Inclosed extracts from command reports are forwarded for your information, evaluation and any necessary action in accordance with SR 525-85-5.

FOR THE CHIEF OF ARMY FIELD FORCES:

P. C. CASPERSON
Major, AGC
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The real danger from the effects of extreme cold or low temperature on personnel lies in the rapid cooling effect of the combination of low temperatures and wind, called wind chill. For example, in similar conditions of sunshine, the wind chill factor for a temperature of minus 40 degrees F. with a wind of two (2) mph has been calculated to be about the same as that for a temperature of plus 10 degrees F. with a wind of 15 mph. At minus 3 degrees F. outside, the wind chill factor in the turret of the M4A3E8 tank is equal to a temperature of minus 35 degrees F. due to the type of ventilating and cooling system of the crew and engine compartments. With the outside temperature below 40 degrees the wind chill factor in the M4 series tanks is beyond human endurance. (CONFIDENTIAL)

The lack of armored infantry to support tanks and to hold ground seized by tanks reduces the overall effectiveness of the tank units by at least 50%. There have been numerous occasions where friendly tanks have seized ground but have had to withdraw prior to darkness because friendly infantry could not keep up or could not advance through enemy SA and mortar fire. This lack of armored infantry is one of the most serious troop shortages in IX Corps. (RESTRICTED)

LESSONS LEARNED - Offensive Operations

Tank-borne infantry cannot perform the armored infantry role. Infantry units employed as part of an armored task force for deep penetrations into the enemy rear must be provided armored personnel carriers.

A tank dozer should be included as a part of all large armored task forces in KOREA.
The CCF antitank doctrine calls for the maximum use of tank hunter teams employing rocket launchers, pole charges, satchel charges, and bangalore torpedoes.

Effective infantry-tank communication and methods of target designation from infantry to tanks must be prearranged and understood by all elements.

Any armored column containing a Company or more of tanks should be supported by a tank recovery vehicle.

Small provisional armored infantry units can be formed when time permits, by utilizing half tracks and M39 AUV's from Armored FA Battalions to mount existing available standard infantry elements.

The method of having tanks and infantry converge on the objective from different directions is particularly applicable to the attack of CCF reverse slope positions. (RESTRICTED)

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Defensive Operations

Tanks should normally be included in the combat outpost when terrain permits. They may serve as the entire combat outpost; however, they must be screened by dismounted personnel at night.

Fewer tanks are lost to tank hunter teams when tank commanders fight with their hatches open than when "buttoned up." This does not apply to the driver.

A tank commander is more effective when he fights his crew than when he spends a large part of the action firing the turret mounted cal .50 machine gun. The .50 cal turret gun is advantageous when tanks are giving overhead fire support to advancing infantry, not when the attack is primarily a tank action.

Tank unit leaders command by means of their radio net and movement of their tank. A dismounted tank platoon leader is relatively ineffective in attempting to run over the battlefield to direct his tanks.

Mutual confidence between tanks and infantry is essential to success. Each must feel that the other will remain and fight when the situation is serious.
Tanks employed on the MIR are very effective against enemy personnel in the open.

Rocket launchers are relatively ineffective against properly supported tank attacks in open terrain. They are effective against tanks operating in close terrain, defiles, woods and built-up areas. When operating in such areas, tanks should be adequately supported by infantry. (RESTRICTED)

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The CCF attack principally at night. In the early light of dawn and just after dawn, CCF forces apparently are still in their attack formations or assembly areas. Counterattacks during this period have greater possibility of achieving surprise. (CONFIDENTIAL)

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Tanks and friendly rocket launcher teams form an excellent team to combat enemy armor. (RESTRICTED)

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1. The following items of equipment have been found to be ineffective:

- Pneumatic Nail-Driver. It is recommended that a better nail-driver be developed. Some form of cushion block is required in this tool to insure that each blow of the piston is delivered to the nail-head. The driver now in use tends to bounce and ride off.

