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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (12 Jan 68) FOR OT RD-670648

18 January 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 1st
Battalion, 40th Artillery, Period Ending 31 July 1967 (U)

TO: SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation by USACDC in accordance with paragraph 6f, AR 1-19 and by USCONARC in accordance with paragraph 6c and d, AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from Lessons Learned during current operations, and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

1 Incl
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This report received at Hqs, Department of the Army without indorsements. To preclude further delay in benefits gained from the lessons learned herein, this report is published without complete indorsements.

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DEPARTMENT OF THE ARMY
HEADQUARTERS 1ST BATTALION 40TH ARTILLERY
APO San Francisco 96269

9 August 1967

SUBJECT: Operation Report for Quarterly Period Ending 31 July 1967.
(RCS CSFOR-65) (U)

TO: See Distribution

SECTION I SIGNIFICANT UNIT ACTIVITIES

1. (C) General

a. The battalion remains under the operational control of the 12th Regiment, 3d Marine Division. Continually operating with only one firing battery at the battalion base camp in the Dong Ha Combat Base near the Demilitarized Zone, the battalion has continued to provide intense volumes of artillery fire for supported units throughout Quang Tri Province and in defense of the Dong Ha Combat Base. All firing batteries have displaced from base camp for various periods of time on direct support or reinforcing missions. The battery remaining in base camp has been in general support of the 3d Marine Division with direct support of small unit operations from the base camp position for short periods. The battalion has provided artillery fire support for the following units: 1st and 2d ARVN Regiments; ARVN Airborne Task Force; 2d and 3d Battalions, 3d Marine Regiment; 1st, 2d, 3d Battalions, 9th Marine Regiment; 1st Battalion, 26th Marine Regiment; 3d Reconnaissance Battalion, 3d Marine Division; several Combined Action Companies, and many convoys moving between various areas.

b. Large numbers of North Vietnamese regular army troops are still being found throughout the battalion's area of operation, Quang Tri Province, and in the Demilitarized Zone. During early July it was reported by intelligence sources that there were 17,300 NVA operating in Quang Tri Province. Viet Cong activities have also continued. The frequency of U.S. Marine and ARVN operations have increased and many of these operations have been of multi-battalion size. The large multi-battalion operations have involved both ARVN and U.S. Marine Infantry units. Battalion forward observers have accompanied infantry units during the conduct of many of these operations, working with both Marine and ARVN units; various firing batteries have assisted the infantry by delivering the necessary artillery firepower. The battalion air observers, however, have obtained very little flight time in the past three months.

c. During the last three months the Dong Ha Combat Base received incoming mortar, rocket and artillery fire on numerous occasions. On 8 May 1967 the Dong Ha Combat Base received approximately 300 rounds of 140mm

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rocket fire during the early morning hours; 150 of the rockets landed in or near the battalion area. This attack was part of coordinated attacks on Con Thien (YD 114702), Camp J.J. Carroll (YD 061545) and Gio Linh (YD 215 740). No casualties were sustained by battalion personnel and no significant damage to battalion equipment resulted. From accurate intersections obtained by the use of the "whiz wheels" in perimeter bunkers and B.C. scopes in observation towers, and grids sent by CMR (radar), accurate location of the rocket launcher positions were determined and counter rocket fires were delivered immediately by Battery A from the Dong Ha Combat Base camp and Battery C from a position north of Cam Lo (YD 146616). A total of 307 high explosive and 47 white phosphorous rounds were fired by the two batteries on the rocket sites. On 11 May 1967 a Combined Action Company operating immediately outside the compound received twenty-five 82mm enemy mortar rounds in their position; no rounds landed in the battalion area. Counter mortar fires on a grid reported by radar were fired with results unknown.

On 18 May 1967 at 0324 hours the Dong Ha compound was again the victim of attack; the volume of enemy fire was intense with approximately 100 rounds in or near the battalion area. A total of approximately 300 rockets, mostly 140mm, were fired into the complex during this period. Immediately, counter rocket fires were delivered on grids reported by radar and by azimuth intersection from the perimeter bunkers and observation towers. A total of 284 high explosive and 27 white phosphorous rounds were fired on rocket positions by Battery A at Dong Ha and 141 high explosive rounds were fired by Battery C from their Cam Lo position. The following morning damage assessment revealed one 5 ton diesel tanker was a total loss, two 1/4 ton jeeps and one 1/4 ton trailer were damaged, and several other vehicles and several tents received fragmentation damage; however there were no casualties in the battalion.

In the early morning of 21 May the ARVN compound near the battalion base camp area was mortared; immediately counter mortar fires were delivered by the battalion in support of the ARVN's. These immediate counter mortar fires were possible through a rapid and accurate location of the mortar position by the counter mortar radar in the battalion area. The mortars were silenced. Later, in the evening of the same day, the combat base received a few incoming mortar rounds from a different location. Counter mortar fires were once again delivered on the enemy based on a grid determined once again by the counter mortar radar. None of the incoming rounds fell in or very near the battalion base camp area.

