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AGO D/A ltr, 29 Apr 1980

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### DEPARTMENT OF THE ARMY

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

IN REPLY REPER TO

FOR OT UT 684133 AGAM-P (M) (31 Jan 69)

5 February 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 84th Engineer Battalion (Const), Period Ending 31 October 1968

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 84TH ENGINEER BATTALION (CONSTRUCTION)
AFO 96238

EGCC-CO

14 November 1968

SUBJECT:

Operational Report of the 84th Engineer Battalion (Construction) for the Period Ending 31 October 1968, RCS CSFOR-65 (R1)

THRU:

Commanding Officer
35th Engineer Group (Const)
APO 96312

Commanding General 18th Emineer Brigade APO 96377

Commanding General United States Army Vietnam ATTN: AVHGC (DST) APO 96307

Commander in Chief United States Army Pacific ATTN: GPOP-OT AFO 96588

TO:

Assistant Chief of Staff for Force-Development Department of The Army (ACSFOR DA) Washington D.C. 20310

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INCL 1

EGCC-CO

14 November 1968

SUBJECT: Operational Report of the 84th Engineer Battalion (Construction) for the Period Ending 31 October 1968, RCS CSFOR-65 (R1)

#### Section 1 Significant Organization or Unit Activities:

#### Command

#### (1) Organization

- (a) Headquarters & HQ Co, 84th Engr Bn
- (b) Company A, 84th Engr Bn
- (c) Company B, 84th Engr Bn
- (d) Company C, 84th Engr Bn
- (e) Company D, 84th Engr Bn
- (f) 513th Ergr Co (DT)

Unit departed this command on 3 September 1968

- (g) 536th Engr Det (PC)
- (h) 51st Engr Plt (Asphalt)

Unit came under this command on 3 August 1968

Unit departed this command on 8 October 1968

(i) 444th Engr Det (HQ)

Unit came under this command on 1 August 1968

Unit inactivated on 23 August 1968

(j) 2nd Plt, 643rd Engr Co (PL)

Unit came under this command on 1 October 1968

(k) 614th Engr (Power Distribution Team)

Unit came under this command on 1 August 1968

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Operational Report of the 84th Engineer Battalion (Construction) for the Pariod Ending 31 October 1968, RCS CSFOR-65 (R1)

(1) Ad Hoc Power Distribution Team

Unit came under this command on 1 August 1968

(m) 35th Engr Bn Land Clearing Team

Unit came under this command on 8 October 1968

#### (2) Unit Operations:

- (a) Headquarters & Headquarters Company: The utilities section, augmented with Vietnamese laborers continued work on the improvement of the Camp Williams Cantonment area. On 1 August 1968, HHC took over administrative control of the 614th Power Distribution Team, and the Ad Hoc Power Distribution Team.
- (b) Company A: The efforts of Company A included the maintenance and repair of battalion ordnance and engineer equipment, the production of crushed rock, the distribution of asphalt for maintenance and upgrade of LOC's, and soil stabilization by hydroseeding. Some of the major accomplishments this period included the production of 12,530 cubic yards of crushed rock, patching and paving sections of QL #1 and QL #19 with 107 tons of hot mix asphalt, and distributing 52,365 gal of peneprime on roads, bridges, and helipads for dust control. In addition, 9.5 acres of land were seeded with the hydroseeder for the purpose of erosion control.
- (c) Company B has been predominately concerned with construction of drainage structures and road upgrade on highway QL-1 during the last quarter. At present, the company's immediate area of operations now extends from the Phu Tai LSP, through Cu Mong Pass, to Binh Thank To date, eight (8) culverts in Phase III of the project (BDE 68-16-45) have been installed and three (3) bailey bridges have been erected in anticipation of the oncoming monsoon season. Subbase of 9.4 KM's have been prepared. Base course has been spread on 3.3KM's and 1.5KM's of the road have been paved with asphalt. Work on Phase I and II has been mostly limited to road maintenance in order to keep the pass open to traffic. Within "B" Company cantonment area physical security structures have been improved and the drainage system has undergone extensive work. 'I so afforts have been made to improve the motor pool area. Whenever possible, B Company supports the Koreans with materials and equipment for their operations and engages in civic action projects with the local villagers.