2. The below listed item of equipment is defective:

- Locke Hand Level. Of several tested, none reads true. In the present form, it is virtually impracticable to adjust. The level bulb should be occluded to the level so as to permit the insertion of shims for truing. The adjustment, once made, should remain permanent.
5. Strips secured to the bottom flanges of 40" built-up beams should be welded securely with filler material placed from the point where the strip meets the splice plate to its junction with the flange. Air spaces left in this region (when strip is appreciably thinner than the splice plate) lead to weld failures and buckling of the strip.

6. Cribbing placed under rollers should be solid. Pairs of 48" built-up beams can become canted in launching, thereby placing all the weight on one roller. Solid cribbing insures against failure and facilitates placing of jacks.

7. Shell-casing makes suitable forms for hand-rail post for concrete bridges. (Being used by contractor on Bok Há Bridge near Ichon.)

8. Clips presently being furnished for securing decking to 48" built up beams have too small an opening to fit around the beams at the splice plates. An "I" shaped clip of standard commercial design would be preferable.

9. By applying the principles of aeronautical engineering design to the problem of fixed and floating military bridges, it is possible to develop bridging of much less weight per foot and for far greater span lengths than is now available. It is estimated that bridging so designed of aluminum for the Seoul Highway Bridge would aggregate only 150 to 175 tons. The tonnage of supplies actually required for this bridge was over 1100 tons disregarding such accessories as rafts, foot walks, and other construction aids. It is recommended that a strong emphasis be placed on furthering the development of long span, light weight, fixed bridging, and of rigid light weight floating bridging. Such bridging would have great tactical value, conserve tonnage, and greatly increase the useful output of engineer units. (CONFIDENTIAL)
The "pipeline" is not providing enough specialist skills. As a result, the majority of the men now holding specialist jobs cannot be rotated without reducing the operational efficiency of the 6th Medium Tank Battalion. Holding these men with no promise of relief in the future will also result in a reduction of operational efficiency. (SECRET)

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The 73d Heavy Tank Battalion has a quartermaster pump, gasoline dispenser, mobile, gasoline engine driven, 100 gallons per minute, Model PM-100. A tank battalion in full operation requires twelve (12) men, working sixteen (16) to eighteen (18) hours, to fill about 1500 five (5) gallon gas cans from 55-gallon drums by hand. A tank battalion in a static position needs a crew of twelve (12) men to fill 500 five (5) gallon gas cans in five (5) hours by hand. However, with the Model PM-100 pump, seven (7) men can fill 500 five (5) gallon cans in one (1) hour and fifteen (15) minutes without wastage. EUSA Armor is attempting to obtain one (1) PM-100 pump for each tank battalion. However, PM-30 pumps (30 gallons per minute) may be substituted therefor. (RESTRICTED)

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FLAIL TANKS

The AT Mine warfare of the enemy has accounted for an estimated 34% of all UN Tank losses. On the I Corps front good tank terrain has been mined extensively by the enemy. In order to overcome this restriction on tank mobility, a special mine exploder or "flail" tank is being designed and constructed in the 30th Ordnance Group. Several of these can be made available to each Corps if tests are successful. It is a much better conceived and constructed "flail" than the WW II model. Improvements include a laminated steel spindle, 155-mm recoil springs to absorb the "shock" of exploding mines on the hydraulic lift system, and a separate power source to operate the "spindle." The biggest disadvantage is in the increased width of the tank and the problem of negotiating narrow KOREAN roads. (SECRET)
In the attack north from Yudong-ni, the enemy positions encountered were well dug-in and camouflaged. Artillery was placed on these positions with little or no result. If a direct hit was obtained, the position would be neutralized. However, this took many rounds of artillery and entailed the loss of much time. Tanks were ordered up to the front and with their direct fire weapon had the emplacements neutralized in a matter of seconds. In a few instances, the recoilless rifles were brought up and would neutralize the targets after a few rounds. (CONFIDENTIAL)

