



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

IN REPLY REFER TO

AGAM-P (M) (10 May 68) FOR OT RD 681093

14 May 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 39th
Engineer Battalion (Cbt)(A), Period Ending 31 January 1968 (U)

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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.

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Major General, USA
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 39th Engineer Battalion

HEADQUARTERS
39TH ENGINEER BATTALION (COMBAT) (ARMY)
APO San Francisco 96374

EGD-BA-3

9 February 1968

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for
Quarterly Period Ending (31 January 1968)

THRU: Commanding Officer
45th Engineer Group
APO 96238

Commanding General
18th Engineer Brigade
APO 96377

Commanding General
United States Army Engineer Command, Vietnam
APO 96491

Commanding General
United States Army, Vietnam
ATTN: AVC-DH
APO 96375

Commander in Chief
United States Army, Pacific
ATTN: GPOF-MH
APO 96558

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

Section 1. Significant Organizational Activities

a. GENERAL:

(1) Command. The 39th Engineer Battalion (Cbt) remained attached to the Americal Division throughout the reporting period. Hq and Hq Co remained in same location within the Chu Lai Base perimeter (BT 533037). Incumbent commanders at the close of the reporting period are as follows:

CO, 39th Engineer Battalion	- LTC James M. Miller
CO, Co A, 39th Engr Bn	- CPT Robert D. Chontos
CO, Co B, 39th Engr Bn	- CPT Norman J. Coutant Jr.
CO, Co C, 39th Engr Bn	- CPT Wayne J. Scholl
CO, Co D, 39th Engr Bn	- CPT Philip E. Badame
CO, Hq Co, 39th Engr Bn	- CPT Richard S. Waldrop

(2) Major Activities. In addition to LOC minesweeping, maintenance, and upgrading missions on Rte QL-1, major activities during the reporting period included land clearing operations in the "Pineapple Jungle"; the opening of Rte 535 in support of 3d Bde, 1st ACD operations in the Que Son Valley; and the reconstitution of Co B, 39th Engr Bn after the existing Company B was redesignated part of the newly activated 26th Engr Bn (Inf Div).

(a) Operation "Pineapple Jungle" commenced on 29 October 1967, to satisfy land-clearing requirements of the 2nd Arvn Division. "C Trp", 1st Squadron, 1st Armored Cavalry provided security. The 39th Engr Bn participated in this operation by clearing approximately 5,197,000 m² of trees and brush in the grid squares bounded by BT 240230, BT 270230, BT 240200, and BT 260210; and by destroying tunnels and bunkers found in the area. The purpose of this operation was to deny this area to the enemy as an enemy assembly point for attacks on villages in the immediate area. Long-range plans are to resettle refugees in this area.

(b) The opening of Rte 535 from HILL 63 (BT 132453) to LZ Ross (BT 028342) was a mission directed by CG, Americal Division. The purpose of the opening was to provide an LOC for resupply from HILL 63 to LZ Ross and to open the QUE SON valley to civilian traffic. The 39th Engr Bn supported the operation by repairing and upgrading the road to Class 50, one-way, limited all-weather standards, to include replacing inadequate existing drainage structures and constructing additional structures as required.

(c) During the first two weeks of December Headquarters Company and Company B of the 39th Engr Bn was brought to an overstrength position from assets of U.S. Army Engineer Command (P) to activate the 26th Engr Bn (Div). On 20 December, personnel were transferred from the 39th Engr Bn to constitute Company D and Headquarters Company, 26th Engr Bn (Div). Most equipment from Company B, 39th Engr Bn, was transferred to Company D, 26th Engr Bn (Div) and other equipment from Engineer Command transferred to Headquarters Company, 26th Engr Bn. Also, 554th Company (FB) was deactivated and most of the personnel and equipment was transferred to activate Company E, 26th Engr Bn (Div).

