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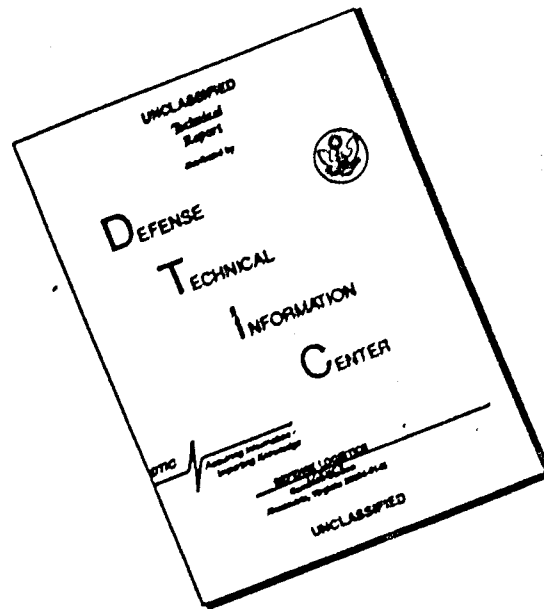
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGAM-P (M) (28 Oct 68) FOR OT RD 683360

5 November 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 34th
Engineer Battalion (Const), Period Ending 31 July 1968

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.
2. Information contained in this report is provided to insure that the Army realizes current benefits from lessons learned during recent operations.
3. To insure that the information provided through the Lessons Learned Program is readily available on a continuous basis, a cumulative Lessons Learned Index containing alphabetical listings of items appearing in the reports is compiled and distributed periodically. Recipients of the attached report are encouraged to recommend items from it for inclusion in the Index by completing and returning the self-addressed form provided at the end of this report.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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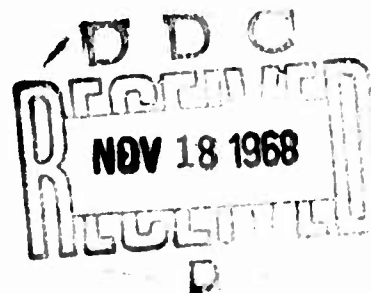
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DEPARTMENT OF THE ARMY
HEADQUARTERS, 34TH ENGINEER BATTALION (CONSTRUCTION)
APO San Francisco 96289

EBD-CO

31 July 1968

SUBJECT: Operational Report of 34th Engineer Battalion (Construction)
for Period Ending 31 July 1968, RCS CSFOR-65

THRU: Commanding Officer
79th Engineer Group
ATTN: EGE-3
APO 96491

Commanding General
20th Engineer Brigade
ATTN: AVH-OS
APO 96491

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

Commanding General
United States Army Pacific
ATTN: GPOP-OT
APO 96588

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

Section I, Significant Organization Activities

1. General: During the period 1 May - 31 July, the 34th Engineer Battalion successfully accomplished various engineer construction projects in the III Corps Tactical Zone. The battalion was primarily engaged in construction support of three cantonment areas, maintenance of lines of communications,

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construction of a power distribution system and a power plant, construction of flightline facilities for fixed and rotary wing aircraft, maintenance of two airfields, development of water well fill points, construction of an APO and officers club and various operational support missions to include construction of a perimeter road, rearm point, artillery gun pads, and aircraft hardstand. During the reporting period, the greatest part of the battalion's vertical construction effort was accomplished at Phu Loi and Lai Khe. Horizontal construction was concentrated at Phu Loi and Phuoc Vinh.