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Tank fire is most accurate and effective in destroying enemy bunkers. (RESTRICTED)

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The present mess kit should be discontinued and replaced by a serving tray kept at the company kitchen. (RESTRICTED)

CONCLUSION

Operations during February followed the general pattern developed during the previous month's actions: (1) isolation of enemy strong points; (2) intense artillery concentrations delivered against the dug-in enemy; (3) infantry assault supported by tremendous expenditures of tank ammunition. (RESTRICTED)

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Throughout the month's operations, the enemy gave a convincing demonstration of his ability to camouflage his positions and to maintain fire discipline. Indicative of this capacity for concealment was the action fought by the Reconnaissance Platoon, 89th
Medium Tank Battalion, on 8 February. In this engagement, highly trained reconnaissance personnel were unable to observe the enemy although he was in position within 100 yards of their route of advance. Previous air reconnaissance had failed to locate his positions and artillery concentrations had failed to drive him from them. Furthermore, reconnaissance by fire conducted by the Reconnaissance Platoon from positions within 500 yards of his defenses failed to draw return fire. It was this ability of the enemy to conceal and ambush which constituted the primary limitation upon armored operations during the month of February. (SECRET)

**********

The effectiveness of the cautious tank-infantry team in flushing out the enemy cannot be overstated. Tank Company commanders employed their units over terrain which appeared, from map reconnaissance, impossible for tank operations. There were, in fact, few places in which infantry was placed where armor was not alongside in direct support. Tanks were placed on hill sides and advanced along trails on which it was virtually impossible to find a firm foundation for both tracks. On rare occasions when it was found after trial to be actually impossible to bring tanks into the forward infantry positions, the tanks were employed in the nearest available supporting positions. Although these operations were not spectacular in the usual sense of the armored break-through, they were conducted with splendid coordination on all levels and achieved complete success in driving the enemy from his positions.

A significant elaboration upon the basic pattern of the slow moving tank-infantry team was the use of the armored Task Force to increase the effectiveness of the cautious advance. The peculiarities of the Korean terrain and more particularly of Chinese tactics resulted in several modifications upon what has generally been assumed to be the mission of armored Task Forces of this nature. In general, these armored forces have been assigned the mission of penetration and maximum exploitation of the enemy's rear areas. Throughout the first phase of Task Force DOLWIN, however, definite limitations were placed upon the armored units despite the fact that the enemy did not appear to possess the capacity to stop an armored drive through his positions to the N. had this been the intention of the Task Force Commander. Such a penetration might have been delayed by
enemy minefields for a short time, but its ultimate success seems to have been assured. The enemy did, however, possess the capacity to inflict serious damage upon such a Task Force in an unlimited attack, especially in its return to friendly lines, by utilizing his massed infantry forces to defend a series of easily constructed road-block strong points.

Within the definite limitations placed upon it in its initial operations, however, Task Force DOLVIN played a key role in the drive to the HAN. By virtue of its mobility, the Task Force was able to drive through the front lines of the slowly moving tank-infantry teams and thus relieve pressure upon them. Furthermore, the Task Force denied to the enemy the use of the chief road net in this region, with its hub at ANYANG, to reinforce his units operating on both flanks of the Task Force. Handicapped by his uncertainty as to Task Force DOLVIN'S intentions, the enemy doubtlessly realized that the Task Force possessed the capacity to attack to the North, East or West from ANYANG. Movement to the East or West would place the armored force with all its firepower between large enemy forces, already under frontal attack, and their rear areas. These capabilities inherent in the armored force kept the enemy off balance and insured friendly infantry force, engaged in the actual assaults of the two (2) hill masses, against large scale enemy reinforcement.