(3) Activities of Company "A": At the beginning of this reporting period Company A was located near the village of TRACH TRU, RVN (BS 763473). The mission of the unit was the maintenance and upgrading of Rte QL-1 and completion of a pioneer road from Rte QL-1 to LZ LIZ. (During the period from 1 through 10 November 1967 improvement of the company perimeter defense was also continued with additional construction of fortified bunkers). On 2 November the mine sweep teams clearing QL-1 to the south found that the culvert I-1S23 had been destroyed during the night. Expedient repairs kept the highway open. Construction of the pioneer road to LZ LIZ continued as the unit hauled more than 2000 cubic yds crushed rock and fill and installed 30' of 36" culvert for drainage. On 7 November a bypass was constructed at I-1S23 and removal of destroyed culvert and replacement thereof was begun. During this period more than 1200 cubic yds of crushed rock and fill were hauled to effect repairs along Rte QL-1. On 11 November the culverts at I-1S23 were completed and the following day the pioneer road into LZ LIZ was also completed. On 11 November the unit began to repair potholes on Rte QL-1 utilizing crushed rock and asphalt mix. Company A also hauled more than 1500 cubic yds of crushed rock and fill to build up washed out sections of QL-1. On 20 November the 2nd Platoon was placed under operational control of Co D, 39th Engr Bn (Cbt) for repair of Duc Pho Airstrip. During the period 21 through 30 November 1967, the unit less the platoon at Duc Pho continued maintenance of Rte QL-1, repairing 346 holes and utilizing more than 600 cubic yds of rock on the highway. On 27 November the unit conducted a 5 mile reconnaissance of Rte 515 leading west of QL-1 from BS 769466 as a possible highway to be opened for a new offensive. Upgrading of QL-1 continued from 1 to 10 December 1967 as Company A repaired another 197 potholes. Enemy activities increased in area of operations as the VC destroyed culverts on 3 December, 5 December and 9 December. On 4 December the unit was alerted by warning order to be prepared to move north of TAM KY to the QUE SON VALLEY on or about 15 December. On 5 December the repair of the Duc Pho Airstrip was turned over to A Company as D Company departed for LZ Baldy. On 7 December three (3) VC were engaged on Rte QL-1 resulting in one (1) POW WIA. The Duc Pho Airfield repairs were completed on 8 December and the company resumed upgrading Rte QL-1 and prepared for movement north. On 15 December the company mine swept Rte QL-1 for the last time in calendar year 1967 and then convoyed to Battalion Headquarters at Chu Lai. Standing down over 16 and 17 December, equipment and personnel were readied for further movement to the Que Son Valley, where they would undertake the opening of Rte 535 in conjunction with Co D. On 18 December the unit convoyed to LZ Baldy (BT 132452) and remained overnight. The following day an attempt to cross the QUE SON VALLEY to LZ ROSS (BT 024341) was made. However, Rte 335 was not passable to wheeled vehicles and movement plans were halted, as culverts were installed to enable passage of trucks. From 20-24 Dec Company A continued to upgrade Rte 535 to enable movement across the valley, hauling more than 1300 cubic yds of fill and installing additional culverts on Rte 535 from LZ Baldy to BT 081389. After standing down on 25 December, A Company successfully moved to LZ Ross at 1630 on 26 Dec. The next five days were devoted to construction of fortified bunkers and the improvement of the interior roads of LZ Ross. Resupply convoys moved from LZ Ross to LZ Baldy to bring in additional bunker and culvert material. Company A began the new year by installing 30' of 36" culvert in order to open a borrow pit west of LZ Ross. On 2 January the unit installed three (3) separate 36" culverts on Rte 535. On the morning of 3 January LZ Ross

came under heavy attack by the 2nd NVL Division, A Company suffering 7 WIA. The following three (3) days the unit supported 2/12 Cavalry, 1st Cav Division with direct operational support, as the enemy was pursued towards the mountains to the west. An additional WIA was suffered during this period. Returning to the primary mission of opening Rte 535, Company A installed three 36" culverts on 6 January and 7 January and hauled more than 900 cubic yds of fill to upgrade the highway. Six more mortar attacks following the major attack on 3 January continued to harass LZ Ross and A Company suffered two (2) more WIA. On 11 January, the first vehicle of a convoy moving from LZ Ross to LZ Baldy to pick up construction materials struck a mine resulting in one (1) KIA and three (3) WIA. The unit was also ambushed prior to the mine incident and suffered an additional WIA. Getting construction materials supplied by air, A Company continued operations on Rte 535 by installing another 36" culvert on 16 January and began construction of a 36' timber trestle bridge on 17 January. During this period a secondary mission of constructing gun platforms for 175mm/8" composite artillery battery was also accomplished. Improvement of the roadway also continued by hauling 1200 cubic yds of fill. Enemy harassment continued as A Company received two (2) WIA during a mortar attack on 14 January. Making rapid progress to complete the assigned mission, Company A installed a 48" culvert on 21 January, completed the timber trestle bridge on 22 January, and installed a multiple 36" culvert on 23 January. Final grading and filling on the road were accomplished. 30 and 31 January were devoted to preparing for the move back to the En CP scheduled for 1 February 1968.

(4) Activities of Company "B": At the beginning of the reporting period the Company Hq and 3d Platoon were located at Chu Lai (BT 53037); the 2d Platoon was located at HILL 28 (BT 257234) supporting the 2d ARVN Division in a land clearing operation; and the 1st Platoon was at BS 665690 building a timber pile bridge at BS 685658. From 1 November 1967 to 11 November 1967 the 1st Platoon worked on a one-way, Class 50 timber pile bridge of 80 ft span. Considerable difficulty was encountered in driving the piles due to the debris in the water from the demolished bridge. During the period 1 November 1967 to 7 November 1967 the 3rd Platoon was assigned several projects contributing to base development in the Chu Lai Defense Command. These projects were repairs and additions to Americal Headquarters mess hall; placement of 15 cubic yds concrete for shower pad for 94th S & T Bn; and construction of two access roads in Americal Headquarters area. On 8 November 1967, the 3rd Platoon moved to HILL 63 (BT 132453) to repair and upgrade approximately three km of perimeter road and construct additional berms and storage pads for the ASP located at HILL 63, hauling approximately 1500 cubic yds and placing 172 lin ft of culvert on the perimeter road. Concurrently, approximately 3200 cubic yds of fill were placed in the ASP. Constant maintenance was performed on the perimeter road and the ASP interior roads. From 12 November 1967 until 20 December 1967, the 1st Platoon assumed the responsibility for base development projects in the Chu Lai Defense Command. Among the projects were the erection of four (4) sets of gates, the placement of 3000 ft² of M8A1 matting for a helipad; the placement of 400 cubic yds of 3" rock on access roads in Americal Headquarters area; and the construction of a concrete pad for PX storage. During the period 1 November 1967 to 20 December 1967 the 2d

