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AVHGA-PA
SUBJECT: Analysis and Evaluation of Operational Report - Lessons Learned for 589th Engineer Battalion (CONST)

TO: G4

G3

IN TURN

FROM: G1

DATE: 22 OCT 1967 CMT 2
LTC Prillaman/kkl/4278

1. Reference item concerning increased issue of fatigues and boots, paragraph 11, Part I. Concur with the observation that clean clothing enhances morale. However, non-concur that this justifies an increased clothing issue.

2. (For G4) Request review and comment as deemed appropriate to the problem cited in paragraph 11, Part I. The solution appears to be improved laundry service rather than an increased clothing issue.

2 Incl
nc

for Walter [illegible], LTC, GS
JOHN H. BARNER
Colonel, GS
ACofS, G1

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AVHGC-FD
SUBJECT: Analysis and Evaluation of Operational Reports-Lessons Learned for 589th Engineer Battalion (CONST)

TO: G3, DST FROM: G3, FD DATE: 13 OCT 1967 CMT 2
LTC Bower/rwm/4240

1. Reference item concerning hand tools, Section II, part I, paragraph 10a. Equipment requirements as well as personnel adjustments are being addressed as part of the current standardization program. The engineer project officers are currently preparing standard MTOE for submission to this headquarters.

2. Reference item concerning surveying equipment, Section III, part I, paragraph 12a. Preceding comment applicable.

for [signature] LtCol, GS

2 Incl
nc

JOHN J POWERS JR
LTC, GS
Chief, FD Division

AVHGD-PO
SUBJECT: Analysis and Evaluation of Operational Reports-Lessons Learned for 589th Engineer Battalion (Const)

TO: G3DST FROM: G4 DATE: 27 OCT 1967 CMT 3
LTC Penny/jd/4279

Reference item concerning increased issue of fatigues and boots, paragraph 11, Part I: Concur with comment at paragraph 2 comment 2. The present issue in kind is adequate under most circumstances and may be direct exchanged when classified unservicable. This is in addition to four sets of conventional fatigues which will also be replaced in kind if worn out. Although not as desirable as the jungle fatigues they may be used as a suppplement. New Eidel (Field) laundry units are due in country and will be used in support of combat operations to the maximum extent possible. Although there will still be some short fall in laundry support the fighting soldier will be provided for first.

2 Incl
nc

James R. Johnson LTC, GS
for H. B. BOYLE, JR.
Colonel, GS
ACofS, G4

589th ENGINEER BN

ORLL

1 Aug - 31 OCT 1967

1867

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1st Ind

EMB-2

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967.

HEADQUARTERS, 45TH ENGINEER GROUP (CONST), APO 96238, 22 November 1967

THRU: Commanding General, 18th Engineer Brigade, ATTN: AVBG-O, APO 96377
Commanding General, USA Engineer Command Vietnam (Prov) ATTN: AVUC-PAO, APO 96491
Commanding General, United States Army, Vietnam, ATTN: AVHGC-DST, APO 96307
Commander in Chief, United States Army, Pacific, ATTN: GPOP-OT, APO 96558

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

1. Operational Report-Lessons Learned of the 589th Engineer Battalion (Const) for the Quarterly Period ending 31 October 1967 is forwarded.

2. Concur with observations.

K. R. SMITH
Colonel, Corps of Engineers
Commanding

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15

AVBC-C (31 Oct 67) 2nd Ind CPT Storat/jah/DBT-163
SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

Headquarters, 18th Engineer Brigade, APO 96377 28 NOV 67

TO: Commanding General, U.S. Army Engineer Command, Vietnam (Prov), ATTN: AVCC-P&O, APO 96375

This headquarters has reviewed the report submitted by the 589th Engineer Battalion (Const) as indorsed, and considers it an excellent and accurate description of the unit's activities and accomplishments during the reporting period ending 31 October 1967.

HAROLD J. ST CLAIR
Colonel, CE
Deputy Commander

PROTECTIVE MARKING CANCELLED WHEN SEPARATED FROM BASIC DOCUMENT

File

AVCC-P&O (31 Oct 67) 3rd Ind
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly Period Ending 31 October 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND VIETNAM (PROV), APO 96491 22 DEC 1967

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

The subject report submitted by the 589th Engineer Battalion (Construction) has been reviewed by this headquarters and is considered adequate.