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for the Period Ending 31 October 1968, RCS CSFOR-65 (RI)

- (d) During this period "C" Corpany has been involved in a variety of projects. Thirteen (13) MACV shelters have been completed and all but five (5) have been shipped to the using units. Bridge # 318 on highway QL-1 was completed ahead of schedule and the bailey bridge used as a bypass has been taken out. The paving of Route 6B was taken over RMK and was completed under the supervision of C Company EM platoen. This included the access road of 6B to ROK division headquarters. Route 6B was also reorened from Van Canh to the intersection of QL-1 South with no enemy activity encountered. A 250 berrel water storage tank and a twenty (20) seat burn-out type latrine were erected at 35th Engineer Group headquarters. The AUTOSEVOCOM Facility was started during this quarter. This project was taken over from the 536th Engr Dat (PC) and is 95% complete. Work consisted of completing the inside of the facility with all electrical wiring, wall and ceiling panels, tile floor, inside latrine facilities and air conditioning completed. The block plant and prefab yard are currently supporting the POW hospital being constructed by "D" Company with cement blocks and prefabricated buildings. The Tanden Switch building on Vung Chua Signal complex is 80% complete and lacks only the air conditioning system, septic tank and ceiling for com, letion. The 440'x80' Cold Storage Warehouse is also in full swing. The Sub Floor has been placed, wall panels are up and the trusses are currently being placed. Work at the ARVN ASP has been slowed down by weather, but is nearly complete. The Phu Tai ASP has been turned over to D Co for completion. The EM Platoon of C Co is currently repairing flood demages on QL-1. Work on the Phu Tai Ice Plant continues. It is now 75% complete. The Purification Unit has arrived and is now being installed.
- (e) During this reporting period "D" Company worked on a variety of projects. Work on Phase I and II of highwaw QL-1 progressed well this period, but was turned over to "B" Company in August to free D Company for other commitments. The automatic data processing center, a 70' x 144' cir conditioned, wood frame, computer building at Long My Depot was completed. Work on the Dial Central office has progressed well, leaving the 40' x 60' wood frame building approximately 75% complete. walls, roof, ceiling partitions and interior paneling have all been constructed. Work is presently being conducted on the electrical wiring, insulation and acoustical tile for the switchboard room ceiling is being placed. "D" Company started work in the Phu Tai ASP in August. There are many ermunition berms that need repair due to erosion. Concrete pads are also being placed for smell arms ermunition storage. Work on the 240 bed POW hospital was also started this period. The hospital consists of eight (8) quonset type buildings, twelve (12) ward type buildings (wood frame), sidewalk canopy walkways and a sophisticated water and squage system. Work started in September and at present is approximately 3% complete. "D" Company also assumed responsibility for road maintenance on highway QL-19 from its east base to bridge # 27. Five (5) bridge bypasses were built along this route for employment in the event of drungs or destruction to the bridge.