Platoon was supporting a land-clearing operation ("Pineapple Jungle") for the 2d ARVN Division. During the period several dozers detonated booby-trapped 105mm artillery rounds resulting in damage to the dozers. On 3 December 1967, the bivouac area received fifty rds 60mm mortar, 81mm, and six B-40 rockets. A VC assault on the perimeter followed, the 2d Platoon suffering no casualties. The dozers cleared an area of 5,197,000 sq m as ARVN soldiers with the US Cavalry troop provided local security. A total of 8710 m of trench lines were destroyed as well as 32 tunnel systems. On 20 December, the existing and fully operational Company B was redesignated Company D, 26th Engr Bn. Efforts began to reconstitute the unit. The mission for that portion of the quarter was to organize, equip, and conduct refresher training for the new personnel. A mission to relocate and construct perimeter bunkers for the Battalion portion of the perimeter was also assigned. During this period Company B remained in the vicinity of Chu Lai (BT 530073). During 20-31 December 1967, primary effort was directed towards setting up the following facilities in the company area: Mess Hall, motor pool, supply, orderly room, a commo/CP bunker, GP medium tents for assigned personnel, and protective shelters with overhead cover for each of the platoons. On 22 Dec, a support mission for the construction of bunkers for the Battalion perimeter was assigned; this project included the construction of eight three-man fighting bunkers, a connecting berm between each bunker, and an access road to the rear of the berm. The average present for duty strength during the above period was 96 men. From 1-10 January 1968, refresher training was conducted for the large number of new personnel assigned, to include range firing with the M-14 and the M-60 machine gun and orientations on the M-79 grenade launcher and the 50 cal machine gun. Construction of the perimeter bunkers continued during this period. Training in squad and platoon level tactics, reorganization as Infantry, search and clear operations, first aid, map reading and radio telephone procedures continued. On 10 Jan a detail of 30 EM departed for Qui Nhon to pick up vehicles for the unit. This detail returned by convoy on 13 Jan and 20 EM of the original detail again departed for Qui Nhon on 15 Jan to pick up additional vehicles for the unit, returning to Chu Lai on 17 Jan. From these two convoys, the unit received thirteen 5-ton dump trucks, four 2½-ton trucks, four 3/4-ton trucks, four jeeps, one 5-ton tractor and two lowbeds, and two front loaders. During 21-23 January 1968 primary effort was directed toward deprocessing vehicles and equipment assigned to this unit. Due to the condition of the dump trucks, the major portion of the maintenance effort was expended in keeping these vehicles in an operational condition. On 23 Jan the unit was given a warning order to be prepared to assume mine sweep responsibility of the portion of QL-1 from Binh Son south to Quang Ngai. This required a new CP location in the vicinity of BT 632853 (LZ Dotty). On 24 January 1968, an advance party moved to LZ Dotty to lay out the new area and on 25 January, the remainder of the company followed. The period from 26 to 31 January was devoted to constructing perimeter bunkers, placing perimeter wire, and building mess and maintenance facilities. On 30 January 1968, the company started its new mission of minesweeping and maintaining QL-1 from BS 601920 to BS 633811. Several problem areas arose during the reporting period. Initial lack of vehicles made transportation of supplies and personnel very difficult. Key personnel; i.e., Company Clerk, Supply Sgt, Commo Chief, and Motor Sgt were not made available to this unit upon reorganization, resulting in heavy reliance upon E3 and E4 personnel. With extensive supervision most sections performed adequately. The company was able to open its own mess on 8 Jan. Very few

properly trained personnel were received, which necessitated intensive training programs. The shortage of qualified demolition specialists was acute. The 90-day retainable criteria for in-country levies created an immediate and massive "hump" for April 68. Average present for duty strength during January was 120 personnel.