B. Command: Major changes include the departure of Major Stephen K. Chipman, Battalion Executive Officer, to CONUS; the departure of Major John C. Whisler, Battalion S-3, to CONUS; the arrival of Major Thomas R. Bennett as the Executive Officer and the arrival of Major Wilfrid E. Gelinas as the Battalion S-3. LLT John R. Werderits replaced CPT Wilbur E. McConico as Battalion S-1. In addition to principal changes in the staff, CPT Richard M. Chubb, Headquarters Company Commander, departed for CONUS and was replaced by LLT Dennis G. Hubbes; LLT Donald Becker replaced LLT Edward F. Covell, who is returning to CONUS, as Company A commander, CPT Boyden R. Gabell, who departed for the 554th Engineer Battalion was replaced by LLT Richard A. Roquemore as Company C commander, and CPT Charles A. W. Hines arrived from CONUS to replace LLT David L. Talbott as Co D commander. LLT Talbott replaced CPT John A. Striegel who departed for CONUS as assistant S-3.

C. Personnel, Administration and Morale:

1. The average strength for the battalion for the quarter was 885, 97.8% of authorized strength. The average officer strength was 38, 100% of authorized. There are currently rotational humps for officers in August 1968 and March 1969. NCO's in the grade E-7, primary MOS of 51H, 62B, 63B, 76Y and 94B are the most significant personnel shortages within the battalion along with enlisted personnel with the MOS of 51K and 51F.
2. Major efforts during the period were concentrated on in-processing and out-processing and updating all personnel records. 387 personnel completed their tour. 402 personnel were in processed.
3. A vigorous safety program remained in effect during the period. Special emphasis was placed on weapon and vehicle safety.
4. During this period there were 76 Article 15's, 1 Special Court-Martial and one General Court-Martial.
5. There were no significant medical problems among the battalion personnel. There were no cases of Malaria. 2 cases of ringworm and 30 cases of VD were noted among the battalion personnel.
6. There were 6 Congressional Inquiries this period, 2 of which were initiated by soldiers themselves.

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7. A total of twenty-four (24) awards were received by personnel of this battalion during this period. The following awards were received: two (2) Bronze Stars, five Army Commendation Medals, five (5) Purple Hearts and twenty (20) 20th Engineer Brigade Certificates of Achievement.

8. The morale of this unit has remained high. Movies are being shown five nights a week, a new Battalion EM club was opened on 4 July 68 and the televisions and tape recorders provided by Special Services are being put to maximum use.

D. INTELLIGENCE AND COUNTERINTELLIGENCE:

1. Daily intelligence reports from the Base Defense Officer, Phu Loi, are processed by the Battalion S-2. In addition local base commanders provide intelligence data for elements of the battalion at base camps separate from the battalion headquarters. These reports, along with intelligence documents from the 79th Engineer Group, 20th Engineer Brigade, II FFORCEV, and higher headquarters, are utilized for planning local security requirements.

2. This headquarters continues to handle personnel security actions, e.g., validations of clearances up to and including TOP SECRET, granting of CONFIDENTIAL clearances and approval of interim SECRET clearances.

3. The 34th Engineer Battalion retained security responsibility for manning eight defense bunkers positions and one guard tower on the Phu Loi Base Camp Perimeter.

4. Also this unit provided a 100 man Ready Reaction Force for employment as required by the base commander at Phu Loi.

5. On 18 July 1968, while engaged in mine clearing operations on QL-13, Company D suffered 4 US KIA due to an enemy mine.

E. PLANS, OPERATIONS, TRAINING:

1. The 34th Engineer Battalion remained heavily committed on construction projects in RVN. At the end of the reporting period, approximately two thirds of the battalion strength was located at Phu Loi, with the battalion headquarters. The remainder of the battalion was positioned as follows: one company at Lai Khe, one platoon (minus) at Phuoc Vinh, one squad at Quan Loi, the quarry section of Company A at Nui Ba Den, and 714th Engineer Detachment (PL) at Bear Cat. In addition various equipment and personnel were on TDY on other base camps within the AOR.

2. The battalion continued to gain experience in both vertical and horizontal construction. During the reporting period 33,607 SF of buildings were completed, (including 9,840 SF self-help), 1,170 CY of concrete were placed, 116,044 CY of laterite and earthen fill were hauled, graded and compacted, and 2,282 LF of culverts were installed.

