended however that specially trained personnel in underwater reconnaissance and demolitions be allowed the organization in order to provide an organic unit within the battalion to perform these duties.

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S-3 Section:

Difficulty was experienced on L-Day in bringing the heavy equipment of the Pioneer Battalion ashore. Five (5) LSM's were assigned to pick up the heavy equipment on the different APA's and AKA's. Discharging the assault elements on the LSM's necessarily caused a delay in boating Shore Party heavy equipment and it was late in the afternoon before the heavy equipment came ashore. This delayed the preparation of dump areas and building of exit roads. It is recommended that in future operations, greater emphasis be placed on priority of Shore Party heavy equipment. The equipment should be loaded and boated with the Command Section. This will require an initial allocation of LCT's or LSM's, and these craft should have no other mission.

Experience of the months unloading operations brought forth many deficiencies in organization, control and equipment types and amounts. The control and organizational deficiencies apply particularly to echelons higher than Division.

The Sixth Marine Division Shore Party was well organized, planned and trained to handle the assault shipping of the Division. No indications were given during the planning phase of the operation that the Division Shore Party would be called upon to operate after the assault unloading phase as an Army Special Engineer Brigade. The Division Shore Party does not have many of the key personnel required for such a task, and is clearly hampered in such aspects as the timely rendering of reports and the supervision of unloading activities afloat. If, in the future, the Division Shore Party is to be so employed, it is essential that either (1) the Shore Party be provided with additional liaison, clerical and communication personnel and equipment and be reorganized along the lines of an Army Special Engineer Brigade, or (2) that the additional personnel and equipment required be set up and trained with the presently organized Shore Party prior to the operation. Neither of these alternatives are as desirable as the logical solution, which is to relieve the Shore Party, at the conclusion of assault unloading, by an organization designed to handle resupply shipping and which can be integrated into the permanent port facilities of the target area.

It is felt that the number of heavy boom cranes was inadequate. It is recommended that provision be made in future operations for at least three of these cranes to be attached to an RCT Shore Party, this equipment not to be organic Pioneer equipment. In addition it is recommended that a truck mounted crane be furnished as organic Pioneer Company equipment. These cranes should be of at least 7-10

ton capacity in order to be used to advantage on the beach to unload small craft, DUKW's or LVT's.

The number of heavy tractor mounted swing cranes is considered inadequate. Four of these cranes should be provided each Pioneer Company. Observation of other types of equipment working on the OKINAWA Beaches lead to the recommendation that the present type TD-14 Swing crane be abandoned for Shore Party use and a crane of the Austin-Western hydraulic type mounted on a TD-14 chassie be substituted. If this can not be done the present crane should be improved by installing a positive acting cut out on the boom lift to prevent a tired or green operator from damaging the boom by back hauling past the point of maximum elevation. Another factor contributing to damage of this piece of equipment is the continual failure of ships' platoons to properly load cargo nets. Instances of 50% overloaded cargo nets were noticed.

Welding equipment as at present allowed is considered inadequate to perform the many jobs that come up in a combat operation. It is felt that each lettered Pioneer Company and H&S Company, Pioneer Battalion should be allowed one arc welder of 300 amp capacity and two complete Oxy-acetylene welding sets. Further allowances of equipment operators should be m made in order to provide at least two operators per piece of equipment.

Shortages in cargo handling equipment was noticed throughout the operation (chime hooks, box hooks, etc.). It is recommended that in future operations ample supplies of these articles be furnished all units.

Lack of floodlighting equipment handicapped night unloading. It is recommended that six (6) floodlight trailers per Pioneer Battalion be added to the T/BA.

It is further recommended that fire fighting equipment, Chrysler pumper trailers, be alloted a Pioneer Battalion. Four (4) of these per battalion should prove adequate. In addition twenty (20) Foamite fire extinguishers should be allowed.

Additional dump trucks to bring allowance per letter Pioneer Company to four (4) and H&S Company to three (3) should be allowed. Further allocations of transportation should be made to increase allowances of trucks ¼ ton 4 x 4 per company from two (2) to four (4).

JASCO Shore Party Com Teams should be provided additional equipment to provide:

Each RCT Shore Party with a 610 radio contact with

RCT.

Each BLT Shore Party with a beach loudspeaker system.

The Sixth Marine Division Shore Party was planned and trained in echelon from BLT Shore Party through RCT Shore Parties to Division Shore Party. This organization allowed extreme flexibility and could be altered to meet any tactical situation. It is felt that in general the policies followed in this organization contributed greatly to the success of the Shore Party Operations.

S-4 Section:

Battalion Supply functions and problems as met on this operation were typical of the functions and problems of supply sections throughout the Marine Corps. The battalion was never in want for any basic items although lack of transportation did impose difficulties.

Some T/BA items of equipment arrived in Guadalcanal too late to be properly integrated into the organization or to allow complete and proper preparation for the operation. Some items are provided in inadequate quantity and are listed below with recommended quantities.

Flourescent Satin: 9 sets to be provided in order to furnish one (1) complete set of beach markers per BLT Shore Party.

Sketching Outfits: 9 sets to be provided in order to provide one (1) set per BLT Shore Party.

Browning Automatic Rifles: 54 to be provided the Pioneer Battalion. Each Pioneer Squad is organized as two (2) fire teams in order to perform mop-up infantry tasks. Each fire team should have a BAR.

Special Medical Section:

As one of the specific missions is the evacuation of casualties it is apropos to include some comments regarding the medical organization and function.

In general the Medical Sections functioned smoothly and meshed well with the Naval Beach Party Medical Sections. Four Medical Sections were landed initially, with each of the assault BLT Shore Parties, and combined with the Beach Party Medical Sections in the joint operation of the evacuation stations. Training and organization was adequate but some general recommendations as to medical procedure as observed

are made:

Medical supplies should be boated with medical personnel preferably those who are going to use it.

All medical gear should be plainly marked as such and specially guarded to prevent breakage or pilfering.

A limited amount of sanitation supplies should be landed early in the assault, particularily those of the Shore Party, instead of enjoying low priority.

Combat troops should be more impressively instructed in Sanitation and Hygiene in the field.

Transportation should be expressly provided for the Division Evacuation Station for emergency transportation of casualties within the Shore Party Area, as well as to facilitate the coordination of Shore Party Medical Activities. It was found on the operation that DUKW's or other transportation was not always immediately available for these purposes.

The use of casualty distribution centers afloat and emergency hospital ships (LSTH's) was very effective and from a Shore Party view is recommended very highly for future operations.

Equipment and Maintenance Section:

On the TD-14 Swing cranes it is suggested that the following changes be made:

Batteries now set three feet six inches (3'6") above ground. Suggest raising same so that when tractor is required to operate in salt water of three feet six inches (3'6") depth and over it won't ruin the batteries.

That the material of which the turntable housing (H-K Part # C - 2839 x) and the turntable ring gear (H-K Part # C - 4597) are made, be changed to a harder steel. These parts have shown excessive wear after 100 hours of operation, indicating faulty materials or improper design. Also suggest that a tapered roller bearing be used instead of the 120 1½" steel ball bearings (H-K # P 21A). It is further suggested that the turntable slewing worm spring (H-K # C-2828) be strengthened, to date six (6) of these springs have failed.

It is also recommended that a more efficient waterproofing material be developed for waterproofing the entire electrical systems. Repeated failures, on starters, generators and magnetos, have resulted from salt water immersions. Failing in this additional replacement parts must be provided for all pieces of equipment.