(5) Activities of Company "C": On 1 November 1967, Company "C", 39th Engineer Battalion (Combat) was located at BS 734524 in the vicinity of Mo Duc, RVN. Efforts on Route QL-1 to keep the road open during the monsoon season and to upgrade the road after a pioneer opening continued to be the unit's primary mission during the first half of the reporting period. Upgrading was gradually expanded to include replacement of tactical bridging (except for the 590' bailey bridge at IS8 (BS 695635) with two-lane timber bridging and replacement, extension, and repair of culverts to facilitate subsequent widening of the road to MACV standards. During the entire reporting period the company conducted a ten-mile minesweep on QL-1 from IS8 (BS 695635) to a point south vicinity of BS 760485. The task of filling potholes in the area of responsibility was completed in November utilizing both troop and local hire labor. A cold mix consisting of RC3 and rock and capped with sand or fines to prevent bleeding proved to be an effective small patch in the flexible pavement. For larger patches AP3 was heated, placed over 3" minus rock, and covered with fines. From 5-9 November the unit breached two lanes through a one-hundred meter ARVN minefield at BS 719589, eliminating a bypass and returning the road to its proper alignment. When rising water threatened to close the road north of the unit's normal area of responsibility at IS5 (BS 673677) on 13 November, a fill operation on 13-18 November and repair of failing abutments, stringers, decking, and treadway on the existing Bailey bridge kept the road open with only minor interruption of traffic. On 20-26 November a 4" lift of 3" minus rock was placed over compacted laterite at all culvert sites, bridge approaches, and locations in the road consisting of unsurfaced fill. After passage of heavy traffic and grading, the rock locked together and combined with the laterite to form a solid all weather surface. On 26 November, work to upgrade the Bailey bridge at IS8 (BS 695635) to Class 50 was completed. The upper and lower chord from old panels were cut with torch and fastened to the upper chord of positioned panels with chord bolts. Enemy activity from 3 to 9 December slowed upgrade progress. One day's destructive efforts included four culverts, one road crater, and a 45 ft dry span. All culverts were initially filled in and the dry span was jacked up to replace destroyed stiffeners and bulk. The road was open to traffic by 1400 hours the same date. More extensive work was conducted during the next week to restore the damaged areas. Construction of a 114 ft, six-span, two-lane, pile bent timber bridge to replace the float bridge at IS15 (BS 728555) required the majority of the company effort on 11-24 December. Based on data obtained during the flood conditions in October, an additional two spans were eliminated by hauling fill out into the stream. Sandbags were later placed on the upstream side of the fill between the headwall and the shore to prevent washout until the new stream course was established and deposits made along the fill. Rather than destroying an existing concrete pier near the center of the bridge, it was incorporated into the bridge to facilitate use as an intermediate pier for a bailey bridge should the timber bridge ever be burned

Following construction, the course of the road was redirected and 3" minus rock was placed over the laterite approaches. On 2 January 1968 the north end of the dry span at ISL2 (BS 725573) was again destroyed. Again the technique of jacking up the existing bridge and replacing destroyed stiffeners and balk proved effective. The same date a platoon was sent north to Tam Ky to conduct a clearing operation in support of the 2d Battalion, 5th Regiment, 2d ARVN Division. During the next six days approximately 25 acres of wooded area were cleared in the vicinity of grid square BT 2619. In addition, several tunnels were destroyed or sealed with CS gas inside. The remainder of the company completed the final phase of repairing the existing road prior to the platoon returning 11 January. At this time extensive operations were begun preparatory to widening of the road to MACV standards. After hauling fill, a bypass incorporating a 120' float bridge was constructed at ISL7 (BS 736533) and the 90' bailey bridge at that location removed. The company is currently transporting piles to that location for use in a two lane, pile bent timber bridge. Concurrently 46' sections of 48" and 60" culverts were placed under four of seven narrow masonry arch bridges, which are to be removed. Work was begun to replace or extend eleven culverts and to construct enforced concrete headwalls at all culvert sites. Four large culvert sites are to be replaced with single-span, two-lane, pile-bent timber bridges in the near future. A During the latter half of the reporting period an effective program of reward payment for munitionsturn-in was implanted. A Voluntary Informant Program Officer was appointed and began paying a reward for turn-in of munitions by working through several local boys. To date \$VN 70,000 has been paid out for thirty-four artillery duds (105mm-8"), thirty-eight 90mm tank duds, ^{AND} sixty-six 60mm-81mm mortar ^{ROUNDS. THIS WAS} particularly effective at times when the officer had funds on his person since the immediate payment made it possible for the local boys to act as intermediaries with adults unwilling to deal directly with the officer. It is too early to determine how such purchases affect the enemy's source of supply of explosives; or whether the close association of the officer with the local population will lead eventually to turn-in of other more valuable information or equipment.

(6) Activities of Company "D": At the beginning of the reporting period Company D(-) was located at LZ Bronco (formerly LZ Montezuma) at BS 811381. The 2d Platoon was located with Battalion Headquarters (BT 532037) constructing base development projects for Americal Division at Chu Lai. Primary missions at Duc Pho were a daily minesweep of QL-1 for 10 km north and the maintenance and repair of the airfields at LZ Bronco. Also, during the period Company D distributed rock produced by the 19th Engr Bn Crusher at LZ Bronco and provided equipment support for the MCB element constructing a POL tank farm at LZ Bronco. On 21 Nov 67, Co D (with the 2d Platoon of Co A assisting) began removing 2000 ft of MX19 matting from the south end of the airfield for the purpose of correcting subgrade failures throughout the center of the airfield. Disassembly of the MX19 matting was difficult because panels had been deformed where subgrade failure had occurred and also because mud had pumped into the joints and caused the locking bars to jam. About 30% of the locking bars were damaged in subgrade failure areas, with negligible breakage in solid areas. Repair of the subgrade began 24 Nov and was completed 1 Dec 67. The MX19 matting was replaced as the base was repaired. The airfield was open to