In these successive operations in the vicinity of ANYANG, Task Force DOLVIN made extensive use of an often over-looked advantage peculiar to armor: the ability to disengage. Maintaining constant pressure against the enemy strong points during the day and seizing them on three (3) successive occasions, the Task Force was nevertheless able to avoid massed infantry attack during the night by the slow moving enemy infantry. As a consequence, the enemy was unable to launch a strong counterattack against the Task Force which had displaced approximately four (4) miles to the rear each evening. The enemy, therefore, was never in a position to compensate by a night attack for the severe casualties inflicted upon his forces by Task Force DOLVIN in daylight operations. It seems reasonable to assume, therefore, that the enemy's main line of resistance was broken by the successes of Task Force DOLVIN'S operations in the vicinity of ANYANG. When these defenses were penetrated, enemy resistance along the entire Western front weakened and Task Force ALLEN was able to dash to the HAN. (CONFIDENTIAL)
**UNCLASSIFIED**

<table>
<thead>
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**Lesson Learned**

1. Tank-infantry teams utilized over appropriate terrain jar the enemy from his position, inflict maximum casualties and readily assist the advance of friendly forces against a well dug-in enemy.

2. Searchlights provided for night illumination are of definite value against an enemy attacking in mass at night. They are not too unwieldy to move over a limited road net, and are very desirable tactically. (RESTRICTED)

<table>
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<tr>
<th>SOURCE:</th>
<th>Command Report - 92d Armored Field Artillery</th>
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Recent T/O&E changes appreciably reduce machine gun armament of the Field Artillery Battalion. It is urgently recommended that this trend not be followed in this theatre - and that appropriate recommendations discouraging this trend be made to the Department of the Army.

The ability of an Artillery Battalion to defend itself on the march and in perimeter is proportional to the number of machine guns available. Comparisons between armored and towed artillery battalions greatly favor the T/O&E of the armored battalion by their machine gun superiority and their proven ability to defend themselves under attack here in Korea. The foregoing mentioned changes reflect opinions formed from the European type of warfare and are in opposition to current combat lessons being learned in Korea. (SECRET)

**Power Telephone**

It is recommended that current allowances of Power Telephone (TP-9) be increased from two (2) to six (6) to allow one per battery in addition to the two (2) per battalion. With batteries widely
distributed, communication with them could be greatly improved if the battery had a power telephone (TP-9). With Service Battery invariably well to the rear, communications could also be improved by the use of the TP-9. (CONFIDENTIAL)

Evidence of enemy AT mines continued to increase during the period. Minefields encountered were of irregular pattern and of various sizes. As a rule AT mines were laid in pairs, one mine on each side of the road. These mines were laid the same width as our tank tracks thereby engaging both tank tracks simultaneously. In some instances three (3) or four (4) mines would be placed upon each other in order to give them more power. Many vehicles were lost by hitting mines that were laid on the shoulders of the roads. (CONFIDENTIAL)

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During the early part of the period two (2) of our patrols were ambushed. Neither patrol had cleared the high ground on the sides of the ambush point prior to moving through it. Patrols dispatched during the latter part of the month were directed to clear the high ground prior to advancing through a valley. This countermeasure proved very effective. (RESTRICTED)

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Again it was noted that enemy counterattacks were successful only when friendly troops were not dug-in. On occasions where friendly units were dug-in, the enemy counterattacks were beaten back. (RESTRICTED)

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During the attack on the Netherlands Detachment's defense line the enemy employed new tactics to take advantage of a penetration.
As soon as the penetration was made, illuminating grenades were set off on each flank of the penetration. Enemy troops in rear of the attackers quickly poured through the area between the illuminating grenades and exploited the penetration without loss of time and personnel. (RESTRICTED)

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Organic vehicles with forward units should be kept to a minimum and should be parked off roads in such a manner that march order formation can be effected without delay. Vehicles should be kept loaded with equipment not being used and drivers should know the location of equipment that must be loaded. Whenever retrograde movements are imminent, motor vehicles, with the exception of litter 1/4 ton trucks and communications vehicles, should be loaded and displaced to the rear. Remaining vehicles when forced to displace, should move with armored protection. (RESTRICTED)