FOR THE COMMANDER:

Richard B. Bird

RICHARD B. BIRD
Captain, AGC
Assistant Adjutant General

Cys Furn:
CO, 18th Engr Bde
CO, 45th Engr Gp
CO, 589th Engr Bn

"THIS PROTECTIVE MARKING IS CANCELLED WHEN SEPARATED FROM THE BASIC DOCUMENT"

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12-132

AVHGC-DST (31 Oct 67) 4th Ind
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967.

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 27 DEC 1967

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 October 1967 from Headquarters, 589th Engineer Battalion (Construction) (DFLA) as indorsed.

2. Concur with report as indorsed. Report is considered adequate.

FOR THE COMMANDER:

JOHN V. GETCHELL
Captain, AGC
Assistant Adjutant General

Copies furn:
HQ, US Army Engr Comd
HQ, 589th Engr Bn

MFR: ORLL was not staffed due to lack of significant problem areas. USARV Engineer has reviewed report. This comment is found as 3d Indorsement.

ACTION OFFICER: MAJ BARK - LBN 4841

COL HAYWARD, ACofS, G3 ______ RECORD COPY-RETURN TO AVHGC-DST FILE# 228-03

CH DST DIV	✓
CH MS BR	
CH DOCT BR	
CH TWG BR	
A/O	

JOHN R. MEESE
Major, Infantry

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270915 Dec

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DEPARTMENT OF THE ARMY CPT HARBACH/BAGGI 163
HEADQUARTERS 589TH ENGINEER BATTALION (CON'T)
APO San Francisco 96238

EGD-BC-CO 31 October 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967.

THRU: Commanding Officer
45th Engineer Group (Const)
APO 96238

Commanding General
18th Engineer Brigade
APO 96377

Commanding General
U.S. Army Engineer Command, Vietnam (Prov)
APO 96375

Commanding General
United States Army, Vietnam
ATTN: AVHGC-DH
APO 96307

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

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

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EGD-BC-CO 31 October 1967
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 31 October 1967

SECTION 1. Significant Organization and Unit Activities

1. Organization: The following units comprise, or are attached as indicated, to the 589th Engineer Battalion (Construction) organized under TO&E 5-115E.

a. Headquarters/Headquarters Company

b. Company A, 589th Engr Bn (Const)

c. Company C, 589th Engr Bn (Const)

d. Company D, 589th Engr Bn (Const)

e. Company B, 84th Engr Bn (Const) attached on 10 October 1967. All officers and enlisted men reassigned 23 October 1967 as Co B, 589th Engr Bn (Const), organized under TO&E 5-118E.

f. 51st Engineer Platoon (Asphalt), attached on 22 September 1967, organized under TO&E 5-114D.

g. 70th Engineer Company (Dump Truck), organized under TO&E 5-124E. One platoon was attached to the 35th Engr Bn (Cbt) on 24 June 1967.

h. 23d Well Drilling Detachment, attached on 28 October, organized under TO&E 5-500C GE.

i. 444th Engineer Detachment (Concrete Mixing and Paving), attached on 10 October 1967, and organized under TO&E 5-500C.

j. 511th Engineer Company (Panel Bridge), attached on 10 October 1967, organized under TO&E 5-77F.

On 10 October 1967, the battalion's area of responsibility was extended west approximately 25 miles from the top of the An Khe Pass to the base of the Mang-Giang Pass. Responsibility encompasses upgrading and maintenance of LOC QL-19, bridge repair and construction, and extensive engineer effort within the confines of Camp Radcliff, An Khe. As a result of this increased commitment, Company D, a section of Company A's 3d echelon maintenance shop and quarry personnel, and over half of the battalion operations section relocated at Camp Radcliff in a portion of the cantonment previously occupied by the 70th Engr Bn (Cbt). Company B, the 511th Engr Co (PB), and the 444th Engr Det (CM&P) have remained at Camp Radcliff.