On 3 July 1967 the Dong Ha Combat Base was taken under enemy 122mm artillery fire for the first time. Battery C fired counter battery fires on suspected positions; the total number of artillery rounds fired at the base was undetermined. The next day five additional 122mm artillery rounds were fired at the Dong Ha airfield; on 6 July 1967 in the early morning hours and once again in the late afternoon approximately forty 130mm and 122mm artillery rounds were fired on the base with a few rounds impacting in the battalion area. Based on azimuth intersection from the various observation towers and spottings by air observers, counter battery fires were delivered on the enemy artillery positions with excellent target coverage, to date no more artillery rounds have been fired from the locations fired upon. Numerous casualties were sustained by personnel in the Dong Ha Combat Base during these artillery attacks; however none were members of this organization and there was no damage to battalion equipment.

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Firing from the Demilitarized Zone, the NVA shelled the base again on 8 July 1967 with twelve 130mm rounds; no damage or casualties occurred in the battalion.

At 0155 hours on 10 July 1967, the Dong Ha Combat Base was rocketed once again. Most of the incoming 140mm rockets impacted in or near the battalion area. Rapid azimuth intersection from "whiz wheels" in the perimeter bunkers and from the observation tower personnel enabled immediate and accurate location of the rocket sites. The rocket positions were rapidly taken under fire by Battery A. The rapid delivery of artillery fire on these rocket positions greatly reduced the enemy rocket delivery potential and only 21 rounds were received in or near the battalion area. A Battery fired 303 HE rounds, and one howitzer from B Battery and one from C Battery remaining in base camp fired 76 and 20 HE rounds respectively at rocket positions. Later surveillance revealed 24 enemy KIA at the rocket positions. Damage to equipment and vehicles was light and the battalion suffered 13 minor casualties. During the period 26-28 July 1967 the Dong Ha Combat Base received enemy artillery fire on 14 occasions. Counter battery fires were delivered by Battery A almost in every instance with good results. The enemy artillery position, 152mm, has been silenced and the combat base has no longer received artillery fire from this position. No damage or casualties were from this unit.

d. The 12th Marine Regimental Commander fired the 150,000th round to be expended by the battalion's firing batteries since the battalion arrived in Vietnam in late October 1966. The round was fired from A Battery's position in base camp on 11 July 1967. As of 31 July 1967 the battalion has fired 175,301 rounds since arriving in Vietnam.

e. Extremely heavy emphasis is being placed on camp construction. As in the past, construction has been principally in the area of additional fortifications in the battery areas for personnel and ammunition protection. The firing batteries away from base camp on operations also are emphasizing the immediate construction of strong and durable personnel bunkers as soon as possible after occupation of the position area. A new S2/S3/fire direction/message center bunker has been completed and has been operational since 18 May 1967. A communication center bunker has recently been completed. Heavily fortified and underground bunkers provide protection for personnel and enable efficient and effective operation at all times and under all circumstances. Personnel bunkers have been emphasized in the battery areas and many additional and more durable bunkers have been erected.

f. Staff visits to all batteries have remained continuous and to insure a high degree of combat readiness command inspections and visits are made by the battalion commander. The annual general's inspection for this battalion began on 31 July and terminated 4 August. The battalion obtained an overall rating of outstanding for this inspection.

g. The high burst method of registration is still being used by the battalion to register its firing batteries. All charges are attempted to be registered with the exception of charge 2. Registrations are conducted north and south and wind cards are used for computation of GFT settings in directions other than the registration direction. All registrations

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are conducted during a period when a concurrent metro is available so that it can be applied to registration data in order to obtain the best possible GFT settings. Metro messages have continued to be received three times daily, and are computed immediately upon receipt to update GFT settings so that the best available data is always fired. High burst registrations have been conducted using the flash base method and radar concurrently.

2. (U) Intelligence

a. Counter intelligence security inspection of unit held 12 June 1967 by 55th MI Det. First since unit arrived in country.

b. Custodial transfer of classified documents effected 29 July 1967.

3. (C) Operations and Training Activities

a. Plans. Current plans for the battalion are:

(1) To provide artillery support in defense of the Dong Ha Combat Base located at grid YD 226598.

(2) To be prepared to move firing batteries to any location in Quang Tri Province to provide artillery fire support where needed.

(3) To provide one firing battery for direct support of the Composite Artillery Battalion located at Gio Linh, (YD 214734) for an indefinite period.

(4) To provide one firing battery for direct support of the 3d Battalion, 3d Regiment, 3d Marine Division located in the vicinity of the "Rock Pile" (XD 982542).

(5) To conduct training as outlined by USARV, I FFORCEV and I FFORCEV Artillery training directives and to insure that all units have sufficient section training to insure all individuals are knowledgeable in all facets of their jobs.

(6) To continue camp construction with heavy emphasis on fortification.

(7) To provide administrative control and limited operational control of 235th and 238th Radar Detachments which are to provide counter mortar capability for the Dong Ha Base and Composite Artillery Battalion at Gio Linh (YD 215740) by alternating the detachments at each location for 30 day periods.

b. Operations.