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Battalions should conduct sufficient training to assure that Battalion Headquarters Company and extraneous personnel can reorganize quickly into fighting units. (RESTRICTED)

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On a number of occasions tanks and AAA AW SP vehicles furnished covering fires that permitted the withdrawal of platoon and company size units. Such employment should be exploited. (RESTRICTED)

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More training in destruction of equipment is needed and periodic checks should be made to assure that incendiary grenades and/or other means are readily available. (RESTRICTED)

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In tactical situations deteriorating into retrograde movements, where a regiment is widely extended in depth, and all battalions are not under operational control of the parent unit, early release to such control is imperative. Delay in receiving operational control of 3d Battalion denied effective employment and resulted in a loss of maneuver initiative. When such control was eventually received the tactical situation had reached a critically serious stage and only by sustaining abnormally high casualties in personnel and equipment
was this battalion capable of extricating itself. (SECRET)

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Many streams had to be forded on the MSR. This resulted in the failure of brakes. Many brakes had to be completely disassembled and cleaned before they would operate. (CONFIDENTIAL)

| SOURCE: Command Report - 17th Inf - 7th Inf Div |
| DATE: May 1951 | Source No. 131 |

Due to the lack of experienced replacements being received in the regiment, it has become necessary to initiate an extensive training program within each unit. Schools have been established to train the following personnel: medical aid men, tank men, switchboard operators, radio repairmen, cooks and bakers, wiremen, heavy mortar crews, drivers, administrative personnel, message center clerks, clerk typists, antitank and mine personnel, intelligence personnel, and counterfire personnel. (CONFIDENTIAL)

| SOURCE: Command Report - 7th Inf Div |
| DATE: May 1951 | Source No. 132 |

It is noted that supply discipline was being emphasized by all units. During the month of April, 348 Statements of Charges were received. (RESTRICTED)
ADMINISTRATION

Due to the distance between the battalion CP and its personnel section at Division Rear (usually 75-100 miles) administration within the unit is seriously hampered. This could be overcome by returning the personnel section to this unit. It could perform its duties very efficiently at Service Battery. (RESTRICTED)

From their present positions Battery "B" could effectively reinforce the fires of the New Zealand artillery with good depth even though there were high peaks on all sides, and in spite of Battery "B's" inability to give high-angle fire. There seems to be over-emphasis on the necessity for high-angle fire in Korea, although it is definitely a desirable characteristic to have with all weapons. (CONFIDENTIAL)

With our superior training, firepower and equipment we can and must teach our men to rally around their equipment and protect it. This equipment, if manned, will contribute greatly towards the individual's protection. All men must be made to fight as infantry if and when necessary. Panic, not the enemy, was the most influential contributory factor in the abandonment and destruction of equipment. (CONFIDENTIAL)
Of particular importance was the skillful employment of massed artillery fires. The division artillery, reinforced, inflicted an estimated 18,000 casualties on the enemy during the critical period, 16 through 21 May. (RESTRICTED)

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Radar controlled medium bombers operating at night were instrumental in disorganizing attacking Chinese forces. Again and again, accurate bombing dispersed and disorganized enemy troop concentrations prior to their attacks. The effectiveness of medium bombardment was found to be directly proportional to the functioning of intelligence agencies, with emphasis on speed of transmission of information. (SECRET)

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About the 16th of May the great CCF offensive hit the 2d Division and the supply services were called on to supply unheard of quantities of ammunition, gasoline, etc. For example, in a 24 hour period (1800 00 to 1900 00 May) over 44,000 rounds of artillery of all types were expended by the Division Artillery. Yet, the supply was kept up and a favorable stock level of over 18,000 rounds maintained in the ASP. (RESTRICTED)

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EVALUATION AND RECOMMENDATIONS

