detachments of the 3608th Ordnance (HM) Company (Tank), the 622d Ordnance Ammunition Company, and the 108th Bomb Disposal Squad—all of Which came ashore on S-Day.

Each regimental combat team was supported by an ordnance contact team, which remained attached throughout the operation and worked close to the combat troops as the tactical situation permitted. Through the efforts of these teams, and the shop, the condition of the Division's armament remained at a high standard. "On the spot" repair and replacement plus rapid evacuation of the arms of casualties were chief contributing factors.

The major ordnance problem during the entire operation was the supply of ammunition. Initially, this was due to a lack of organic transportation to move ammunition from the beach to the units, and the long distances involved. Army ammunition supply points relied on the Division to move ammunition from the beach to ASP's, and this was accomplished despite the fact that the Division was operating with only 60% of its assigned transportation. During the MUNOZ - SAN JOSE battle it became necessary for Division ammunition trains to drive 85 miles back to Blue Beach for artillery ammunition, as insufficient quantities were available at the GUIMBA ASP (Corps dump) to allow emergency withdrawals.

Later in the operation, certain types of ammunition supply became critical due to unforscen expenditures needed to blast the Jap out of nigh impregnable positions in the SHIMBU LINE. It was necessary for a time to curtail artillery ammunition expenditures to an average one-tenth of a unit of fire daily.

A bomb disposal squad should remain attached to the Division throughout the operation, or until it is definitely ascertained that there will be insufficient work available to keep it busy.

In planning future operations, more consideration should be given to providing additional transportation for the movement of ammunition within the Division. In a fast moving combat situation units operating with reduced transportation cannot make long ammunition hauls and at the same time provide Army with trucks to move ASP's without greatly reducing their tactical mobility.

There should be a clear cut plan established for disposing of captured enemy and civilian vehicles. So many conflicting instructions were issued by higher headquarters that valuable time was lost in repairing captured vehicles which were later called in and were of no use to the Division.

It is recommended that large, well-organized salvage organizations be brought in as soon as practicable after the assault troops, to dispose of captured ammunition dumps which constitute a hazard and vehicles and supplies which can be utilized. Combat troops do not have

the personnel nor facilities to guard or dispose of dangerous or valuable equipment and supplies when captured in extensive quantities. It is wasteful and sometimes hazardous to permit such supplies to fall into the hands of scavengers or enemy sympathizers.

The system of collection of weapons recovered from casualties on the battlefields and in medical installations, which was developed from experience gained in the MAFFIN BAY operation, proved to be a solution to the problem of weapons "getting away" from proper evacuation channels. Weapons abandoned in the forward areas, battalion aid stations, and collecting companies, are collected by battalion and regimental supply personnel and turned over to the Ordnance Contact Team located at the Regimental Supply Office, where they are repaired, test-fired, and prepared for reissue or are evacuated. Weapons collected at clearing stations are released by responsible officers to ordnance personnel only.

It is recommended that the Light Maintenance Company in the infantry division be modified to increase the personnel, equipment, and transportation to the size equivalent to a Medium Maintenance Company. The T/O & E currently authorize personnel and equipment capable of handling 30% of the Division's 3d echelon maintenance load in combat. Additional equipment authorized by Theatre letters, and additional personnel permitted as "overstrength" enable it to handle from 50% to 85%. The addition of these and other skilled personnel as well as certain medium maintenance equipment would enable the Division Ordnance unit to take care of nearly 100% of its maintenance problems. In a constantly changing tactical situation, with ever-increasing distances from sources of supply, it is highly desirable that the Division be as nearly self-supporting from a maintenance standpoint as possible. It is believed that such additions as recommended would prove more satisfactory than to augment the Division's ordnance repair facilities by the attachment of a Medium Maintenance Company.