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- (f) The 536th Engr Det (PC) was responsible for the repair of bridge # 322 on highway QL-1 during this quarter. This consisted of the replacement of a blown 20' span. The work included replacing two pile bents, concrete caps 36 WF 230 steel stringers, and timber decking. The Ammo Offloading Facility, located on Qui Nhons Harbor causeway, was started during this period. Phase I, the placement of two mooring buoys in the ammo turning basin was completed. Work is nearing completion on the pile driving barge. The haul of fill has been completed at the barge wharf site. Repair of the barge quay was started. The installation of camels was begun as a temporary repair until materials and manpower are available for permanent repair.
- (g) At the beginning of the quarter, the 35th LCT was responsible for clearing Route TB 506 from LZ Uplift west to LZ Pony. The overall mission was accomplished in approximately two months. Security was provided by the 1st of the 69th Armor, 173rd Airborne Brigade. From 28 July until 4 September the land clearing team cleared areas in the Bong Son Plains while support and security was supplied by the 173rd Airborne Brigade and the 40th ARVN Regiment. During this operation the 35th LCT was credited for the capture of several Viet Cong with arms, records and Viet Cong flags. The job of clearing 150 meters of land on each side of highway LTL 6B started on 15 October with the RCK Capitol Infantry Division providing security. This is, at present, their mission with approximately 927 acres already cleared.
- o. Porsonnel, Administration, Moralo, and Discipline: During this reporting period battalion participation in the Savings Bond Program averaged 78% while soldiers deposits participation averaged 2%. There were a total of 33 personnel recommended for awards, and 44 personnel voluntarity extended their foreign service tours. The battalion suffered one casualty and no battle deaths during this quarter. There were 118 disciplinary cases (103 article 15's and 15 courts-martial).
- c. Intelligence and counter intelligence: Enemy activities on LOC's continued, resulting in one bridge and one culvert being destroyed by enemy action. Enemy barrassment of work crews decreased to a negligable level, except for one incident, on 26 October while elements of the 2nd Plt, 643rd Engr Co (PL) and the 240th QM Bn were engaged in repair of a POL Line on the beach in Qui Nhon City, they received two unidentified explosions and AW/SA fire resulting in three members of the 643rd Engr Co (PL) being wounded in action. Good intelligence continued to be maintained by this unit with the Capital ROK Infantry Division, 5th Special Forces, Binh Dinh Province Forces and other combat and support units in the area. During this period the defense plans for this sector were completely revised and implimented. This unit is responsible for the defense of two personnel compounds, two POL storage farms, and a PX RQ and storage area under the Qui Nhon Installation Defense structure.

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- d. Plans Operations and Training: Weather conditions during the period severly hampered the LOC Upgrading on QL-1 and caused extensive damage on both QL-1 and QL-19. The addition of sections of QL-19 to the battalions area of responsibility, along with added base construction projects has resulted in decrease of LOC construction on QL-1 south. Therefore at present only one line company is working on new LOC Construction while the other two line companies are committed to base construction and LOC maintenance and repair Training during this period emphasized OJT of many newly assigned personnel, and weapons firing and safety for all personnel.
- e. Logistics: During the period, the S-4 was involved in many functions pertaining to the supply of class IV items to the organic and attached units within the battalion Of upmost importance was the supply of class II TO&E equipment and class IV construction materials in order to expedite the successful accomplishment of the battalions overall mission. During the period many of the long lead items for the complex communications projects were obtained, however there are still critical shortages for the air conditioning units and duct work. The battalion has completed several logistical support missions to US units for construction materials, and to several ARVN units for bridge supplies and materials. The S-4 has continued to operate two water points in support of its companies.
  - f. Force Development: N/A
  - g. Command Management: N/A
  - h. Inspector General: N/A
- i. Civic Action: The battalion under took variety of civic action projects during this quarter. The members of this battalion voluntarily contributed 121,040 VN\$ for the support of Holy Infant and Kin Chau Orphanage, the 84th Engr Bn has also furnished material and equipment for civic action and revolutionary development projects in support of the 41st Civil Affairs Company. Company B, to promote good will in their area of operation, has done minor road work for the village of Binh Thanh. HHC has continued to provide an NCO everyday to the Qui Nhon public works department for technical assistance for the city's engineering projects, and to act as liasion between the 84th Engr Bn and the city of Qui Nhon.

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#### Section 2. Part I. Observations (Lessons Learned)

- A. Personnel: None
- B. OPERATIONS:
- 1 Item: Use of a modified vibrating process in the placing of concrete pads.

DISCUSSION: In the construction of concrete pads for the Automatic Data Processing Center, Dial Central Office, and the POW Hospital it has been found that screeding concrete first with a four inch diameter pipe the width of the form, with a vibrator positioned in the center levels and smooths concrete more easily and uniformly than a wooden hand drawn screed. When the concrete is placed in the form the pipe with the vibrator inserted is rolled quickly along the form to cause uniform setting of the concrete. This process is then followed by a wooden screed to fill any depressions or remove any high points. This process has proven itself over and over again. No problems arise unless the pipe is rolled too slowly allowing the concrete to segregate.