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2. Unit Operations:

a. Hq/Hq Company: The utilities section continued tasks of upgrading drainage in the Bn Base Camp Cantonment, construction of company project and safety signs, construction and painting of over 500 international road signs for subsequent erection by assigned line companies on Main Lines of Communication (LOC) in our sector of operations. A road paint-striping machine was fabricated and utilized on 40 miles of LOC's in sector. In keeping with the upgrading of the base camp perimeter defense, 45 poles were erected to accomodate the installation of 100 floodlights and organic wiring. Shower facilities were improved through relocation on concrete pads and installation of hot water heaters. The waterpoint, utilizing two erdalator units, serves an average of 15 company and battalion size units, and has issued 2, 390, 917 gallons of potable water during this period

b. Company A: On 7 August 1967, Company "A" quarry operation consisting of one 75TPH primary and one 75TPH secondary crusher moved from Vinh Thanh to the An Son Valley. Setting up in An Son, the unit began operating an additional 75TPH primary unit and screening plant from the 73rd Engineer Company. During the period 7 August 1967 to 31 October 1967, using two 75TPH primary units, 114, 085 CY of crushed rock was produced. This included 3/4" (-) and 3/8" (-) rock, sufficient to meet requirements for DBST at the Log Depot, PX Depot, and ROKA Hospital and sufficient 2" (-) rock for headwalls and floor slabs required by battalion projects east of the An Khe Pass. On 10 October 1967, this unit received two more 75TPH primary crushers plus a cone crusher and two secondary crushers located at An Khe. The An Khe equipment required some repair and began crushing on 11 October 1967. From this date through 31 October 1967, the An Khe site has produced 10,920 CY of crushed rock, primarily base course, but sufficient quantities of clean rock to meet aggregate needs for battalion projects in the An Khe area. The asphalt section remained heavily committed on the continuous requirement for DBST work on Bn projects.

c. Company C: This unit remained at the Cha Rang Maintenance Depot Cantonment, some five miles distant from the Bn base camp area. The Logistics Depot was completed and immediately occupied during this period. This 200,000 SY area received a Double Bituminous Surface Treatment (DBST), 40,000 SY of surfaced road and numerous drainage structures. Work continued on the six (65,200 SF) General Support (GS) Maintenance facility buildings. The Post Exchange (PX) depot complex neared completion with four of eight closed storage 40'x200' Pascoe buildings completed and two 40'x200' open storage buildings completed. All are erected on concrete pads. In addition, 47,000 SY of hardstand received a DBST treatment and 970 linear feet (LF) of corrugated metal pipe (CMP) were installed. On LOC TL-6B, 7.6 kilometers of road, from intersection of LOC QL-1 and 6-B to the Republic of Korea Army (ROKA) Tiger Division entrance, were upgraded with placement of 33,000 CY of base course rock. To date a two kilometer portion of this road received 90,000 SY of DBST. Three bridges along QL-19 were upgraded using 1,000 linear feet of 24WF steel beams with heavy timber decking, and on two bridges 12 pile timber bents were constructed.

d. Company D: This unit was engaged primarily in four major project areas, namely the 400 bed ROKA 6th Evacuation Hospital in the An Son Valley, upgrading drainage and base/course preparation over 5.6 miles of QL-19 in the An Khe Pass, rehabilitation of the LST beach in Qui Nhon, and major bridge repair on QL-19. The hospital project consisted of seven air-conditioned quonsets built on concrete pads with two foot concrete block side walls covering an area of 12, 480 SF. The buildings will accomodate admissions and dispositions, an X-ray facility, a post-operative and pre-operative ward, two operating room wards, an intensive care ward and a morgue. The remaining six buildings were the single story tropicalized wood type built on concrete pads covering an area of 10,000 SF. These will house a pharmacy, records and administrative area, hospital supply facility, EENT clinic, an officers's lounge, and a nurses' quarters complex. The entire electrical distribution system, water distribution, and sewage system have been installed. Upon completion of the nurses' quarters and erection of water towers and water storage facilities, this project will terminate. Upgrading of QL-19 in the An Khe Pass involved repair and clean-out of 70 culverts and the placement of 9 additional multi-barrel culverts (CMP) with headwalls. Over 8,000 CY of crushed rock base course material was spread and compacted in preparation for a hot mix asphalt surface treatment. Upgrading of the LST beach required the placement and compacting of 30,000 CY of laterite, river-run rock, and crushed rock. This was then capped with a single bituminous surface treatment. Two bridges on QL-19 were repaired using 1160 feet of 36WF230 steel beams and heavy timber decking. One bridge required construction of a 12 pile timber bent