CV-2 aircraft during the entire repair period and reopened to C123 Aircraft on 27 Nov 67 and to C130 aircraft on 29 Nov 67. Difficulty was experienced in closing the center section with the northern section of the runway due to the lack of closure panels. On 4 Dec 67, the airfield project was turned over to Company A for completion of the remaining 200 ft of runway, as Company D prepared to move north. On 6 Dec 67, Co D moved to Chu Lai for a two-day "stand-down" and intensive maintenance in preparation for moving farther north. On 9 Dec 67 Co D moved from Chu Lai to LZ Baldy at BT 134443 for the purpose of opening Rte 535 as a one-way, Class 50, limited-all-weather road with turnouts. The length of road was 22 km from QL-1 at BT 143457 to LZ Ross at Que Son, BT 025346. The company worked until 13 Dec 67 constructing fortifications in preparation for expected NVA attacks. On 13 Dec, Co D opened a borrow pit and began building a bypass road around LZ Baldy, as 2 km of Rte 535 was within the perimeter and closed to local traffic. The bypass was opened to foot and bicycle traffic on 18 December 1967. On 18 December 1967 Co A moved into Co D perimeter in preparation for move to LZ Ross. Co D worked in conjunction with Co A from 19 December to 24 December to pioneer the road to LZ Ross; then assisted Co A in passage to LZ Ross on 26 December. Co D continued upgrading 12 km of Rte 535 utilizing 12,380 cubic yds of fill, 280' of 60" CMP, 90' of 48" CMP, and 540' of 36" dia and smaller CMP. Road was completed 30 Jan 68. Co D also upgraded the LZ Baldy ASP utilizing 7,161 cubic yds of fill. During the reporting period Co D incurred 13 WIA and took combat losses on two 5-ton dump trucks due to enemy mines. At the close of the reporting period Co D remained at LZ Baldy in anticipation of further operational support missions in the vicinity of the Que Son Valley.

(7) Activities of 554th Engineer Company (FB): During the period 1 November 1967 to 20 December 1967, Co Hq remained at Chu Lai (BT 536045). On 19 November 1967, the attached 1st Plt, 509th Engr Co (PB) started repair of a panel bridge over the Song Tra Bong River at BS 596927. Concurrently, the 554th Engr Co (B) started construction of an M4T6 bridge site to be used as a bypass for the panel bridge while being repaired. Before the float bridge could be erected a 150' causeway had to be constructed. Once the float bridge was in place; the old pier supporting the continuous span panel bridge was removed. A new concrete base was constructed and a new pier constructed of panel bridge parts was built. The 554th continued to support the 9th Engr Bn (USMC) with a 4-float M4T6 raft in a USMC operation at BS 766825. During the reporting period the 554th continued to provide cargo hauling capability and heavy equipment to the 39th Engr Bn and elements of the Americal Division. The 554th operated a bridge yard in the Chu Lai area, as well as a Class II and IV and bridge yard in the Duc Pho area. On 20 December 1967, 554th Engineer Company (FB) assets were assigned to Company E of the 26th Engineer Battalion. The 554th Engr Co (FB) ~~is now pending deactivation.~~
WAS INACTIVATED ON 15 JAN 1968.

b. OPERATIONS AND TRAINING:

(1) During the reporting period this battalion worked 6½ to 7 days a week depending upon assigned missions. Sunday mornings were utilized for church services, maintenance of equipment, and mandatory training. Total hours of training for this reporting period were 108. This battalion is sending E4/E5's who are potential career NCO's to a Combat Leadership Course conducted by the Americal Combat Center. Plans are

under way to send newly-arrived replacements to the Americal Division Replacement Training Center for Vietnam-oriented training.

(2) During the reporting period, units from this battalion participated in 108 company-days of combat support operations. The remaining time was spent on construction tasks not directly related to combat operations.

c. MOVEMENT: On 6 December 1967, Co D moved from LZ Montezuma (BS 811391) to Bn CP (BT 532037). On 9 December 1967 Co D moved to LZ Baldy (BT 133444). On 15 December 1967 Co A moved from Trach Tru (BS 763473) to Bn CP. On 18 December 1967 Co A moved to LZ Baldy. On 26 December 1967, Co A moved to LZ Ross (BT 028342). On 27 and 28 January 1968, Co B moved from Bn CP to BS 632853. A total of eleven company days were involved in moving units of this battalion.

d. SUPPLY:

(1) General: During the entire reporting period the battalion supply section was located with the battalion headquarters in the Chu Lai area. With at least three line companies situated in remote areas, the support concept at battalion level was to provide supplies in the non-expendable category for all companies, and backup support for expendable items not available at local FSE's or FSA's. Companies supported by forward supply units were generally limited to receiving rations, POL products, and barrier materials on-site. It was necessary to transport all other materials to include construction materials from the Chu Lai area to the using unit. Weekly visits to the battalion area by unit supply personnel were made for the purpose of turning-in and picking-up nonexpendables and supplies other than those mentioned above. In the latter part of November the mission of requisitioning equipment for the newly activating 26th Engineer Battalion, Americal Division, was assigned to the 39th Engineer Battalion. Efforts consisted of ordering items for one headquarters company under TOE 5-156 and one line company under TOE 5-157. The requisitions were submitted on 20 November 1967. In addition to the requisitioning procedure, several in-country engineer units were levied for equipment not readily available in supply channels. At the present time the company has received all wheeled vehicles (less trailers), two scoop loaders and all mine detectors. Critical items still due-in are tool sets to include pioneer, carpenters, automotive mechanic, and organizational maintenance common set number one. The battalion is presently operating three water points with a total daily output of approximately 25,000 gallons.