(1) This battalion has continued to provide direct, reinforcing, and general artillery support since arriving in Vietnam in October 1966. The battalion continued to provide artillery fire support in Operation Prairie IV until it terminated on 31 May 1967. Battery C provided extremely heavy volumes of artillery fire in support of Operation

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1 Hickory which began 17 May 1967 and concluded 28 May 1967. A Battery participated in Operation Highrise from 5 June 1967 until 5 July 1967, C Battery is currently providing artillery fire in Operation Highrise. The entire battalion during different time periods supported Operation Ciameron which remained in effect from 1 June 1967 to 2 July 1967, then Operation Buffalo which commenced 2 July 1967 and ended 14 July 1967. Fire support for Operation Hickory II was provided from 14 July 1967 until 16 July 1967 when the operation terminated. The battalion is currently providing artillery support for Operation Kingfisher which began 16 July 1967 and Operation Highrise which has been in effect for several months.

(2) Battery A remained at its Quang Tri City position until 8 May 1967 (YD 338532) providing direct support for the 1st Battalion, 9th Regiment, 3d Marine Division conducting operations in the vicinity of Quang Tri City. The battery also provided fires for the protection of the city. Battery A remained under the operational control of this headquarters. An effective H&I program for the protection of Quang Tri City was developed and fired nightly. Various targets were taken under fire by the battery such as suspected and confirmed Viet Cong positions, mortar positions, Viet Cong in the open, spotter rounds, night defensive fires and area illumination. One mission fired on VC in the open resulted in 23 confirmed enemy KIA's from the artillery fire delivered on target by the battery. The battery also supported several recon teams from the 3d Reconnaissance Battalion, 3d Marine Division and provided necessary artillery fire support for the duration of their missions. The battery was released from this operation on 8 May 1967 and returned to base camp at Dong Ha and once again assumed a general support mission for the 3d Marine Division; operational control continued under this headquarters.

(3) Battery B remained at the "Rock Pile" (XD 982542) under operational control of the 1st Battalion, 12th Marine Regiment with direct support to the 3d Battalion, 3d Regiment, 3d Marine Division as the battery's mission. The battery provided direct support for patrols, platoon size and company size operations by the 3d Battalion, 3d Marines. On several occasions one or two platoons of howitzers displaced to Ca Lu (YD 014455) to provide artillery support for convoys moving to and from Khe Sanh and to support company size operations by the supported infantry unit in the Ba Long Valley near Ca Lu. The position area at the "Rock Pile" plays an integral part in the defensive plan for the infantry base at the "Rock Pile" by providing H&I fires in the area, final protective fires, and observed missions from forward observers occupying observation posts on the "Rock Pile" and on "Razorback Ridge" (XD 968568). From the "Rock Pile" position area B Battery has provided the artillery fire support necessary for many reconnaissance teams to accomplish their missions. These recon teams from the 3d Reconnaissance Battalion, 3d Marine Division have provided several lucrative targets for the battery to fire upon. The battery also provided a heavy volume of artillery fire in support of Camp J.J. Carroll (YD 061545) when the camp was placed under heavy enemy rocket attack. The various targets engaged by the battery have been as follows: enemy observation posts; night defensive and final protective fires; confirmed and suspected enemy movement, artillery, mortar, and rocket positions; automatic weapons positions, enemy bunkers and foxholes; and VC/NVA in the open. On 5 June 1967 the battery fired two beehive rounds for training

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purposes; one round was fired muzzle action, the other with a fuze setting for a down range burst. Both rounds functioned as expected and the target area was well covered by fleashettes in both cases.

(4) On 8 May Battery C displaced from its base camp position at Dong Ha to grid (YD 222677) approximately mid way between Dong Ha and Gio Linh (YD 215740) to provide general support for the Composite Artillery Battalion at Gio Linh. The battery provided fire support upon request from the Composite Artillery Battalion on numerous targets and fired in several final protective fires for the Gio Linh compound. With the continual threat of an attack on the battery by one or several of the four Viet Cong battalions operating near the battery position area, the battery displaced to grid (XD 219659) and continued its mission. Throughout the time the battery was in these two position areas, personnel continually improved and fortified the area. On 15 May 1967 C Battery moved to a position near Cam Lo to participate in Operation Hickory.