e. Company B: On 10 October this unit was relieved from attachment to the 70th Engineer Battalion (Combat), 937th Engineer Group, due to the relocation of the 70th Engr Bn to Pleiku, and attached to the 589th Engr Bn. Company B remained at Camp Radcliff, An Khe. During this period, work continued on three major projects; a 4,365' concrete airstrip, a main PX, and a 195' by 175' "Nichimen" aircraft maintenance hangar. The airfield project was a 24-hour operation involving daytime foundation preparation in front of a slip-form paver and concrete placement during the night shift. Runway paving was completed 10 September 1967. The strip became operational 27 September 1967. Temporary turn-outs are being used while permanent facilities remain under construction. The main PX facility covers a 120' by 200' concrete pad with a Pascoe type building. All that remains for completion of this project is the installation of interior air-conditioning duct work. The maintenance hangar project involved placing all roofing, siding and additional bracing. The main skeletal steel work was constructed by an element of the 70th Engr Bn (Cbt) prior to Co B assuming control of this project. Remaining work requires placing 750 CY of reinforced concrete flooring and installation of 12 large sliding doors and appropriate electrical wiring.

f. 51st Engr Plt (Asp): This unit arrived in Vietnam minus the following equipment: one 150 ton/hr asphalt plant, 2 paving machines, two 5-8 ton rollers, one 10 ton roller and one 2½ ton water distributor. Expected arrival dates of this equipment is unknown at this time. They have been employed mainly on DBST work and the organic dump trucks were utilized to supplement haul requirements for battalion projects. Upon receipt of the remainder of their equipment, the asphalt plant is programmed for movement to An Khe for subsequent employment on projects at Camp Radcliff. A portion of this unit's personnel are being used to operate the additional two primary crusher units.

g. 70th Engineer Company (DT): During this period, the unit continued its support of both the 589th Engineer Battalion (Const) and the 35th Engineer Battalion (Cbt); and, for a short period, supported the 19th Engineer Battalion (Combat). In its support mission the 70th committed an average of 45 trucks daily for seven days a week and compiled over 425,000 miles. This included both day and night operation in support of numerous projects to include rehabilitation of QL-19 and QL-1, support of bridge construction on QL-1, a Log Depot Project and crusher support. Additionally, the unit completed construction of its cantonment area which includes tents with wooden floors and frames, a mess hall with concrete floor and tropical wood siding and maintenance area.

h. 23d Well Drilling Det: This unit arrived with two enlisted men minus equipment the last week of this period; therefore, a negative report is rendered in the field peculiar to their mission. The men have been further attached to Co A, 589th Engr Bn (Const).

i. 444th Engr Det (CM&P): During the period 1 August to 10 September 1967, the detachment was involved in round-the-clock mixing and paving operations for the 4,365' An Khe Army airfield. Over 10,000 CY of concrete were placed on the airfield during this period. From 11 September to 31 October 1967, the unit was involved in producing concrete for base development projects to include warehouses, ammunition pads, headwalls and billet pads.

j. 511th Engr Co (PB): This unit's main endeavor during this period utilized their resources in performing their secondary mission as a Dump Truck Company. An average of 25 5-ton dump trucks per day were utilized, covering 7,500 miles. Their major hauls were in support of the concrete airstrip at An Khe--hauling sand, aggregate and cement. Also accomplished were minor reinforcing of existing Bailey bridges on QL-19, culvert installation and repair, timber trestle bridge construction, construction of helicopter pad revetments and access road construction on Camp Radcliff. Their prefab yard an additional mission employing 80 Vietnamese laborers and three supervisory EM constructed and issued 243, 20'x80' tropicalized buildings for units on Camp Radcliff.