## 9. Engineer:

During the pre-embarkation period, at SANSAPOR, the 6th Engineer Combat Battalion trained (9) underwater demolitions teams, each of platoon strength. Team organization consisted of 3 squads, transported in LVT's. Two assault squads towed rubber boats, for approaching obstacles after having been transported to the vicinity in LVT's. The third LVT carried the reserve squad, ready with additional personnel and supplies. The LVT's were intended also to deliver covering fires with their cal. 30 and cal. 50 MG's. Four of these teams were loaded and were prepared to assist the 4 assault battalions on S-Day. These teams were formed in the 3d and 4th assault waves in each battalion landing team, their LVT's so situated that they could be withdrawn prior to the landing to advantageously assist Naval demolitions teams. Had any under sea obstacles been encountered, the Engineers would have been ready.

Small engineer demolitions teams were trained with the four infantry assault teams in each regimental combat team, and attached to provide special demolitions methods beyond the capabilities of semitrained infantry demolitions men.

Initial construction planning was concerned with preparations for the immediate bridging of the BINIOC RIVER, first terrain obstacle to the advance across the MANIIA PLAINS. Bailey bridging and the necessary timbers and equipment were loaded on IST's so as to be available during the early hours of the landing. S-Day shipping included some 76% of the Battalion's total horsepower of trucks and equipment. With the exception of prime movers and flatbed trailers, the arrival of the remainder of the equipment on S / 35 IST's was not disadvantageous to the operations of the Battalion.

The only difficulty experienced in landing was that one D-4 bulldozer was lost when a Navy coxswain ordered it off the ramp of an ICM without checking the depth of the water.

Preliminary terrain studies had revealed Blue Beach to be a virtual island, and actual reconnaissance soon verified this fact.

LVT's made possible the immediate crossing of assault troops, but no vehicles or supporting weapons could be moved up until the BINLOC was bridged. Beginning on S-Day, the 6th Engineers constructed 150 feet of Double Double Bailey Bridge, and finished the task on the evening of S / 2. This construction, due to the necessity for speed, presented a compromise between sound engineering construction and a rapid expedient type crossing. A fill was made nearby with considerable difficulty, which permitted some vehicular traffic to cross prior to the completion of the Bailey Bridge. Also, the Battalion assisted in the construction of a heavy ponton bridge at the junction of the BUED and BINLOC RIVERS.

The next major engineering problem was the bridging of the AGNO RIVER, at VILLASIS. The destroyed PLARIDEL BRIDGE was replaced by a ponton bridge, constructed jointly by the 506th Engineer Light Ponton Company and the Battalion. During this period, Company "C", in the mountains to the East of ROSARIO, was engaged in building mountainous trails in support of the 63d Infantry. The experience gained in this rugged terrain proved of considerable advantage to the entire Battalion in later assignments.

The most difficult assignment which the Battalion had ever faced was met in the slow and costly advance into the SIERRA HADRE MOUNTAINS. Again the problem of supply became paramount. For a sustained advance against a well entrenched enemy in command of high ground, a good road system was imperative. A near impassable Jap trail was developed during the operation into a two-way, gravelled MSR, with numerous supply trails branching off to support forward infantry battalions. The main road as well as the trails had to be constructed without interruption to the flow of vital supplies, under enemy fire, and with speed a prime factor. The leading engineer company pushed

through the initial jeep trails, while the two remaining companies followed and converted the trails into roads.

Landslides and destroyed bridges characterized the problems of the engineers at the close of the period in the CAGAYAN VALLEY. The rate of advance of the Division was largely measured by the ability of the engineers to construct and maintain roads through difficult terrain along Highway 4.

The Battalion's operational record from 9 January to 30 June 1945 includes the following: 100 miles of new road constructed; 210 miles of existing roads repaired and maintained; 17 bridges constructed; 39 existing bridges repaired and maintained; 56 bypasses constructed; a Division Camp site constructed; and over 7,000,00 gallons of drinking water supplied. During the campaign to date the Battalion has been constantly engaged in engineering work, with no period for complete rest or rehabilitation.

Water supply throughout the operation was adequate and easily obtained, as streams, rivers and artesion wells were abundant. The battalion employed 4 portable and one mobile water units which proved adequate for the Division's needs and still permitted the control of a reserve water unit. Thus, all units could be rotated for maintenance and repair which greatly reduced operational failures.