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3. The battalion operated prefabrication shops utilizing local civilian labor at Phu Loi and Phuoc Vinh. These shops produced nine (9) 6-head showers, seven (7) 6-hole latrines, nine (9) 4-hole latrines, four (4) 2-hole latrines, one 32' x 60' building, one 48' x 20' building and eleven (11) runway markers.

4. The reporting period continued through the monsoon season. However the amount of rainfall did not significantly hamper the construction effort. Phu Loi received 24.02 inches of rain during the reporting period causing fifteen (15) days of horizontal construction and one (1) day of vertical construction to be lost. Similar conditions existed at Lai Khe with three (3) days of vertical construction and eleven (11) days of horizontal construction lost due to rainfall. Phuoc Vinh also lost nine (9) days of horizontal construction and three (3) days of vertical construction because of rainfall.

5. A resume of major construction projects assigned to the battalion is as follows:

a. LOC maintenance on route QL 13 was the Priority 1 project during the reporting period. The battalion is responsible for maintaining 13.0 miles of roadway from Phu Cuong to Lai Khe. Work consisted of installing an extensive culvert network, hauling laterite for placement and compaction to improve the roadway surface, maintaining AVIB and standard roadway by-passes at critical locations on the roadway. All damaged roadway, obstacles, mines and/or booby traps which had been caused by enemy forces were repaired and/or removed. Daily aerial reconnaissance continues to disclose early morning information pertaining to enemy interdictions on the roadway.

b. During the reporting period, construction was completed on an Air Cav IFR at Tay Ninh. The 3rd of the 17th Air Cav required 57 revetments, 29,741 CY of laterite for hardstand, 44 CY of concrete for mess halls, 42,480 gals of dust palliative, extensive drainage structures and ditching in each of four construction areas, and other requirements as deemed necessary. The project was completed on 15 June 1968.

c. Work continued throughout the reporting period on the power distribution system at Lai Khe. The battalion effort was augmented with the addition of the 714th Engineer Detachment (PL) on 22 May 1968. The power distribution system consists of a three phase, 4160 volt primary system, with 110/220 volt secondary. At the close of the reporting period the following work was accomplished: 421 poles of 700 required were set, 1,722 trees of 3,500 required were cut, 57,050 LF of 95,000 LF required right of way were cleared, 31,600 LF of primary wire of 180,000 LF required and 93,000 LF of secondary wire of 500,000 LF have been strung.

d. Concurrently with installation of the power distribution system, work continued on the power supply facility at Lai Khe. The power supply facility, when complete will provide 2000 watts of power with four operating generators, plus a 500 watt generator for backup power supply. To date the five generators have been placed on the respective pads and the generators are now being prepared for operation.

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e. Airfield maintenance continues to be a high priority responsibility at Phuoc Vinh and Phu Loi. Monthly airfield inspections were conducted to determine the status and repair required of the airfields. During the reporting period, the center section of the Phuoc Vinh airfield was repaired, two off-load ramps were widened and the runway extended 150 LF. In addition, 8,000 SF of taxiway was graded and scarified. One (1) 18"x14" culvert was installed across the runway, and 2,400 CY of laterite was hauled, graded and compacted.

f. Construction was completed on four heavy artillery gun pads at Phuoc Vinh. C Battery of the 6th of the 27th Artillery required construction of gun pads that would allow minimum deflection. Previously this artillery unit had deflections of 40 to 45 mils.. With the pads designed and constructed by this battalion, the range of deflections is 2 to 10 mils.

g. Construction was initiated on 1 Jun 66 on a perimeter road at Phu Loi. Extensive laterite haul, placement, and compaction is required for this project. Company C and Company D are each doing 50% of the work required. At the end of the reporting period, the project was 38% complete and 20,715 CY of laterite had been hauled, graded and compacted.

h. At Phu Loi construction continued throughout the majority of the reporting period on a helicopter rearming facility. The project was re-designed to meet existing requirements of the customer. To date 14,525 CY of laterite required have been placed and the project is 70% complete.