OBSERVATION: Use of the vibrating screed method for placing concrete makes the job easier and insures a more uniform distribution of concrete throughout the form.

2 Item: Use of three inch minus aggregate to cap bypasses and serve as a wearing surface.

DISCUSSION: In construction of bypasses on QL #19, most have been built from compacted laterite only. During a hard and continuous rain, erosion takes its tell slowly eating away the readway until traffic is restricted in some areas. Two bypasses built on QL #19, both capped with three inch minus rock (six to eight inches) sustained very minor damage from heavy rains. During a recent flood of this area, flood waters rapidly washed over these bypasses. The bypasses capped with aggregate held up longer and sustained less damage than the ones built from compacted laterite only.

OBSERVATION: Capping bypasses with three inch minus aggregate although expensive, is an excellent method of deterring erosion and washout.

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3 Item: Building bypasses on down stream side of bridges.

DISCUSSION: In construction of bypasses on QL #19 several bypasses were built on the up stream side of bridges. Several factors contributed to the decision to build these bypasses in this manner. There is a POL pipcline on the down stream side hampering the construction of approaches to the rivers. In most cases there are bunkers (bridge guards) or some other obstacle to hinder operations and in some cases the width of the up stream side of the river is smaller than down stream. These factors coupled with the knowledge of the normal high water level of the river led to the assumption that we were perfectly safe using this method. After approximately thirty-six hours of typhoon rain the water levels reached a new high and began flowing more swiftly than anticipated. The culverts were not able to carry this large volume of water. The water flowed over the bypass causing a churning action against both abutments of the bridges on the up stream side. At one bridge site the water action was significant enough to wash out large sections of the road behind concrete abutments, even through a concrete retaining wall was present. Building the bypass on the down stream side of a bridge would render the churning action of the water harmless in the event of an unexpected flood. Bypasses built on the down stream side of bridges, although in some instances they were partially washed cut, left the bridge abutnent and approaches unhammed.

OBSERVATION: The construction of bypasses on the down stream side of bridges, while it may be troublesome and time consuming, is the best method of constructing bridge bypasses.

4 Item: The imbedding of 2" closed link chain into a concrete anchor thus eliminating the need for a lifting eyo.

DISCUSSION: The original design for the construction of concrete anchors, to be used for the mooring budy system, called for three (3) pieces of #10 rebar, embedded in the concrete, to act as a lifting eye. In the process of lifting the anchor the lifting eye failed and a suitable substitute had to be made. An alternate design was developed consisting of embedding the anchor chain in the concrete thus climinating the rebar lifting eye. The chain is lowered about 4' into the 8' block of concrete and #4 rebar is placed horizontally thru the imbedded link of the chain

OBSERVATION: That inbedding anchor chain directly into a concrete anchor provides a stronger connection than the use of a lifting eye of reber. It also eliminates the time consuming process of bonding the large #10 reber.

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- C. Training: None
- D. Intelligence:
  - 1 Items Presence of Children around project sites.

DISCUSSION: This unit had a recent incident involving the booby trapping of a piplino being installed along a populated area. It was noticed that just prior to the incident, the many children who usually congregate around the project site, had returned to their nearby homes.

OBSERVATION: It is felt that the Vietnamese Children who play in the area around the job site have knowledge of any enemy activity in the immediate vicinity, therefore when they suddenly dissappear from the project site it's a good indication that there may be an enemy operation in the area.

- E. Logistics:
  - 1 Item: Screen for Concrete Aggregate

DISCUSSION: The quarry section was assigned the mission of producing concrete aggregate. The equipment available was one 75 TPH Eagle Primary Crusher and a Pioneer Crusher set: 225 TPH Primary and 150 TPH Secondary. The secondary unit has no capability for screening out fines produced by the secondary crushing operation, but does screen out fines present after the primary crushing. The product obtained was satisfactory except that about 15% by weight of the output was too fine, making the aggregate unsuitable for use in concrete.