The campaign thus far has proved that engineer equipment is a prime target for the enemy and that the use of adequate all-around security, together with mine detector teams, is essential. In many cases it was noted that flank guards remained too close to the equipment, thus putting them at the same disadvantage of sight and hearing as the operator. The engineer security party for equipment, if properly employed, is a clean-up team to secure the route against enemy stragglers, snipers, mines and ambushes. Time and time again, the false impression is accepted that engineer equipment can operate safely in an area through which the infantry has passed. Divisional Engineer sectors are at all times during the active phase of an operation vulnerable to enemy action, and security is vital.

## 10. Signal:

Prior to embarkation from SANSAPOR, DUTCH NEW GUINEA, conferences involving all ships communication officers and all army communication officers were held. At this time, the plans for communications while enroute to the objective area and during the assault stage were thoroughly covered. Every man involved in signal communications was individually instructed in his exact duties when the objective beach was reached. This part of the operation worked smoothly with no particular problems encountered.

Initial contact with assault troops was made by radio shortly after the Division Command Post was opened. Wire teams reported to the

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Division Command Post and started laying wire to forward elements immediately. The Division Message Center was in operation prior to the arrival of the Command Party.

Wire teams had been assigned to each of the regiments and, after the initial installation was made, they went forward with the regiment, laying wire back to the Division Headquarters. This worked very satisfactorily throughout the campaign as the location of the Division Command Post was always more stable than that of the regiments.

Wire communication was excellent throughout the operation.

During the period 9 January to 30 April the construction section expended 2,583 miles of Wire-W-110-B or more than 20 miles per day. It was laid along roads, railroad tracks, across rice paddies, over rivers and up the sides of mountains. At one time a trunk circuit 27 miles long was in use, which gave adequate service with the useof one Repeater EE-89. These repeaters were a major factor in maintaining good wire communication. Servicing of lines was carried out by day and by night under all conditions.

Recovery of Wire-IIO-B was impractical, principally because of poor insulation, which broke down while it was being recovered on Reel Units RI-26. Equipment used by the Construction Section included Reel Units RI-36 mounted on 2-1/2 ton trucks and Reel Units RI-31 mounted on 3/4 ton trucks. Lance poles for use in overheading wire were not available in sufficient quantity, but native bamboo proved an excellent substitute.

In operations on open grass land the greatest source of trouble with the wire lines was from grass fires, started intentionally or accidentally. This can be avoided by burning over the area adjacent to the axis of communication before installation.

Statistics of service furnished by the Operations Platoon indicate the volume of traffic handled. The Telephone and Telegraph Section allocated an average of 40 drops on their Telephone Central Office Set TC-4. These included 12 trunk and 28 local lines. Flying fingered switchboard operators handled an average of 1,550 calls each day, and processed as many as 6 calls per minute during rush periods.

Teletype communication was furnished to higher headquarters as soon as wire communication was established, and was satisfactory throughout the campaign. Much administrative traffic was cleared by teletype between the Division Forward Echelon and the Rear Echelon.

The excellence of wire communications kept the use of radio communications to a minimum. In the Corps Command Net a Radio SCR-399 was used. This was installed in a Shelter HO-17 and mounted on a 2-1/2 ton truck, and proved more than adequate at all times. It was necessary

to eperate just one Division Command Net in which Radio Sets SCR-193 were used. On the evening of S-Day it was decided to assign a radio team from the 6th Signal Company to each of the regiments for operation in the Division Command Net since contact previous to that time had not been satisfactory. These teams were dispatched immediately and remained with the Regimental Headquarters throughout the operation. These sets were mounted in 3/4 ton C&R trucks. Ranges up to 65 miles, using CW, were attained and this means of communication was excellent throughout the operation.

The Message Center Section operated two the Forward Echelon and one at the Rear Echelon, at all times. An average of two messenger runs were made daily to all major subordinate units. This section cleared a total of 62,235 messages of all types during the campaign without the loss of a single document. This included the processing of over 100,000 coded groups for transmission by electrical means.