i. 2,500 CY of laterite and select fill material were hauled to complete construction of an ammunition supply hardstand and berm (minus sixth berm) at Phuoc Vinh. A total of 51,400 CY of laterite and select fill material have been placed. The project was 99% complete at the close of the reporting period and was being used by the customer.

j. 4,900 CY of laterite and select fill material were hauled to complete construction of an ammunition supply hardstand and berm at Phu Loi. The project required a total of 66,414 CY of laterite and select fill material. The customer is using the entire facility.

k. Construction was completed during the reporting period on the 7th of the 1st Air Cav MER at Di An. 6,506 CY of laterite and select fill material were hauled to complete the ammunition supply point and major drainage systems. All the facilities are in use.

l. In addition to the above listed projects, the following were accomplished during the reporting period: work was accomplished on numerous wood frame tropical type buildings at Phu Loi, Lai Khe and Phuoc Vinh; laterite pits were operated at four base camps locations; supplementary pits were operated on Route QL 13 to minimize haul distances during periods of major construction effort; approximately six (6) acres of land was cleared and disc-harrowed for the Gadsden Refugee Village; a counter-mortar radar tower and airfield radar tower were constructed at Phu Loi and Phuoc Vinh; a 2,400 SF APO building was constructed at Phu Loi; a 2,490 SF Officers' Club was constructed

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for the 1st Inf Div at Lai Khe; work was being accomplished on rotor blade balance rooms, and airfield taxiways and operations building at Lai Khe and Phu Loi.

m. Technical assistance for self-help construction was provided for units at Phu Loi, Lai Khe and Phuoc Vinh throughout the reporting period. The battalion continued a program to upgrade the electrical wiring in tropical buildings within the AOR. Presently the buildings at Lai Khe and Phu Loi are being upgraded for installation of central power plants. Lighting fixtures for the large aircraft hangars, though ordered, have not arrived in-country to date. Using units are utilizing TOCE equipment with permanent type connections to power sources, in order to cope with the present situation. To insure minimum rewiring when the new power plants and lighting fixtures and materials are in operation and/or arrive in-country, the battalion provides skilled electricians to wire the temporary fixtures.

n. Complete listings of operational support missions O&MA and MCA projects assigned to the battalion at the close of the reporting period are listed in inclosures 3 and 4 respectively.

6. Formal training consisted of orientation for all personnel arriving in-country. New personnel stationed at Phu Loi received the training each Sunday in the battalion conference room. In country orientation for new personnel of Company B was given at Lai Khe.

7. Command Information topics were conducted by the company commanders or their representative on the second and third Sunday of each month.

8. Character Guidance was conducted on the second and third Tuesday of each month for the personnel at Phu Loi. Personnel at Lai Khe also received the training on a monthly basis.

9. The program of bi-weekly range firing initiated during March, 1968, was continued during the reporting period. Weapons zero were reconfirmed. New personnel assigned the M-16 Rifle, .45 caliber Pistols and Submachine Guns, M-79 Grenade Launchers, and M60 Machine Guns were afforded the opportunity to fire their weapons for familiarization during this time.

10. A special class concerning vehicle recovery during the monsoon season was conducted by each company. The class acquainted all necessary personnel with the proper procedures and safety factors involved with vehicle recovery.

F. Logistics.

1. Critical shortages of materials were: 1/2" Lag Bolts, Toggle Switches, 1000 Barrel Tanks, 500 KW Generator Components, and dimensional lumber of 1" and 2" sizes.

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2. The battalion is short the following TO&E items: one (1) backhoe, one (1) 5-ton truck, dump, two (2) entrenching machines, two (2) shops, woodworking, one (1) water distributor, two (2) M16A1 Rifles, one (1) mixer, rotary tiller, one (1) 1.5 generator, DC, 28V, one (1) 5KW generator, AC, 120V, one (1) air compressor 600 CFM, three (3) 250 CFM air compressors, one (1) 25-ton semi-trailer lowbed, two (2) receiver-transmitters, RT-524, one (1) AN/VRC-46 radio, three (3) tractors, full track D7E, one (1) crane, 10-ton ~~crawler~~ mounted, three (3) mine detector sets.