(2) During the reporting period logistics support was received from the following organizations:

(a) FSE, 3rd Brigade, 1st Air Cavalry (Airmobile); located at LZ Baldy.

(b) TASK FORCE MACDONALD, located at Duc Pho; a 1st Logistical Command FSA.

(c) 23rd Supply and Transportation Battalion; located at Chu Lai.

(3) At the present time the means of resupply of the-line companies is as follows:

(a) Company "A", located at LZ Ross. Resupplied entirely by air from FSE at LZ Baldy. No overland resupply capability exists due to the tactical situation. Requests for air support are made to the 3rd Brigade, 1st Air Cavalry, located at LZ Baldy. A conex container is used to lift rations and supplies by hook, which aids in controlling damage to rations and in delivering goods to the designated unit. POL products are supplied by bladder.

(b) Company "B", resupplied by battalion.

(c) Company "C", located at Mo Duc. Class I, III and barrier materials are picked up by the unit from TASK FORCE MACDONALD at Duc Pho. All other items are supplied from battalion.

(d) Company "D", located at LZ Baldy, Class I, III and barrier materials are picked up from FSE, 3rd Brigade 1st Air Cavalry. All additional supplies are requisitioned from battalion.

(4) A number of major equipment shortages existed in this battalion during the reporting period. The lack of these affected the operational capability of this unit. The shortages were as follows:

(a) 10 Ton Truck Tractor	2 ea
(b) 20 Ton Crane-Shovel	1 ea
(c) 25 Ton Semi-Trailer	1 ea
(d) Scoop Loader	4 ea
(e) 250 CFM Air Compressor	1 ea
(f) Welding Set	1 ea
(g) Truck, Dump 5 Ton	5 ea
(h) Launcher, grenade	18 ea

e. MEDICAL:

(1) The Battalion Aid Station has the mission of conserving the fighting strength and building personnel strength at a unit level. Sick call is held daily in the morning, but the station is open 24 hrs a day for emergencies. It is capable of caring for the majority of illnesses occurring within the Battalion, except for diseases requiring more sophisticated methods of diagnosis or injuries requiring more than minor surgery. In this event, the patients are evacuated to the 2d Surgical Hospital located in the Chu Lai cantonement area.

(2) The Battalion has been on Dapsone for the past eight months and during that time the Battalion has had only one case of Malaria (*Plasmodium Vivax*)

(3) Sanitation has remained at a satisfactory level within the last quarter, as standards are checked by a weekly inspection. The Aid Station keeps immunizations current. The Bn Surgeon makes periodic trips to the companies, resulting in a high percentage (90%) with up-to-date immunizations.

f. MAINTENANCE:

(1) General: The maintenance situation has shown gradual improvement with a steadily decreasing deadline rate. However, a recent rise in dead-lined equipment is due to damage received as a result of combat actions. A concentrated effort is being made toward improving the overall maintenance program. The battalion has, in the past, operated with a consolidated PLL at battalion level. This has proved to be ineffective due to the remoteness of the line companies. The PLL is now being broken down and distributed to the companies to be maintained at that level. The receipt of several critically needed items of equipment including a contact truck, wrecker, and parts van, has greatly improved the maintenance support capability at battalion level.

(2) Support: Parts procurement continues to be the major problem in the maintenance effort. From 1 November 1967, "Red Ball" requisitions are being filled at a 12.6% rate, and regular requisitions at 31.6% rate. The average time required for the "Red Ball" requisitions filled has been 14 days and regular requisitions have taken 22 days. The 723rd Maintenance Battalion is the direct support facility for the Americal Division and also for this battalion. They presently maintain 19,500 line items in their ASL, with 8500 line items at zero balance. Those items at zero balance generally include high-demand items for both ordnance and engineer equipment. Additional parts support through the 588th Maintenance Company (DS) as well as from 45th Engineer Group (Const) through depot has alleviated the condition somewhat. The only other regular source of parts has been controlled substitution at the local salvage point. The 588th Maintenance Company (DS) has been augmented with ten engineer mechanics for the express purpose of maintaining engineer equipment for all non-divisional engineer elements in this area. Authority for the battalion to utilize this facility is pending.

g. CASUALTIES:

	<u>KIA</u>	<u>WIA</u>	<u>DOW</u>
(1) HHC	0	1	0
(2) A	1	15	0
(3) B	0	0	0
(4) C	2	3	0
(5) D	0	11	0

h. MINES: During the reported period, this battalion discovered 47 mines. Most of these mines consisted of a bamboo firing device, with electric blasting cap, and approximately 25 lbs of explosive. Seldom were the mines marked in any way. The following is a breakdown by month:

<u>MONTH</u>	<u>DETECTED</u>	<u>DETONATED</u>	<u>TOTAL</u>
November	3	9	12
December	7	7	14
January	<u>18</u>	<u>3</u>	<u>21</u>
Total	28	19	47

i. BOOBY TRAPS: During this period, this battalion discovered 11 booby traps. Most of the booby traps consisted of hand grenades with trip wires and pressure-type devices. Following is a breakdown by month:

<u>MONTH</u>	<u>DETECTED</u>	<u>DETONATED</u>	<u>TOTAL</u>
November	0	2	2
December	4	3	7
January	<u>2</u>	<u>0</u>	<u>2</u>
Total	6	5	11

Section 2. Part I. (Lessons Learned)

a. PERSONNEL:

Item: Variance of Rotational Dates For Personnel Going To Newly Organized Units.