Under present regulation, the 2d Division is limited to one helicopter. When this aircraft is made unavailable because of repairs, many precious hours are lost. The time required to repair the plane and the number of times repairs are necessary make this a serious problem. The number of helicopters assigned to a division headquarters could, with profit, be quadrupled. (RESTRICTED)

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It was observed on numerous occasions that frontline commanders hesitated to call for close artillery support because of a frequently justified fear of short rounds. It is important that constant
attention be directed to the elimination of faulty range estimation and firing techniques. They can spell the difference between an easy victory and a costly defeat. (RESTRICTED)

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Tactical units frequently failed to observe basic rules of camouflage and both tents and shelters were placed on prominent terrain features where they invited enemy fire. (RESTRICTED)

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Interrogation of prisoners of war indicates that the one weapon in the UN arsenal which creates the greatest panic in the enemy ranks is the massed fire of our artillery. (RESTRICTED)

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The use of Korean carrying parties organized into Civilian Transport Companies (CTC), proved an excellent expedient in the wild terrain of Korea, and should be studied for application in future actions. All Infantry regiments were unanimous in their praise of this augmentation to the transportation facilities. (RESTRICTED)

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Periodic Operations Reports were utilized during the month of May to disseminate information of immediate importance to the tactical units. This expedient supplemented letters of instruction and other more common media. (RESTRICTED)

Maps were lacking in accuracy and there was an appalling lack of aerial photographs. Readable 1/25,000 meter grid photo mosaics would have been most helpful. (SECRET)
Certain combat vehicles have been received from the Red River Arsenal for processing which were difficult or, in some cases, impossible to process due to defective major assemblies such as engines, clutches, steering brakes, bearings, etc. One carriage, motor, gun, from Red River Arsenal had water instead of oil in the recoil mechanism. (SECRET)

Mission: port clearance, troop movement, reinforcing transportation of units in Pusan area.

Vehicle daily average availability  
1 13-2\(\frac{1}{2}\) ton truck  
91-5/10 ton tractor trailer

Total monthly load carried  
76689 personnel  
106877 tons cargo

Daily average load carried  
2474 personnel  
3448 tons cargo

Total monthly mileage  
27272 personnel  
143660 for cargo

Total gasoline drawn  
174,000 gallons

(RESTRICTED)

Searchlights were first used for battle illumination on the 12th of April and were used frequently until the 22d. The Infantry
Regiments were not overly-impressed with the value of the lights and felt that they were kept too far in the rear. It was decided toward the end of the month that the lights would be utilized only after a major enemy attack was launched against the 2d Division defense line. (CONFIDENTIAL)

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An attempt was made to train all members of gun crews in the position of gunner. Units not on the frontline were directed to improvise targets and improve their gunnery. (RESTRICTED)

| SOURCE: | Command Report - 11th Engr C Bn |
| DATE: | April 1951 | Source No. 140 |

As the enemy continued his attack, both companies were ordered to lift the M-2 bridge on the Han-ton River. Work began at 1800 and by 2130 approximately 300 feet of M-2 bridging was disassembled and hauled to the I Corps Engineer Dump. (RESTRICTED)

| SOURCE: | Command Report - 1169th Engr C Group |
| DATE: | April 1951 | Source No. 141 |

Recommend that Engineer Combat units be assigned one (1) mobile road grader per company; that an Engineer recovery team be organized to follow advancing Engineer units with sufficient heavy equipment to salvage up to a D-8 dozer; and that one (1) 5-KVA diesel generator be assigned to each company in an engineer combat battalion inasmuch as the companies are usually separated and much of their work is continuous throughout the day and night. (CONFIDENTIAL)
**In order to enforce specifications and to improve the quality of workmanship, particularly on bridge projects, it was found necessary to emphasize the system of continuing job inspections. Completion inspections of projects were accomplished prior to releasing units from assigned responsibilities. (RESTRICTED)**