The Signal Supply Section of the Divisi on Signal Office which included the Signal Repair Sections, maintained a Signal Dump near the Division Rear Echelon. Lack of organic transportation made the long arduous trip to Signal Depots more frequent then should have been necessary. No piece of unserviceable equipment remained in the Repair Section for over twenty-four hours.

It was found that the equipment provided for the communication sections of infantry regiments was inadequate. In slow moving situations the communications system of an infantry regiment becomes too complex to be handled efficiently by the equipment as authorized under the present T/E.

11. Provost Marshal: As the beachhead expanded and control moved inland, it was found that narrow and poor roads necessitated considerable direction of one way traffic. On 13 January the MP Platoon was divided into two echelons, each of which continued normal MP functions during the course of the operation. The Rear Echelon was attached to the Rear Echelon of Division Headquarters, and performed normal duties plus straggler control in rear areas.

On 20 January the Forward Echelon began control of the AGNO RIVER crossing while traffic was still drawing small arms fire.

Between 9 January and 30 April the Forward and Rear Echelons were established in 20 different areas. During this period traffic control was conducted in two zones.

In addition to various temporary collection points for Prisoners of War located at traffic control points, two regular collecting points were established; one with the Division Forward C.P., the other with the Rear C.P. Prisoners received at Rear C.P. were normally taken to Forward

C.P., unless G-2 did not desire to interrogate them further, in which case prisoners were delivered directly to higher echelons. P.W. enclosures were unnecessary because of the short time prisoners were held by the Division. For the same reason no special prisoner mess facilities were provided. A three man relief guarded prisoners who required hospitalization.

Control of civilian traffic was extremely difficult. Civilians were not prohibited from the road ways during the operation, and once they were on the roads with their carts, the M.P.'s could do nothing with them. Pass priviliges to ride in government vehicles were distributed freely and promiscuously to civilians by PCAU officers. As a result, civilians with passes pestered traffic M.P.'s seeking rides.

12. Inspector General: The Inspector General's Section was split in two parts for the ML operation. The Assistant Inspector General and Master Sergeant embarked with the Division while the Inspector General, a Warrant Officer and two enlisted men remained behind as the staff for the rear echelon elements that were moving up later. The Inspector General was the Rear Echelon commander and was responsible that personnel and equipment were loaded on schedule.

As the rear echelon commander the Inspector General made inspections of areas vacated by units, for police and sanitation as well as areas occupied by rear echelon personnel. Checks were made to see that equipment dumps were adequately guarded and that motor transportation was pooled and not being misused.

The Assistant Inspector General and Master Sergeant landed on IUZON on S / 1 (10 January), and performed routine duties as well as special missions, such as checking the security of bridges along the MSR and the unloading of equipment and supplies at the beach. The IG and balance of the section arrived on 9 February and moved to the Forward CP. Inspections and special investigations were made. In addition to his normal duties the IG was appointed Security Officer for the Division. This necessitated daily tours of the front lines.

A constant spot inspection must be made of all administrative records while units are in combat. Sick Reports and Service Records require the most attention since the rights of the individual and the interests of the government might be jeopardized unless all necessary and correct entries are made.

Most supply sergeants and officers are prone to consider that all property accounting ceases upon closing of the company property book on entry into combat. This attitude reaches the troops and causes unnecessary and useless waste. Constant checking and supervision must be made by each commanding officer to prevent this.

In appropriate cases individuals must be made to pay for equipment and supplies lost through neglect and carelessness, even during combat when property records are closed. This applies especially to rear echelon personnel not actively engaged in contact with the enemy.

13. Finance: Finance personnel were split into two equal groups, travelling on two ships, for the voyage to IINGAYEN GULF. A 24 hour a day guard was maintained over the disbursing trailer cage while enroute. Thereas the Finance Section was to land on S / 1, the 160th Finance Disbursing Unit (attached) was scheduled to follow on S / 18.

embarkation, and small amounts of Netherlands East Indies Currency was converted to American funds for each individual, for making purchases from ship's sales stores. A campaign was conducted for the purpose of reducing to a minimum the amount of currency to be carried ashore by personnel. The encouragement of Soldier's Deposits, the use of PTT for sending money home, the purchase of War Bonds and the use of Spearhead Deposits met with success.