(5) C Battery displaced to a position north of Cam Lo (YD 146616) on 15 May 1967 to provide artillery fire support for Marine infantry units involved in operation Hickory. Operational control of the battery was transferred to the 1st Battalion, 12th Marine Regiment and the battery was placed in direct support of the 1st Battalion, 9th Regiment, 3d Marine Division; however, the following day the battery's mission was changed to reinforcing the fires of the 1st Battalion, 12th Marine Regiment and the battery was placed in direct support of the 1st Battalion, 9th Regiment, 3d Marine Division; however, the following day the battery's mission was again changed to reinforcing the fires of the 1st Battalion, 12th Marine Regiment with operational control returning to this headquarters. When Operation Hickory commenced on 17 May 1967, the battery began delivering extremely intensive volumes of artillery fire for the 1st and 3d Battalions, 9th Regiment, and the 2d Battalion, 26th Regiment, all of the 3d Marine Division. In support of Operation Hickory the battery fired 19017 high explosive rounds, 506 white phosphorous rounds, and 307 illumination rounds on 348 observed and 535 unobserved missions. The different types of targets included preparation fires; spotter rounds; bunker and foxhole complexes; mortar, artillery and rocket positions; blocking fires; area illumination and night defensive fires; and on enemy troops. On 23 May 1967, Buddha's Birthday, with a cease fire in effect for the Vietnamese celebration of the holiday, Battery C was directed to break the cease fire and deliver fire on a large NVA force which was in the process of attacking a company of the 3d Battalion, 9th Marine Regiment. The fire was continuous until contact was broken. The battery delivered counter rocket fire for Camp J.J. Carroll (YD 061545) and the Dong Ha Combat Base during rocket attacks on the two areas. On 27 May 1967 the battery received 5 incoming 81mm mortar rounds which impacted immediately outside the position area; no casualties were received by the battery and there was no damage. On 2 June 1967 the battery fired 2 beehive rounds for training purposes. Both rounds functioned properly giving outstanding coverage of target. Operation Hickory ended on 28 May 1967, but the battery remained at its position until 5 June 1967 to cover the movement of friendly troops out of the operational area. Operation Hickory resulted in 353 confirmed and 524 probable enemy KIA and netted 142 detainees. The battery returned to base camp at Dong Ha on 5 June and assumed the mission of general support of the 3d Marine Division, operational control remaining with this headquarters.

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9 (6) On 5 June 1967 A Battery displaced from the base camp at Dong Ha and move to Gio Linh (YD 215740) to provide direct support for the Composite Artillery Battalion at Gio Linh. Operational control was assigned to the Composite Artillery Battalion. Immediately after arrival in the Gio Linh compound the battery began extensive improvement of the position, primarily in the area of protection for personnel and equipment. Extensive and complete fortification in the area is absolutely necessary because the area is continually receiving enemy artillery and mortar fire. The battery continually fired unobserved and observed missions into the Demilitarized Zone and into North Vietnam. During the period 6-8 June 1967 inclusive the battery delivered a heavy volume of fire and received credit for 42 confirmed and 13 probable enemy KIA, damaging or destroying several houses and buildings, sampans, and bunkers. During the three day period 17-19 June 1967 A Battery had another extremely successful period of firing being credited with 9 confirmed and 25 probable enemy KIA, 16 sampans destroyed and several others damaged, several buildings, huts, and artillery positions destroyed. Because of the heavy volume of artillery and mortar fire received by the Gio Linh complex daily the battery displaced several times to areas near the Gio Linh compound. These moves were designed to confuse the enemy as to where the battery would be located during that particular day and to cut down on the number of incoming rounds impacting in the Gio Linh compound. A Battery while in direct support of the Composite Artillery Battalion fired 3662 high explosive, 44 illuminating and 374 white phosphorous rounds on enemy targets. The battery received a few minor casualties from artillery and mortar fragments; none were serious. The battery's howitzers and several vehicles received minor damage from fragments. During the period the battery was operating at Gio Linh it was credited with 104 confirmed and 57 probable enemy KIA, 25 enemy WIA, 19 sampans destroyed and several others damaged, one bridge destroyed, 17 buildings destroyed and 45 additional buildings damaged, one anti aircraft position and 2 mortar positions destroyed, and several bunkers and trench complexes destroyed, or damaged. On 5 July 1967 the battery returned to base camp at Dong Ha, operational control was returned to this headquarters, and the battery's assigned mission was general support of the 3d Marine Division. Immediately after arriving at Dong Ha, the battery destroyed two NVA artillery positions. During one of the missions fired at NVA artillery positions, 25 secondary explosions were observed.

(7) On 5 June 1967 C Battery displaced from its base camp position at the Dong Ha Combat Base and moved to Gio Linh (YD 215740) to relieve battery A which returned to base camp. C Battery assumed the mission of direct support of the Composite Artillery Battalion at Gio Linh with operational control being transferred to the Composite Artillery Battalion from this headquarters. The battery continued to improve the position at Gio Linh; emphasis on area improvement has been placed on structures providing protection for personnel and equipment. During this period the battery has fired missions in support of Operation Highrise, Hickory II, Buffalo, and Kingfisher and currently the battery is giving artillery support in Operation Highrise and Kingfisher. A large variety of targets have been fired upon since the battery moved to Gio Linh. These targets include missions on enemy troops; automatic weapons positions; anti-aircraft positions; SAM sites; suspected and active artillery and mortar positions; bridges and numerous other enemy structures such as trench lines,