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Breakdown of roads in the CHECHON area during the week 25-30 March was partially due to poor sub-grade and lack of rock base, however, the use of so-called decomposed granite for surfacing material proved to be a contributing factor. Such material often contained such a high percentage of clay and fines that it was subject to rapid disintegration during periods of wet weather. It is essential that patrols operate continuously during heavy rains to open side ditches and culverts to assure uninterrupted flow of water away from and off the roads. (RESTRICTED)

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If indigenous civilian laborers are to be utilized efficiently in the forward areas, they must be provided with adequate food, shelter, clothing and medical care from Army Sources. (RESTRICTED)

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The supply section of a group headquarters should be augmented with sufficient personnel, equipment and transportation to enable it to draw, breakdown and issue Class I and Class III supplies for all assigned and/or attached units. (RESTRICTED)

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The Battalion was committed as Infantry in a blocking position. This was difficult due to the lack of time to reorganize for an Infantry mission, lack of mortars, and lack of communications with supporting and flank elements. (CONFIDENTIAL)
It is felt that Engineers should be used as Infantry only in extreme emergency, and then should be reinforced with high angle weapons and given time to reorganize as Infantry rifle companies. Information should be given as to the mission, friendly and enemy situation, and how contact with Division CP should be established. More information would give better assurance of successful completion of any such Infantry missions. (RESTRICTED)

SOURCE: Command Report - 76th Engr Const Bn
DATE: March 1951

The Battalion was given the mission of putting the Mojin Bridge, one mile south of the 38th parallel and across the Pukhan-gang River, back into operation. The decision was made to use Bailey Bridging. Three (3) spans had been blown out of the bridge leaving two (2) gaps - one of 100' and another of 320'. The repair job was complicated by the fact that one of the concrete piers was badly damaged and still had debris from the original bridge hanging from it. Demolitions and steel cutting torches were used to clear away the debris. It was found that the pier was 16 feet below the level of the original bridge. The Bailey was launched over the long gap. When it reached a point directly over the damaged pier, a double Bailey panel pier was placed on the existing concrete pier, a rocking roller was placed on top of the Bailey pier, and the bridge pushed across the remaining gap. Then the bridge was jacked up, the roller removed, and after minor adjustments, was ready for traffic. (RESTRICTED)

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Company "B" was forced to cut the two (2) M-2 bridges across the Pukhan-gang River loose and anchor them parallel to the bank to protect them from the flood waters released from the Hwachon Reservoir by the Chinese Communist Forces. The Pukhan-gang River made a rise of 8 feet within 12 hours. (RESTRICTED)
The unit laid a great many antipersonnel mines of all types in blocking routes of approach to the pass. The use of SICHU mines provided a problem in pattern and recording, as no standard pattern for laying the mines is known to the unit. A pattern used by the AT&M platoon identical to the six-row antitank minefield pattern but with 1/2 the distance between mines (a density of 1 mine per foot of front) worked well. (RESTRICTED)

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An estimated 175 tons of enemy ammunition was destroyed by placing it (in original crates) in a gulley and burning it with gasoline and diesel oil. The method worked exceptionally well. The crates helped the fire and the gulley kept the ammunition from being scattered before it was detonated. (RESTRICTED)

Communications

1. Generally unsatisfactory. During the entire Korean campaign line companies have always been separated from the battalion CP. Laying miles of wire, operating a switchboard and trouble shooting is a task too great for the small communications section of this Battalion.

2. The use of radio, AN/GRC 9 has been attempted by the battalion; however, due to the mountainous terrain, results were unsatisfactory. (RESTRICTED)
A total of 228 Prisoners of War were taken of which 30 carried a "Safe Conduct Pass." *(CONFIDENTIAL)*

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**EVALUATION**

A tank battalion headquarters is not capable of serving as command headquarters for a large task force operation without additional personnel.