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We have maintained a consistently high percentage of attendance at Character Guidance Classes by conducting these during formations--thereby not encroaching upon the work schedule.

6. INTELLIGENCE AND SECURITY: The Bn base camp and C Co cantonments have continued as relatively secure areas. Elements of the ROKA 1st Cavalry Regiment, both arty and infantry, are located in close proximity of these areas. Frequent ambush and patrol operations are carried out in this sector and pre-planned arty concentrations have been incorporated into our base camp defense plan as well as on-call arty support. Gunship (armed helicopter) support is also available on call. Due to mission assignments in relatively insecure areas, work parties have often been reinforced by enlisted men of the working unit when other allied support has not been available. When this work site security is required, it has put a noticeable strain on personnel resources of the committed unit. Close liaison is maintained with the ROKA 1st Cav Regt S-2, local province MACV advisory teams, and the Air Force security section at Phu Cat airbase. Timely intelligence summaries and current spot reports of actual and suspected enemy activity in our areas of operation is received from the above resources as well as from the Group S-2 section. The units at An Khe have been incorporated into the overall defense plan of Camp Radcliff through the 1st Cav Div.

7. LOGISTICS:

a. LABORERS: During this period the battalion has employed local hire personnel, Assistance in Kind (AIK), on the average of 200 per day to supplement the construction unit's work force. An additional 100 permanent hire skilled and unskilled laborers including tire repairman, welders, machine shop operators, file clerks, typists, surveyor's helpers, and carpenters have been employed by this unit.

b. MAINTENANCE: The attachment and acquisition of many major items of construction equipment above TOE authorizations, and the operation of motor pools at two major locations, Qui Nhon and An Khe, increased an already taxed maintenance program throughout this period. The 51st Asphalt Platoon and 444th Concrete Detachment were organized and deployed without TOE mechanics. Their attachment to the battalion increased not only organizational maintenance work loads for their supporting company but also the battalion direct support and repair parts requirements. Additionally, the need for crushed rock in this area resulted in the acquisition of three to four times the rock crusher equipment normally organic to the battalion, without corresponding increase in maintenance support personnel. Only the demand for sound maintenance at all levels: operator, organizational, and direct support; coupled with supervisor and command maintenance awareness has kept the battalion's overall deadline much lower than its set ceiling of ten per-cent.

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In addition to the above mentioned projects, many minor tasks, technical assistance and self-help projects, materiel support, equipment loans and operational support missions were effected.

3. PERSONNEL AND ADMINISTRATION:

a. On 10 Oct 67, Co B was attached with five officers, one warrant officer and 186 enlisted men; the 511th Engr Co (PB) with three officers and 108 enlisted men; the 444th Engr Det (CM&P) with one officer and 30 enlisted men and the 23d Well Drilling Det. with two enlisted men.

b. The overall enlisted strength of the Bn with attached units as of 31 October 1967 was 1044, or 112 below authorized strength. The present officer strength lacks the Engineer Equipment Maintenance Officer (EEMO) (CPT) and the S-1 Officer (CPT).

c. A more significant representation of troop assets of the battalion is the present for duty strength. This strength figure takes into account those personnel assigned to Bn mission committments only. Present for duty enlisted strength as of 31 October was 1015, a deficit of 141 from the authorized enlisted strength.

4. CIVIC ACTION: Since 1 August 1967, the 589th Engineer Battalion (Const) has been active in civic action work in and around Phu Phong, Binh Khe, Binh Dinh Province. Close coordination with the USAID representative and the Sub-sector commander in Phu Phong has eliminated many problems. Constant contact with the people in the area through these individuals has resulted in foodstuffs being distributed when they were most needed. In addition to the distribution of food and medicine by the Bn medical section, ground work was laid for the construction of a Technical Training School in Phu Phong. A weekly English class was started in the Phu Phong Evangelical church. This quarter the Phu Phong Orphanage was aided by foodstuffs and 23,000 piastres. A voluntary civic action fund was also established.