3. During this reporting period the battalion received the following TO&E items: two (2) new D7E's, three (3) rehabilitated D7E's, one (1) lubricating unit, one (1) generator 1.5KW, two (2) rough terrain cranes, ten (10) tractors, wheeled, 290M, one (1) loader, scoop, two (2) trucks, 3/4-ton. This unit also turned-in eight (8) Huber-Warco graders and two (2) forklifts, 6000 lb, Anthony & Chrysler, and picked up ten (10) Westinghouse graders and two (2) forklifts, 6000 lb, Chrysler.

4. Combat losses during this period were: two (2) tractors, wheeled, 290M, two (2) mine detectors. Items turned-in as unserviceable were: nine (9) tractors, wheeled, 290M, one (1) lubricating unit, one (1) pneumatic tool and compressor outfit, one (1) roller, mtrzd, 3-wheel, 10-ton, one (1) ten (10) ton crane, three (3) 20-ton cranes, one (1) loader, scoop, one (1) mixer, concrete, one (1) truck, 3/4-ton, one (1) truck, 1/2-ton, one (1) Westinghouse grader, and six (6) tractors, full track, D7E.

5. Command emphasis has continued in areas of supply accountability and reports of survey. During the period 7 reports of survey were initiated, compared to 11 for the last reporting period. It is anticipated that this number will continue to decrease during the next reporting period.

6. The battalion cumulative dead line rate at the end of this reporting period was 5.3% which has constituted an increase of 1.6% since the previous quarterly reporting period. Check of critical parts is the main factor for this increase. Command emphasis is being placed on expediting repair parts.

7. Inventory of parts maintained on the Prescribed Load List (PLL) has risen to 70.2% for this period. It has been determined that the usage factor and timely receipt of (PLL) items is the contributing factor for the present percentage.

G. Force Development: Company C was relocated from Phuoc Vinh to Phu Loi in order to augment construction effort at Phu Loi.

H. Command Management:

1. The projects and missions assigned to the battalion are managed by the

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Battalion Operations Officer, Daily operations meetings are held at the battalion and company levels to discuss problems and project priorities, to coordinate survey requirements, and to coordinate equipment for efficient utilization. A helicopter is available four times a week, for one-half day periods, and is utilized for liaison, and inspection visits, and for transport of critical parts, materials and personnel.

2. Weekly staff meetings are held to assist in keeping all personnel informed of the current battalion status. The high rate of officer turnover required frequent briefings on objectives and policies.

3. When a project directive is received, a battalion directive is assigned to the appropriate company. The S-3 Section accomplishes the design and drafting to accompany the battalion directive. The company is then responsible for submitting a complete Bill of Materials (BOM), construction plan, construction schedule drainage plan and safety plan to the S-3 Section for approval. A project officer within the S-3 Section checks for quality control and resolves problems that might arise. In addition, close coordination with base development boards is maintained for planning purposes.

I. Inspector General: No formal complaints were received during this period by the acting IG, the Battalion Executive Officer. Two informal complaints were received.

J. Information: The 34th Engineer Battalion (Const) receives the following newspapers: The Army Reporter, The Castle Courier, and The Pioneer. The Pacific Stars and Stripes is distributed daily throughout the 79th Engineer Group. The battalion receives the following magazines: Army, Commander's Digest, The Army Digest, Aviation Digest, and Research and Development. The battalion publishes a bi-weekly newspaper entitled The Volcano, and hometown news releases and unit news stories are submitted through 79th Engineer Group on a weekly basis.

K. Civic Affairs:

1. During the reporting period the battalion continued the Civic Action Program. The Battalion Surgeon continued to support the Phu Cuong Hospital through the MEDCAP Program. Heavy project commitments and isolated assignments of some elements of the battalion have precluded extensive expenditure of effort for civic action construction.