Discussion: The formation of the 26th Engr Bn caused the redesignation of Co B, 39th Engr Bn as Co D, 26th Engr Bn. To constitute Co B, 39th Engr Bn, personnel from engineer units throughout Vietnam were obtained. The criteria for personnel coming to the 39th Engr Bn was that they have a minimum of 90 days left in country. As a result many of the people gained had approximately 100 days remaining. This resulted in the newly-organized unit having a rotational hump within three months of the company being formed.

Observation: When forming new units by taking personnel from existing units, the rotation dates of the personnel must be varied over a period of several months. This will alleviate a rotational hump in newly formed units.

b. OPERATIONS:

(1) Item: Voluntary Turn-In of Munitions For Reward.

Discussion: A Voluntary Informant Officer was appointed and began paying a reward for turn-in of munitions. Initially, he worked exclusively through several local boys who were long time friends of the unit. Written material distributed to inform the Vietnamese of the program was only marginally effective because of illiteracy of the local populace, but the personal contact made the program go. The program functioned

particularly well at times when the officer had funds on his person since the immediate payment made it possible for the local boys to act as intermediaries with adults otherwise unwilling to deal with the officer.

Observation: Contact with the local people for establishment of a program of munitions turn-in can be effectively implemented working through local boys. Distribution of literature announcing the program was ineffective. Funds and receipts should be available to the officer at all times so that he can make immediate payment.

(2) Item: Vary Minesweep Practices

Discussion: On minesweeps, this battalion places one man on each flank of the minesweep teams (approx. 30m) with brush hooks. Their task is to drag the hooks along the ground in an attempt to cut or snag wires leading to command detonated mines. After observing this practice for several months, the VC started placing the wires parallel to the road about 10' from the road. The wires normally led to a hut some distance in front of or behind the minesweep team.

Observation: After finding several mines with lead wires placed in this manner, the men with the brush hooks started working a zig-zag pattern on the flanks of the road. They would walk at an angle to the road out about 30m and then angle back toward the road. In this manner they would find any wires leading from the road.

(3) Item: Timber Cradles For Preassembled Culverts

Discussion: This battalion normally maintains a stockpile of CMP preassembled in 24' lengths for emergency use when existing culverts are destroyed. Normally these sections of culvert may be joined quickly and easily. However, in the Monsoon season when there is considerable standing water, it is difficult to align large sections of culvert and support them properly.

Observation: To facilitate placement of large sections of culvert during emergencies, the use of timber culvert cradles is recommended (see TM 5-335; Drainage Structures, Subgrades, and Base Courses, p. 40). These cradles can be prefabricated for the various sizes of culvert stockpiled. The cradles insure rapid alignment and provide adequate support.

(4) Item: Safety Techniques for Minesweep Teams

Discussion: Recently this Battalion has incurred casualties to minesweep personnel due to detonation of undetected mines by vehicles following the team.

Observation: To prevent these casualties the following techniques have been utilized:

(a) Each minesweep team is followed by a loaded five ton dump truck driven in reverse. This reduces the possibility of serious injury to the driver. The dump truck will maintain a minimum distance of 25m from the minesweep team

(b) All personnel including the truck guide be at least 25m from the truck to lessen the possibility of injuries should the truck detonate an undetected mine.

(5) Item: Alternate Method of Laying and Picking Up of MK-19 Airfield Matting

Discussion: In order to repair a section of an MK-19 matted airfield recently, the matting was removed. Current literature on MK-19 matting states that this matting can only be placed from the right front toward the left rear and can be taken up from the left rear toward the right front (see Inclosure #1). For this reason, any taxiway or parking apron adjoining the left side of a field must be placed last or removed first in the construction sequence. This necessitates a great amount of time and effort to take up adjoining taxiways in order to repair the airfield.

Observation: During the repair of the airfield this Battalion discovered that this placing and pickup sequence did not have to be adhered to. Taking the field up from right to left or placing it from left to right required only slightly more effort than the normal sequence (see Incl #1). The alternate sequence enabled the repair of the airfield to be made without disturbing 416' of taxiway adjoining the left side of the runway. It is imperative to reverse the "stairstep" pattern from the normal right to left pattern to a left to right pattern at least fifteen panels from a taxiway when relaying the runway, thus enabling the runway to be rejoined to the taxiway.

c. TRAINING AND ORGANIZATION: None

d. INTELLIGENCE AND COMMUNICATIONS:

Item: Additional Power Supply For Communications Equipment

Discussion: This Battalion has experienced difficulty maintaining communication between companies and Battalion Headquarters. Part of the problem has been the lack of adequate power at the net control stations. Normally the net control stations are powered by the 100 amp alternator kit on the 3/4 ton cargo truck. However, continual operation of the vehicle engine is detrimental. Companies are authorized a power supply to convert 120v AC power to 28v DC power, but it is often impossible for the lettered companies to obtain an AC power source.