The infantry sustains heavy losses from small arms fire when riding into the battle zone on the decks of tanks. They should be transported in armored personnel carriers. *(CONFIDENTIAL)*

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**RECOMMEND**

1. One D-7 angle dozer per combat platoon for a total of three (3) per Engineer combat company.

2. A smaller rear loading trailer to replace the front loading semi-trailer. The latter is too long and wide for the narrow, twisting and mountainous roads in Korea. *(CONFIDENTIAL)*

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UNCLASSIFIED
The unit received two (2) Flame Throwers which were not used at all. The Flame Thrower is an excellent weapon against the enemy when he is dug-in. However, because of its weight and the difficulty of carrying it over this terrain, its employment is sometimes impractical. (RESTRICTED)

RECOMMENDATIONS

1. That in road construction in this theatre extremely deep ditches be constructed along side all roads to intercept the subsurface water before it reaches the road bed.

2. It is suggested that more consideration be given to the repair of bridges rather than the construction of temporary bypasses. It has been found that raising spans and restoring abutments took relatively no more time than the construction of a bypass. (CONFIDENTIAL)

The Ammunition Storage Areas and Railhead experienced their first operations in outloading of ammunition by lot number. The problems encountered, primarily the lack of lights and unsegregated stacks, were numerous. The resulting errors that had to be corrected by the day shift indicates that the feasibility of outloading by lot number at night is out of the question at this time. (The 335th Ordnance Battalion is responsible for the operation of Hunsdon Ammunition Depot) (CONFIDENTIAL)
A survey was made regarding Dues Out on wrist watches. It was learned that Dues Out at Field Depots to Forward units have been filled and Field Depots now had watches in stock. Due to the fact that Ordnance Base Depot #1 had still Dues Out, it was the belief that duplications have been reported. (Watches have been controlled and allocated by EUSA since March 1951.) It was recommended that Ordnance Base Depot #1 screen and cancel all requisitions prior to that date. (SECRET)

An investigation was conducted during the reported period to ascertain the reasons for failures of the hydropneumatic type of recoil mechanisms. After a complete check with the 250th Ordnance Ballistics Team, the using units and Ordnance maintenance support units, it was determined that the major factors contributing to the failure of these mechanisms were as follows:

1. Excessive rate of sustained fire, causing overheating of the mechanisms.

2. Excessive use of Charge 7, which subjected the mechanism to continued extreme shocks and pressures. (CONFIDENTIAL)

Valuable cargo hauling time was lost during the period due to numerous flat tires caused by shell fragments and nails around the Inchon area. To solve this problem plans were made by A Co, 562d
EBM Bn, to construct an electromagnet for use in sweeping local roads. (RESTRICTED)

SOURCE: Command Report - 328th Ord Bn
DATE: December 1950

Winter weather conditions greatly curtailed maintenance production, particularly during hours of darkness. It is recommended that tents, maintenance shelter, with frames and adequate heating units be added to each Ordnance Maintenance Company operating in snow or extreme cold. (RESTRICTED)

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In order for this command to perform its assigned mission, it was necessary to utilize a large percentage of unit personnel as vehicle drivers. Driver training in trucks, 2½-ton, .6x6, should be included in the training of the Ordnance soldier. (RESTRICTED)

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Artillery maintenance sections experienced considerable difficulty in heating artillery pieces for manometer tests. Improvised heaters proved unsatisfactory from a mobility or capacity standpoint. Heating units suitable for artillery manometer testing would prove of great benefit. (RESTRICTED)

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The operation of a vehicle and artillery park, in addition to supply of Ordnance Class II & IV, required maintenance support for the Ordnance Field Depot. Furnishing maintenance personnel for stock vehicles and artillery detracted from the assigned maintenance mission. It is recommended that Maintenance Teams (T/O&E 9-500) be attached to an Ordnance Field Depot in proportion to the vehicles and artillery being received by the Depot. (RESTRICTED)