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bunkers, buildings, and huts; and missions on VC/NVA resupply boats and supply points. These targets have been found in different places; missions have been fired into North Vietnam, South Vietnam, and into the Demilitarized Zone. During the period 8-10 July 1967 the battery provided artillery fire on several lucrative targets resulting in the battery receiving credit for 30 confirmed and 17 probable enemy KIA, 22 enemy structures destroyed and several damaged. During this three day period the battery was also credited with destroying one NVA howitzer and also caused numerous secondary explosions and fires. From 24-29 July 1967 the battery had another successful period of firing resulting in 22 confirmed and 48 probable VC/NVA KIA along with destroying 13 enemy structures and damaging 7 others. Several other targets engaged resulted in secondary explosions and fires. On occasion the battery displaced from the Gio Linh compound and moved to position area outside the compound during daylight hours to attempt to decrease the volume of enemy artillery fire into the Gio Linh compound during daylight hours. The battery returned to the compound at night. On 10 July 1967 the battery fired counter rocket fire in support of the Dong Ha Combat Base and assisted in suppressing the rocket fire. During the period 5 July - 31 July 1967 Battery C fired 14,279 high explosive rounds, 517 white phosphorous rounds and 143 illuminating rounds in support of the Composite Artillery Battalion. These rounds were fired on 297 unobserved and 160 observed missions and H&I fires. For this period the battery has been credited with 59 confirmed and 111 probable enemy KIA's. It is anticipated that B Battery will relieve C Battery at Gio Linh on 7 August 1967.

(8) The 235th Radar Detachment arrived at the Dong Ha Combat Base on 1 May 1967 to provide counter mortar radar capabilities for this area. The 238th Radar Detachment arrived a few days later on 9 May 1967 giving additional counter mortar radar capability. Both radar sections were placed under administrative control of this headquarters and operational control was given to the 12th Marine Regiment, 3d Marine Division, but in actuality much of the operational responsibility was taken by this battalion. Shortly after both radars arrived one section moved to Gio Linh (YD 215740) for counter mortar radar support for the Composite Artillery Battalion located at Gio Linh. The radars have been working on a 30 day rotational basis between Long Ha and Gio Linh. The radars have been successful in locating enemy mortar positions and have enabled counter mortar fires to be delivered rapidly. At times the radars have also been successful in locating rocket and artillery positions which were actively firing into Gio Linh or Dong Ha, even though the radar is not designed to pick up weapons with these types of trajectories.

(9) The battalion has continued to send out squad size patrols five days each week. The mission of these patrols is to report any unusual occurrences or evidence of enemy activity and to disrupt enemy preparations for mortar attacks near the Dong Ha Combat Base. In addition, three persons are provided nightly to the regimental ambush patrol, set out to give early warning of ground attack. Thus far, these patrols have made no contact with the enemy.

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(10) The battalion survey section has rechecked the survey data for the Dong Ha Combat Base and has surveyed all perimeter defense bunkers on the battalion perimeter. The survey parties have also been employed on many occasions to conduct necessary observation for high burst registrations for both the battery located in base camp and the battery located at the "Rock File" (XD 982542). The battalion survey section assisted a distance measuring equipment team from the 8th Target Acquisition Battalion, 26th Artillery in performing connection survey between the following locations: Quang Tri City (YD 338532), Qua Viet (YD 335705), Con Thien (YD 114700), and Gio Linh (YD 215740). Survey was also completed by the distance measuring equipment unit for the Marine artillery positions at Khe Sanh (XD 844417). Several points along Highway 1 between Dong Ha and Gio Linh and between Dong Ha and Quang Tri City have been surveyed for the purpose of establishing survey control in this area for future use. Survey control points were also established along Highway 9 from Dong Ha to Khe Sanh.

c. Training: The battalion is continuing to conduct training on a daily basis. During this 92 day period, training of some type was conducted on 80 days, emphasis being placed on perimeter defense, fire direction techniques, firing battery procedures and crew served and individual weapons. Familiarization firing of all small arms has been conducted and will continue to be conducted in the future. Battalion personnel also received training and a demonstration in the employment and use of the claymore mine. With large numbers of new personnel arriving in the battalion, training must be continuous to insure that these people are adequately prepared to meet the challenge of performing their duty under a combat situation and to insure their respective sections function in a most proficient manner with these new personnel. Selected survey personnel have continued to be trained in the battalion fire direction center to assist in maintaining a 24 hour capability.

(1) Section training for maintenance sections include the following classes: motor stables, maintenance and equipment records, the army equipment record system, safety and fire prevention procedures, care of tools, engine compression and test procedures, fuel, brake, electrical, steering systems, recovery of vehicles, and installation and removal of engines.

(2) Section training conducted for the howitzer sections of the firing batteries included the nomenclature and characteristics of the M108, disassembly and assembly of the breechblock, firing mechanism, techniques of boreighting, functioning and maintenance of recoil mechanism, panoramic telescope, direct fire scope and elevation quadrant, aiming post alignment and aiming post displacement, measuring and reporting site to mask, application of special corrections, ammunition handling and care, fuzes, fire commands, and maintenance and care of the M108 howitzers.

(3) Fire direction centers conducted classes which included a thorough review of the duties and procedures of the computer, recorder, and chart operators with emphasis on proper gunnery techniques and safety procedures.

(4) Communication sections conducted training in the following areas: SOI, SOP, SSI, communication security, organization and

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operation of message center, maintenance of equipment, and techniques of laying wire.