2. At the end of the reporting period, the battalion employed a total of 302 local national civilians. A construction effort was diverted from the Phuoc Vinh cantonment to other locations, the requirements for local labor greatly reduced, and the total personnel hired dropped from 342 in mid-May to the present figures.

3. Local Nationals are employed as shown below:

	<u>O&MA</u>	<u>MCA</u>	<u>AIK</u>	<u>HOUSE MAID</u>
"A" Co, Hq Co Phu Loi	31	0	0	46

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	<u>O&MA</u>	<u>MCA</u>	<u>AIK</u>	<u>HOUSE MAID</u>
"B" Co Lai Khe	0	0	5	0
"C" Co Phu Loi	0	0	11	18
"G" Co Phuoc Vinh	0	0	5	0
"D" Co Phu Loi	18	96	40	32
TOTAL:	18	96	61	96

Section II, Lessons Learned: Commander's Observations, Evaluations, and Recommendations

A. Personnel.

Recommendation for Awards and Decorations

1. OBSERVATION. It is desired that personnel be considered for awards and decorations for their contributions to the Armed Forces effort in the Republic of Vietnam. To be most effective these awards or decorations should be processed so as to be available for presentation before DEROS. Very often recommendations are submitted too late to allow for processing.

2. EVALUATION. A system is needed in each unit to insure that the recommendations are submitted sufficiently far enough in advance to insure the timely processing of the recommendations.

3. RECOMMENDATION. That each unit personnel section publish a 100 day loss roster for the use of the companies involved. This roster serves as a reminder to the appropriate company commander and enables him to forward the recommendation within the time frame set by higher headquarters (57-75 days before DEROS).

B. Operations.

1. Removal of Timing Gear Housing on the D7E Tractor

a. OBSERVATION. TMS 2410-214-35 is incorrect regarding the removal of the crankshaft pulley.

b. EVALUATION. Chapter 3, para 21 (1A) p. 29 reads "... remove lock and bolt which has a left hand thread." Figure 11, p. 29 shows tapped holes to accommodate a gear puller. The bolt referred to has a right hand thread and the pulley on a D7E does not have tapped holes to accommodate a gear puller.

c. RECOMMENDATION. That mechanics be made aware of this discrepancy and that mechanics be cautioned against any attempt to drill and tap holes to accommodate a gear puller. Drilling will put the pulley out of balance.

2. Field Expedient Hydraulic Tube Assembly

a. OBSERVATION. A Front-End Loader was being carried as a

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a. deadline item due to the fact the hydraulic tube assembly had developed un-repairable leaks.

b. EVALUATION. The above mentioned piece of equipment was essential to the completion of a particular project. The tube assembly had been brazed several times, but there were too many leaks for this repair method to again be practical. A replacement item had been ordered but was not available.

c. RECOMMENDATION. A field expedient tube assembly can be fabricated for the front loader from a section of 290M hydraulic hose. The flexible hose from the 290M will connect both ends with no adapters necessary.

3. Expedient Lug Nuts for the 25 ton Lowbed Trailer.

a. OBSERVATION. The lack of lug nuts for the inside tires of a 25 ton lowbed trailer caused one lowbed to be rendered inoperative.

b. EVALUATION. This particular piece of equipment was mission essential for the efficient continuance of several projects. The required lug nuts were ordered through normal supply channels but the time in procuring was too great.

c. RECOMMENDATION. Expedient lug nuts for the inside tires of a 25 ton lowbed can be fabricated from the lug nuts of a 5 ton tractor. The 5 ton tractor lug nuts can be cut or ground to the necessary thickness and utilized on the lowbed. Presently the 25 ton lowbed is operational and difficulties have not been encountered with the expedient lug nuts.