The solution found was placing a screen in the path of the output of the secondary unit. Angled about 45 degrees, the screen effectively separated fine naterial from the output product, leaving an acceptably clean aggregate suitable for concrete work. By using a steep angle for the screen, vibration of the screen was not necessary. The solution required use of one additional conveyor under the screen to carry off the fine naterial.

OBSERVATIONS: The value of this screen system varies depending upon the availability and price of aggregate and 3"(-) crushed rock calculations, assuming six months use at full production and current prices indicate savings up to \$84,000.00. The screen requires dry material as noist particles cling to and clog the screen, giving a product with excess fines raterial.

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Operational Report of the 84th Engineer Battalion (Construction) for the Poriod Ending 31 October 1968, RCS CSFOR-6: (R1)

F. Other:

1 Item: Laying of POL Pipeline in insecure areas.

DISCUSSION: While placing POL Pipe along the beach in Qui Nhon an incident occurred which brought out the necessity of having strict security procedures when undertaking this operation. Six or seven 20' sections of 6" pipe had been laid out in preparation for coupling. However the day crew was not able to complete the coupling and the sections lay unattended until a night crew arrived to complete the connecting. When one of the night crew started to move a section of pipe into place there was an explosion, caused by a charge placed under the section of unccupled pipe. As a result of the explosion three men were wounded.

OBSERVATION: This incident could have been avoided by insuring that the pipe was secure at all times, even thru a shift change. Also sections of pipe should not be laid out a great length in advance of coupling. Another step to prevent a recurrence of this type of incident is to nove all pipes left in an insecure area with the use of a rope tied to the pipe.

ROBERT J. CORLEY

LTC

CE

Commanding

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EGA-3 (14 Nov 68) 1st Inc

SUBJECT: Operational Report of the 84th Engineer Battalion (Construction) for the Period Ending 31 October 1968, RCS CSFOR-65 (R1)

- DA, Headquarters, 35th Engineer Group (Const), AFO 96312, 24 November 1968
- TO: Commanding General, 18th Engineer Brigade, ATTN: AVBC-C, APO 96377
- 1. This headquarters has reviewed the Operational Report Lessons Learned for the 84th Engineer Battalion (Const) for the quarterly period ending 31 October 1968. The report is considered an excellent summary of the battalion's activities for the reporting period.
- 2. The Battalion Commander's comments are concurred in with the following comment reference Section 2, Part 1, Item B.1.: Though use of vibrator in the pipe served may get good results, the vibrator is subject to severe damage rendering the vibrator unserviceable.

Colonel, CE Commanding

AVEC-CS (31 Oct 68) 2nd Ind SUBJECT: Operational Report of the 84th Engineer Battalion (Construction) for the Period Ending 31 October 1968, RGS CSFOR - 65 (R1)

DA, Headquarters, 18th Engineer Brigade, APO 96377 3 DEC 1968

TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DST, APO 96375

- 1. This headquarters has reviewed the Operational Report Lessons Learned for the 84th Engineer Battalion (Construction) as indorsed by the 35th Engineer Group. The report is considered to be an excellent account of the Battalion's activities for the reporting period.
- 2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commander.

JOHN H. ELDER,

Colonel, CE Commanding

AVHGC-DST (31 Oct 68) 3d Ind SUBJECT: Operational Report of the 84th Engineer Battalion (Construction) for the Period Ending 31 October 1968, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 & DEC 1968

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

This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1968 from Headquarters, 84th Engineer Battalion (Construction) and concurs with the report, as mcdified by the preceding indorsements.

FOR THE COMMANDER:

Major, Ago

Asst Adjutant General

Cy furn: HQ 18th Engr Bde HQ 84th Engr Bn

GPOP-DT (14 Nov 68) 4th Ind SUBJECT: Operational Report of HQ, 84th Engr Bn (Const) for Period Ending 31 October 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 13 DEC 1968

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

This headquarters has evaluated subject report and forwarding indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

C. L. SHORTT CPT, AGC Asst AG

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