(5) The survey section held training in these areas: aiming circle, BC scope and theodolite, notekeeping, taping, adjusting angles, use of DA 6-1, 6-2, triangulation, computation of azimuth, artillery mathematics and logarithms, and maintenance of section equipment.

Future training periods will review many of these subjects because of their importance and the necessity for the large number of replacement personnel to become trained in these areas.

d. Chemical: Chemical activities have not been employed to any large extent in the area to date. However, there have been reports of enemy employment of chemical warfare, but this has not been often or to any large extent whatsoever. One incidence of use of gas was reported by Camp J.J. Carroll (YD 061545) on 4 May 1967. There were no casualties and the suspected method of delivery was by mortar fire. Another incidence involving chemical warfare occurred at Gio Linh (YD 214742) when an incoming artillery round damaged a USMC tear gas dispenser releasing gas in the compound. No casualties were received. Battalion personnel have had all protective masks inspected along with the battalion's TOE chemical equipment to insure proper operation if needed. Training has been conducted in the area of chemical warfare and classes are scheduled for the future.

e. Psywar: This unit is not engaged in psywar; however, a psyop team, working in conjunction with this battalion's medical civil affairs program, set up loudspeakers and distributed leaflets in the locally supported hamlet of Dong Ha (YD 225612). This was in support of the Chieu Hoi program, which is an appeal to North Vietnamese Army soldiers, Viet Cong soldiers, and Viet Cong oriented civilians to rally to the rightful government of the Republic of Vietnam. All battalion personnel have been given an orientation class on psywar and all incoming personnel will continue to receive this psychological warfare orientation.

f. Organization: See Incl 1.

4. (C) Logistics

a. The logistical support the battalion has been receiving has continued to improve and, during the last quarter, the greatest improvements in logistical support have been made since the unit arrived in Vietnam.

b. The battalion's vehicle deadline rate has remained under 5% and the battalion maintenance program has continued to receive emphasis contributing greatly to the low deadline rates. Two vehicles have been declared combat losses in this last period. Both losses were results of hostile artillery and rocket fire. One 5 ton truck M54A2 and one howitzer M108, 105mm which were destroyed have been replaced. One of the largest problems encountered by the battalion seems to have been solved, the problem being the continuous fogging of the panoramic telescope, M117 and the burning out of the electrical system within the sight. The

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13 battalion has received and issued the ruggedized version of the sight and the problem no longer exists.

c. Twenty-two tubes, M103, have been replaced with new tubes. Presently the replacement tubes have approximately one half the tube life remaining.

d. The Department of the Army PLL team, Project Counter, has inspected and readjusted the battalion PLL. The quarter master and signal PLL has been consolidated and are presently maintained by the battalion supply section along with the chemical PLL. Approximately 25-30% of PLL line items have remained at zero balance. TA 50-901 items have been accumulated in sufficient quantities to equip all battalion personnel and a shortage in this area no longer exists. The battalion should experience no problems during the next two months equipping replacement personnel.

e. Five 70 cubic foot gasoline driven refrigerators have been received and issued one to each battery. These refrigerators permit each battery to preserve perishable items; however, mechanical problems with the refrigerator have been experienced. Vibrations from the refrigerator engine has caused the refrigerator lines to work loose and break. These lines have been repaired when broken and it has been found that by placing rubber mats under the refrigerator the vibration is reduced and the frequency of broken refrigerator lines is greatly reduced.

5. (C) Civil Affairs

This battalion has been continuing in its civil affairs program of supporting Dong Ha hamlet which has a total population of approximately one thousand persons. To date approximately 2,100 Vietnamese have received medical treatment by the battalion medical section; this includes transporting needing Vietnamese to the province hospital in Quang Tri City to receive medical treatment beyond the capability of the battalion medical personnel. The battalion is currently initiating a swine project for the hamlet people to begin raising and breeding their own pigs.

6. (U) Personnel

a. During this quarter the battalion began the first phase of massive rotation of personnel to other units in the Republic of Vietnam and to COMUS for reassignment. It has been determined that replacements for departing personnel should be requisitioned approximately one month prior to the rotation date. The requisition for replacement personnel at an early date permits personnel continuity during critical personnel shortage periods and enable the unit to maintain adequate strength during massive rotational periods.

b. During this period (May thru July 1967) the battalion suffered 36 casualties all as the direct result of hostile action against VC/NVA forces along the DMZ. The casualties are broken down as follows: 1 killed in action; 3 very seriously injured as the direct result of hostile action; 32 lightly wounded as the direct result of hostile action. It should be noted that the 32 individuals lightly wounded as the direct result of

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hostile action were all treated and returned to duty. All of the above listed information is located and logged in the daily staff journal and the casualty files of the 1st Bn 40th Arty.