On S / 2 (11 January), the first of the section's equipment which had been bulk loaded was received. Heavy and continuous surf made unloading difficult as well as hazardous. A large part of the equipment became water-scaled during the unloading. Completed vouchers, payrolls, blank form, accounting papers, etc., had to be throughly dried. Boxes of equipment and supplies kept dribbling in for almost two weeks before everything was accounted for. Part of this was due to the fact that supplies were unloaded on the beaches of adjacent divisions.

The Finance Office first opened for business on S / 4

(13 January). The December payrolls and pay vouchers had been completed in Sansapor, prior to embarkation. The first act on opening was to pay the troops for the month of December. Exchange of currency became the secondary problem. Exchange was effected by organization as individual exchanges became too numerous. It was then learned that the 6th Division Finance was the only Finance Office yet in operation on LUZON. An attempt to exchange currency for all these units proved impossible, as the supply of money brought in was intended only for the payment and processing of the 6th Division and attached units.

The PCAU, Class "B" agent first started to operate at MANGALDAN, with \$\notinue 202,000\$ furnished by the Division Finance Officer. His primary function was to make payment to civilians working for the Division and attached units. In addition, this officer also handled the labor needs of other organizations in the vicinity until the arrival of other finance units. On 26 January the 160th Finance Disbursing Section landed. This unit was transferred to Hq. I Corps to service that organization, as the Corps Finance Section had not yet arrived.

On 22 February, PCAU #18 was released from 6th Division control. This necessitated the Division Finance taking over functions normally performed by PCAU Finance Officers for the Division and attached organizations.

14. Adjutant General: Coming ashore on S / 1, the Adjutant General's Section was not able to operate efficiently during the first few days, because all equipment had been bulk loaded and it was several days before the scattered equipment could be assembled from where it was scattered along the beach and on shipboard. Some records and typewriters had been submerged in the ocean and were in very poor condition.

It is recommended that in future amphibious operations only a small Adjutant General group consisting of one commissioned officer, one warrant officer, and eight enlisted men, mobile loaded in one 2-1/2 ton truck, accompany the initial landing. This small group would be able to process morning and casualty reports, prepare station lists and any other publication. The remainder of the section could come in at a later date and need not be mobile loaded. If the entire section accompanies the initial landing, the entire section should be mobile loaded.

15. Judge Advocate: The Staff Judge Advocate's Office found that offenses meriting disciplinary action increased when military personnel moved into populous areas after a considerable period of isolation in New Guinea. The larger proportion of the offenses were violations of the 61st and 96th Articles of War. At times when units were engaged in combat, disciplinary problems were few.

In addition to normal reviewing activities, advice was rendered to the Division Claims Officer on claims processed within the Division, and to personnel of the Division who required legal advice. The Officer personnel were available for use in other sections where their legal training could be put to use. In this operation problems of the civil population offered such an opportunity.

The sale of alcoholic beverages to military personnel should be rigidly controlled. Price ceilings should be established, and for violation of the prices set the purchaser as well as the seller should be punished. Several of the General Courts Martial were the direct result of the unrestricted sale of liquor to military personnel.

16. Chaplains: Landing with their respective units in the initial landings on LUZON, Chaplains proceeded with their usual duties. As the units began meeting resistance and casualties were suffered, the Chaplain's work more and more became centered around the medical

aid stations. In the heat of battle, Chaplains were often engaged in evacuating wounded from the field.

The Chaplains Section, Division Headquarters and Special Troops Chaplains, assumed the responsibility of caring for funerals for all the dead of the Division. The first cemetery was at BINLOC. With the advance of our forces, BINLOC Cemetery was closed and another opened at MATIC-MATIC. Then further advances necessitated opening of the Division cemetery at ROSAIES. Shortly after this cemetery opened, Base "M" opened a cemetery at SANTA BARBARA, with Base "M" Chaplains providing the funeral services. On 21 February, the Division dead were no longer returned to SANTA BARBARA, but were buried in MANIIA Cemetery Number 1 and later in MANIIA Cemetery Number 2.