5. MORALE AND WELFARE OF BATTALION: The religious services have been adjusted several times during the quarter to provide maximum coverage and participation in chapel services. For most of the quarter the Bn has been without the services of a Catholic Chaplain, thus Catholic personnel have been trucked to services several miles away. This has caused a decline in Catholic service attendance. With the separation of the Bn's units by approximately 40 miles, the Chaplain's time has, of necessity, been proportionately allocated to give maximum coverage to the troops. However, there is the disadvantage of being out of contact with one group or the other for several days. A battalion chapel has been erected at the Bn base camp and the Engineer Chapel at An Khe is utilized for services at Camp Radcliff. The troops have adjusted well to the rigorous work routine, and with the shortening of the daily work schedule to 11 hours due to the seasonal decrease of daylight and a continuing improvement of cantonment facilities, the morale has continued to remain high.

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Direct ordnance support from the 86th Maintenance Battalion has been excellent and turn-around time on job orders to them has been minimal. Back-up higher engineer support has been sporadic and the battalion has depended almost entirely upon its organic direct support engineer maintenance capability.

Overall deadline rate for the battalion for this period has been six per cent-ordnance, and six per cent-engineer.

c. Supply: Lack of adequate TO&E supply personnel and organic materiel handling equipment to process the tons of construction materials used daily by the battalion has continued to hamper supply operations throughout this period. (Two 10,000 lb fork-lifts have been authorized by special letter, however, they have yet to be issued). Some help in the expediting of construction materials has been accomplished by pooling company supply sergeants to work for S-4 on a part time basis apart from their normal company duties. (Each supply sergeant is assigned a block of construction projects to oversee for supply purposes, expediting critical items through the depot supply system as required. Ferreting in the depots for critical construction materials needed on projects is often the only solution for supply personnel because of erroneous location and quantity listings on depot stockage lists.) The S-4 also receives two tractors and trailers from battalion resources on a full time basis. Acquiring the same two low-boy operators each day eliminated many S-4 personnel problems since the low-boy operators soon became familiar with depot locations and procedures thus freeing two S-4 enlisted men to work the materials yard. Probably the biggest supply improvement during this period has been the build-up of a "working stock" of common construction materials in the S-4 yard itself. This working stock has enabled many projects to be started with minimal lost construction effort while project bills of material and material requisitions are being processed through higher hqs and depots.

Administratively the S-4 has had to assume the property book and the supply responsibilities for units attached to the battalion that were organized and deployed without organic supply personnel. Two permanent local hire office clerks have partially offset the continuous requisition and filing required by project BOM's and a third permanent hire clerk that works in the Central Issue Facility.

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Section 2, Part I, Observations (Lessons Learned)

PERSONNEL: None

OPERATIONS:

1. a. ITEM: Excessive erosion of drainage ditches

b. DISCUSSION: During recent construction of motor parks, DBST hardstands, and drainage ditches we have encountered some difficulty with drainage ditches eroding excessively. Because the velocity of run off in this area is high, erosion of ditches has threatened to undermine our hardstands.

c. OBSERVATIONS: In order to retard or prevent erosion, RC-1 was sprayed on the walls of ditches. This has worked with some degree of success. Along with the asphalt, sandbags were placed along the edges of ditches and also sprayed with asphalt. The sandbags break up the sheet flow from the hardstands and diverts the flow to a more desirous location.

2. a. ITEM: Erection of trusses with a span of 120'

b. DISCUSSION: The trusses involved were of the Butler design (Wide Flange Beam ranging in depth of 10" to 30"). A single crane was used to place the entire span minus the columns which were already in place. Because of the extra length of steel, the smaller sections bent in the process of lifting them off the ground. On the second attempt, with the same sections bending, it was naturally decided that some other method must be used.

c. OBSERVATION: Two large platforms similiar in design to the early oil drilling derricks were constructed. They were 24' high and on top of the platform a device was constructed that could be raised and lowered 3' by means of hydraulic jacks. The towers were so positioned inside the building that the heaviest section of the truss (30' long and approx 800 lbs) could be placed on the column with the free end resting on the adjustable platform. This procedure was followed on both sides leaving the two center sections of truss remaining to be placed with a 20 ton crane. The two center trusses were light enough to be picked up by the crane without bending them. Since the platforms had adjustable sections, the truss could be raised or lowered so that the center section could be bolted into place. The procedure described above proved fast, safe, and precluded damage to materials.