7. (U) Artillery

a. The battalion is equipped with the M108 self-propelled 105mm howitzer. Each firing battery has one M577A1 personnel carrier in which to operate their fire direction centers. The battalion fire direction center/operations section is equipped with two such vehicles. The howitzers have continued to prove extremely satisfactory in this area of Vietnam. The 6400 traverse eliminates relaying and allows for rapid laying for direction. The armor protection for crews is especially beneficial in the DMZ area because of the large volume of enemy mortar, rocket, and artillery fire to which the units are continually exposed. Since the M108 provides armor protection, crews have the ability to fire counter battery fire as soon as the target is determined and data computed without unnecessarily endangering the lives of the howitzer crews. Rapid counter battery fires by the battalion has proved very effective on many occasions.

b. To date all howitzer tubes, M103, have been replaced and calibration of all tubes has been conducted for charge 6 and 7. Comparative V.E. have been obtained.

c. The continual problem with the M117 panoramic telescope have been alleviated for the most part at the present time. Dry weather has eliminated a majority of the problems since there is little or no condensation to fog the optical lens and little moisture to deteriorate the internal wiring within the sight. With the arrival of 18 panoramic telescopes previously requisitioned, and a float sight for each firing battery, deadline time has been eliminated because of the failure of the panoramic telescope to function properly.

8. Other: None

SECTION 2 (U) COMMANDER'S OBSERVATIONS AND RECOMMENDATIONS

Part I Observations (Lessons Learned)

1. (U) Personnel: None

2. (U) Operations

a. Item: Bore evacuator key for M108 self propelled howitzer.

Discussion: The bore evacuator key, key locking chamber FSN 1015-565-7340, for the M108 self propelled howitzer cannon component M139 has a tendency to work loose even though the lock washer is in place and proper maintenance is performed. The key works loose and drops out during periods of sustained firing. After the bore evacuator key works loose and falls out the bore evacuator turns and either unscrews and is blown off or tightens excessively requiring support maintenance to remove it. Even though proper preventive maintenance is performed daily the evacuator key continues to malfunction, loosen and fall out.

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Observation: To prevent problems encountered by the loosening and falling out of the bore evacuator key, a hole should be drilled through the bore evacuator screw and key and fitted with lacing wire to prevent the screw from turning. Equipment Improvement Recommendation (Control Number C 82536) has been submitted on the above and the recommendation has been approved by the National Maintenance Point.

b. Item: Failure of bore evacuator valves, valve assembly FSN 1015-345-8087, to perform properly during combat operations.

Discussion: During combat operations when extremely heavy volumes of artillery is provided by the firing batteries, carbon deposits build up on bore evacuator valves. With weak bore evacuator valve springs and carbon deposits continually building up during periods of heavy firing the bore evacuator valves fail to function at all after less than three hundred rounds have been fired. Bore evacuator valves require cleaning and servicing after every fifty rounds and this maintenance is performed whenever possible but during periods of sustained firing maintenance of this nature is not possible. After failure of the bore evacuator valves, continued firing with fighting compartment closed endangers the crew with the possibility of smoke and gas inhalation. The blower in the fighting compartment is too inefficient to remove accumulated fumes and smoke. The large number of mortar, rocket, and artillery attacks on friendly artillery positions in this area necessitates the closing of the fighting compartments for delivery of counter battery fires. During these periods 8 cases of severe smoke inhalation have been suffered, all occurring after valve failure. This problem exists in all 18 howitzers in the battalion.

Observation: Stronger valve springs should be used in the manufacture of the bore evacuator valves and greater tolerances should be made to permit the valves to function properly for longer periods of time and for a greater number of rounds fired without maintenance being performed on the valve evacuators. Equipment Improvement Recommendation has been submitted on EIR control number C 82537. Information received from the National Maintenance Point revealed the bore evacuator valve is under intensive design study for improvements required and steps will be taken to disseminate any technical information or improvements resulting from the study.

3. (U) Training and Organization: None

4. (U) Intelligence: None

5. (U) Logistics:

Item: Refrigeration lines for the 70 cubic foot refrigerator FSN 4110-930-5734 working loose and breaking.

Discussion: Due to the large amount of vibration caused by the generator attached to the 70 cubic foot refrigerator, FSN 4110-930-5734, the refrigerator lines work loose and eventually break. When these lines break the refrigerant is lost and the chilling capacity of the refrigerator is stopped, resulting in large amounts of perishable items becoming prone to spoilage.

Observation: By placing rubber mats under the refrigerator the vibration caused by the generator is reduced, resulting in fewer broken refrigerator lines and longer periods of successful operation of the refrigerator.

6. (U) Other: None

PART II RECOMMENDATIONS

1. (U) Personnel: None

2. (U) Operations

a. Recommend a hole be drilled through the bore evacuator screw and key and the hole be fitted with lacing wire to prevent the screw from turning.

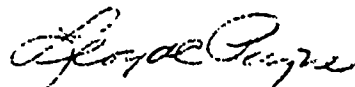
b. Recommend stronger valve springs be made and greater tolerances permitted in the manufacture of bore evacuator valves allowing these valves to function properly for longer time periods.

3. (U) Training and Organization: None

4. (U) Intelligence: None

5. (U) Logistics: Recommend rubber mats or an equal substitute be placed under the 70 cubic foot refrigerator, FSN 4110-930-5734, prior to the refrigerator being placed into operation. This will assist in reducing vibration which causes refrigeration lines to loosen and eventually break.