Observation: Each company net control station should be authorized one 3 KW, 28v, DC generator to provide power for full-time operation of FM and AM radio nets. Each Battalion net control station should have two of these generators.

e. LOGISTICS:

(1) Item: Detector Head for P-153 Mine Detector

Discussion: This unit presently is responsible for several daily deliberate minesweeping missions. Operations frequently last for eight hours a day on pioneer roads. Mine detectors are often swung as close to the ground as possible as enemy land mines found in this area have very

little metal content: As a result, the detector head often hits the ground, especially when a very uneven surface is being swept.

Observation: The fiberglass type material currently used to protect the transmitting coil is often damaged making the set inoperable. A more durable epoxy or plastic material would greatly lengthen the life of the detector head.

(2) Item: Maintaining PLL at Company Level

Discussion: This Battalion has in the past operated with a consolidated PLL at battalion level. However, since this Battalion has been in Vietnam, the companies have operated at considerable distance from the Battalion Headquarters. Due to the remoteness of the companies, maintaining a consolidated PLL at Battalion has proved ineffective.

Observation: The PLL is now being broken down and will be distributed to the companies and maintained at that level.

(3) Item: Calibration of Mine Detector, P-153

Discussion: Several mine detectors have been returned to support maintenance soon after they are released from repair for calibration. It was difficult for the operator to adjust the set so that a null sound was obtained when the detector head was not near metal. As a result, the set would produce a constant reading which made it almost impossible to detect some of the firing devices this unit is presently finding with enemy land mines.

(4) **Observation:** Investigation in conjunction with support maintenance units reflected two primary causes. At one particular repair facility the mine detectors are repaired in a van complex. When the mechanic was calibrating the set inside the van, the surrounding metal atmosphere resulted in an incorrect calibration of the set. It was also observed that if the proper size screws were not used to connect the detecting head to the short handle, the screw would interfere with the magnetic field and give a constant reading.

Section 2. Part II. Recommendations

a. OPERATIONS:

(1) That aggressive personal contact with the local populace be made in establishing a rewards program for turn-in of explosives and munition in areas where written literature is ineffective due to illiteracy. The program is self-sustaining once the locals understand that prompt payment will be made.

(2) That U.S. troops vary procedures on minesweep to the maximum extent feasible.

(3) That the use of timber cradles be considered for applications where culvert alignment is difficult.

(4) That all personnel on minesweep be kept at least 25 meters clear of vehicles.

(5) That alternate sequence for picking up and replacing MX-19 matting be considered for the certain situations outlined in Para 2e, Section 2 - Part 1.

b. COMMUNICATIONS. That each lettered company engineer net control station be authorized one and battalion NCS authorized two 3 KW 28v, DC generator for static communications over extended periods,

c. LOGISTICS:

(1) That a substitute material for the detector head of the P-153 Mine Detector be developed. The material must possess better resistance to abrasion than the fiberglass currently utilized.

(2) That support units insure that mine detectors are calibrated in a neutral (non-metallic) environment and that only the specified screws be used to connect the detector head to the short handle.

1 Incl
as

JAMES M. MILLER
LTC, CE
Commanding

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AVCC-P&O (9 Feb 68) 3rd Ind
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 31 January 1968

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND
VIETNAM (PROV), APO 96491

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST,
APO 96375

The attached ORLL, submitted by the 39th Engineer Battalion (Cbt), has
been reviewed by this headquarters and is considered adequate.

FOR THE COMMANDER:

RICHARD B. BIRD
Captain, AGC
Assistant Adjutant General

AVHGC-DST (9 Feb 68) 4th Ind

CPT Arnold/rb/LBN 4485

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for
Quarterly Period Ending (31 January 1968)

HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1968 from Headquarters, 39th Engineer Battalion (Combat)(Army) (WAZ6AA) as indorsed.

2. Pertinent comment follows: Reference item concerning reward for voluntary turn-in of munitions, page 12, paragraph b(1); page 15, paragraph a(1); and 2d Indorsement, paragraph 2a: Concur. In order to overcome problems encountered by USARV units in securing funds authorized by MACV Directive 37-2, MACV has informally authorized use of local AIK funds for rewarding Vietnamese for turning in VC weapons and/or providing information leading to their location.

3. A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:

CHARLES A. BYRD
Major, AGC
Assistant Adjutant General

Copy furnished:
HQ, 39th Engr Bn (C)(A)
HQ, USAEC (P)

GPOP-DT (9 Feb 68) (U) 5th Ind
SUBJECT: Operational Report of HQ, 39th Engr Bn (Cbt)(Army) for Period
Ending 31 January 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558

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

This headquarters has evaluated subject report and forwarding indorse-
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

C.I. SHORTT
CPT, AGC
Asst AG

(a)	(b) 12	(e)	6		2	
	(d)	11		5		1
(c)			10		4	
VII				9		3
					8	
III						7
	IV					C
I		V			D	
	II		VI	E	B	A

Direction
of lay &
center line
of runway



Arabic Numerals indicate normal placing sequence.

Roman Numerals indicate normal pick-up sequence.

Lower Case letters indicate alternate laying sequence.

Upper Case letters indicate alternate pick-up sequence.

Incl 1