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3. a. ITEM: Moisture getting into cement stored in surge hopper of Johnson concrete batching plant (4 CY).

b. DISCUSSION: It has been found that in the humid atmosphere of Vietnam it is difficult to store loose cement in hoppers for any extended period of time (two to three days depending on the weather) because of its tendency to harden and clog in doors and chutes.

c. OBSERVATION: Experience has shown that all hoppers should be emptied and doors and chutes cleaned and chipped after every operation to prevent a build-up occuring on horizontal and diagonal surfaces. All doors should be left open after operation to allow loose cement to fall through and not build up behind doors.

4. a. ITEM: Road construction through rice paddy areas

b. DISCUSSION: While a specific job necessitated a roadway through such an area it was found that removal of the muck only resulted in hopeless repeated bogging of heavy equipment. Removal of the paddy was attempted in hopes of finding a stable base.

c. OBSERVATION: It was found that the most expeditious method of providing a stable base was to fill the area with a mixture of rock and laterite to a depth in most cases, of three feet. This provided a stable enough base for heavy compaction equipment and subsequent base course fill.

5. a. ITEM: Wear tread on timber decked bridges

b. DISCUSSION: The wear tread on numerous Bailey Bridges has required frequent redecking due to the use of soft grade material.

c. OBSERVATIONS: If soft wood is to be used due to the non-availability of a harder grade, then this wood should be treated adequately to withstand the adverse climatic conditions of heat and moisture in RVN.

6. a. ITEM: Temporary airfield turn-outs on a 4,365 concrete runway.

b. DISCUSSION: In order to place the airfield into operation before permanent connecting taxiways were constructed, a temporary type had to be installed. This required the culverts to be placed and the turn-off brought up to proper grade, in preparation for paving. Six to nine inches of 3"(-) base course was placed on the turn-off in 3" lifts and compacted to maximum compaction.

This was then treated with MC-2 asphalt to seal off moisture. A thin blanket of sand was then placed on the turn-off before matting it with M8A1 matting. A problem was encountered as to what method could be used to connect the matting to the concrete airfield without leaving a gap or allowing the matting to settle and pull away from the concrete strip. T-bars of 5/8" rebar could possibly have been used, but would have required constant maintenance. It was felt that rebar Tees would be sufficient along each side of the turn-off if they were driven down into the compacted base course.

c. OBSERVATION: This unit decided to lay 14" creosoted timbers next to the concrete runway at an elevation of 1¼" below the runway surface (thickness of M8A1 matting). They were staked into the base course by use of 3 foot lenghts of 1" rebar. After placing the matting on the timber, the first row had holes drilled every three feet and 6" by ½" Lag Screws were inserted into the timber. This provided a smooth transition joint between the matting and the concrete runway surface. Since the airfield was opened and during heavy traffic and wet conditions, the timber matting connection has proven to be excellent.

TRAINING AND ORGANIZATION: None

INTELLIGENCE: None

LOGISTICS:

1. a. ITEM: Use of correct water pump on Johnson concrete batching plant.

b. DISCUSSION: When the water pump on the concrete batching plant broke down it was replaced with a similar piece of equipment although not of the exact specifications in respect to g.p.m. flow and discharge line diameter.

c. OBSERVATIONS: The pump worked satisfactorily and no apparent problem was detected. The mixing time remained the same but it was observed that excessive deposits of concrete were building up in the rear of the mixer. After a closer look it was discovered that the water stream from the charging line was not reaching the back of the mixer allowing some of the materials to remain unsaturated and therefore causing them to adhere to the mixer. The pump was changed and the problem was eliminated. It should be noted that normal material build-up can be avoided by running a mix of course aggregate and water through this particular mixer every six or seven loads or every 30 minutes mixing time, which ever comes first.