6. (U) Other: None



LLOYD C. PAYNE
MAJ, Arty
Commanding

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AVFA-AT-D (9 Aug '67)

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SUBJECT: Operational Report of Lessons Learned for Quarterly Period
Ending 31 July 1967, (RCS CSFOR-65) (UIC WDFSA) (1st Bn, 40th
Arty) (U).

HEADQUARTERS, I FIELD FORCE VIETNAM ARTILLERY, APO 96350, 23 August 1967

TO: Assistant Chief of Staff for Force Development, Department of the
Army, Washington D. C., 20310

1. Concur in the observations and recommendations contained in
the basic communication.

2. Reference Section II, part 2, paragraph 5. This headquarters
is in receipt of information from DSAC that a repair parts kit peculiar
to the more ordinary operational parts failures will be made available
by P&AE and issued to units in the near future. This should greatly
reduce the down time.

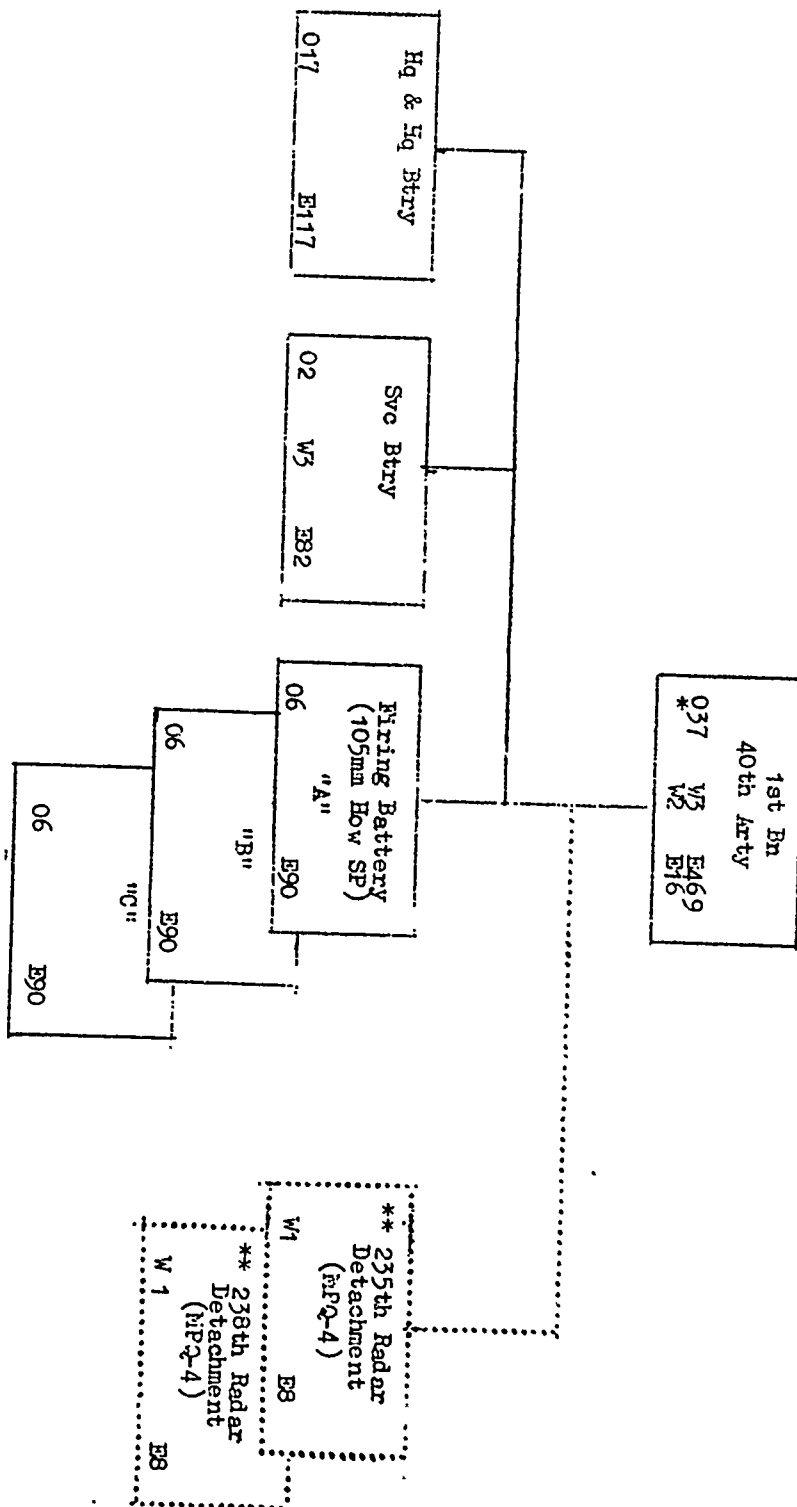
3. 1st Bn, 40th Arty UIC is WDFSA.

FOR THE COMMANDER:

Leo E. Ellis
LEO E. ELLIS
LTC, Artillery
Adjutant

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Organization Chart



* Denotes attached personnel.
 ** Denotes attachment effective 9 May 1967.

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Security Classification

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