2. a. ITEM: Failure of right front fender on 5-ton dump trucks, M51A2.

b. DISCUSSION: Due to the poor conditions of the roads, trucks have been taking an excessive pounding, causing the air cleaner to vibrate, and the fenders to crack.

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c. OBSERVATION: An extra support should be provided in the initial building of the truck to support the air cleaner.

3. a. ITEM: 5 Ton Dump Truck Lubrication Points

b. DISCUSSION: Lubricate all pivot points on the 5 ton dump bed daily.

c. OBSERVATION: None of the pivot points on the dump bed are seal inclosed and operating over rough roads beats out the grease, causing excessive friction at these points.

4. a. ITEM: Dump Truck Company PLL

b. DISCUSSION: The PLL authorized by the Tank Automotive Manual has been proven to be extremely low. A Dump Truck Company has only 48 5 ton dumps therefore all items of PLL are computed at the lowest density figure. As an example by the Tank Automotive Manual we are authorized only one 5 ton tire. Experience shows that we have an average of 30 flats per day and it is not unusual that as many as 15 tires must be salvaged.

c. OBSERVATION: Units activating for deployment should be authorized to stock PLL based on the experience of units already in the theatre.

5. a. ITEM: Generator Oil Changing

b. DISCUSSION: Due to the almost round-the-clock operation of 10 KW generators scheduled maintenance services should be effected on a more frequent basis than normally required.

c. OBSERVATION: Experience has shown that a daily or even twice daily oil change with the 10 KW generator will triple the operating life of the engine. Most units have been getting approximately 500 hours per engine. Using the above frequency we have experienced 1500 hours operation without maintenance problems.

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SECTION 2, PART II - RECOMMENDATIONS

1. PERSONNEL: None

2. OPERATIONS: None

3. TRAINING & ORGANIZATION: None

4. INTELLIGENCE: None

5. LOGISTICS:

a. This battalion deployed with serious air compressor shortages and none of its authorized water distributors. After six months in country these items still have not been received. The attached 51st Engr Platoon (Asp) arrived in country less its entire asphalt plant, all its rollers, and paving equipment. Similarly the attached 23d Well Drilling Det deployed less its well drilling capability. The deployment of engineer units to Vietnam with all authorized major items of equipment cannot be emphasized enough.

b. Having the right part when needed has been one of the keys to this units successful maintenance program. The sizable ASL that this battalion deployed with does not last forever. Judgement and experience factors must be used and heeded by maintenace personnel to make repair parts available through normal supply channels as required.

c. Specialized engineer units such as the 51st Engr Platoon (Asp), 23d Well Drilling Det, and the 444th Engr Det (GM&P) must be organized at DA level with organic support personnel. Similarly, equipment added above TO&E authorizations should be assigned with operators and pro-rated maintenance personnel.

6. COMMANDER'S COMMENTS:

On 18 October 1967 LTC Myron D. Snoke was reassigned to the 18th Engineer Brigade after 14½ months in command of the battalion. On 24 October 1967, the undersigned assumed command. On 1 October 1967 Major Eddie L. Morris assumed duties as Bn Executive Officer. This position had been vacant since 26 August when the former XO, Major Kenneth J. Davidson was reassigned. On 23 October 1967 the following major staff and command positions were changed:

Hq/Hq Company; 1LT Alfred P. Cochran, formerly construction officer of Co D, assumed command from CPT Lawrence D. Doff.

Company A; CPT George Thien formerly the Bn Civil Engineer, assumed command from CPT Edgar A. Marshall.

Company D; CPT Lawrence D. Doff, formerly Hq/Hq Co. commander, assumed command from CPT David V. Harbach.

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Bn Civil Engineer; CPT David V. Harbach, formerly Co D commander, assumed duties from CPT George Thien.

S-4; CPT Edgar A. Marshall, formerly Co A commander, assumed duties from CPT John S. Hillmer.

On 30 October 1967, CPT Thomas T. Takayama, formerly the Bn Pipeline Engr. assumed command of the 511th Engr Co (PB) from 2LT Henry V. Soper.

ALLEN F. GRUM
LTC, CE
Commanding