4. Land Clearing Operations

a. OBSERVATION. During normal land clearing operations, hill dozing brush and leveling land, an excessive amount of time must be expended to scrape and push away debris.

b. EVALUATION. By using a minimum of two (2) dozers, a quick efficient method for clearing land of small trees and brush has been devised. The first dozer clears using the blade and back-ripper teeth while the second dozer follows behind with a disc harrow which chops and plows under small brush and debris.

c. RECOMMENDATION. Land clearing operations for cultivation or housing development, can be accomplished with minimum lost time and maximum dozer efficiency through the use of back-ripper and disc harrow in addition to the dozer blades.

5. Airfield Maintenance

a. OBSERVATION: Previously, laterite for airfield resurfacing was hauled directly from the laterite pit to the airstrip. During the monsoon

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season one half day was lost waiting for the proper moisture content in the laterite.

b. EVALUATION. The accumulation of lost time was sufficient to require rescheduling of the project completion date. Due to wet weather, high priority airfield safety requirements were not completed.

c. RECOMMENDATION. Proper scheduling and utilization of the laterite pit operation to include a reserve stockpile, will be sufficient to complete those projects. A small one on the job site laterite stockpile covered with old canvas can be used during the morning operation. Utilizing this reserve allows time for the laterite pit to obtain the proper moisture content. Also after a rainfall this allows work to continue on the airfield after draining the low spots. The overall concept is to have a dry reserve of laterite stockpile regardless of the weather.

6. Cause of five (5) ton dumps truck accidents

a. OBSERVATION. The cause of a recent accident involving two (2) five (5) ton dump trucks was due to a cotter pin in the brake linkage system vibrating loose. The cotter pin fell out causing the brake linkage pin to become loose and allow the brake pedal lever and the master cylinder yoke to separate. When pressure was applied to the brake pedal lever no force was transmitted to the master cylinder.

b. EVALUATION. The "Daily Preventive Maintenance Service Chart" does not list the cotter pin as a daily check item.

c. RECOMMENDATION. That checking the cotter pin be added to the "Daily Preventive Maintenance Service Chart" as soon as possible. Also that this cotter pin be checked during daily motor stables to prevent possible accidents.

7. Substitute Cement for BF Goodrich A851B or A963B Cement

a. OBSERVATION. In the replacing of several expander tubes in the brake system on 290M tractors, cement (BF Goodrich A851B or A963B) was not available to bind the expander tube shield against the expander tube.

b. EVALUATION. A suitable substitute was used. Cement, liquid, tent packing, FSN 6040-266-0850 manufactured by Octagon Process Inc. was found to provide the same results.

c. RECOMMENDATION. That if the cement suggested in TMS-2420-206-15 is not available, the liquid tent packing cement can be used successfully.

8. Preparation of laterite pad for concrete placement

a. OBSERVATION. Final grade for laterite pads is often times difficult to obtain without survey control in preparation for placing concrete to a uniform

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floor depth.

b. **EVALUATION.** The laterite pad is constructed to the desired elevation by the proper use of hauling and compacting equipment. At the same time, the outside forms are set with survey control. A template made of 2" x 4" lumber with plywood screed boards attached, can be strung across the forms and used to measure the pad height at any point. This will insure uniformity.

c. **RECOMMENDATION.** That a template be used to accurately determine the quantity of concrete required. A template can be easily constructed from scrap lumber. The template will take the guesswork out of grade uniformity as well as freeing survey instruments for more critical jobs.

9. Drift Pins for Timber Construction

a. **OBSERVATION.** During the construction of a base camp medical bunker the problem of obtaining drift pins of sufficient length arose.

b. **EVALUATION.** 5/8 inch bar cut in 24 inch lengths was used as an expedient. The cut rebar worked satisfactorily in lieu of the regular drift pins.

c. **RECOMMENDATION.** That cut rebar be utilized as a substitute for drift pins when the pins aren't readily available.

10. Obstructions, Mines and Booby Traps on LOC #13

a. **OBSERVATION.** Brushblocks, miscellaneous obstructions, mines and booby traps are used frequently by the enemy forces to interdict LOC #13. The Viet Cong have continued to use an increasing number of different types of explosives.

b. **EVALUATION.** Each obstacle must be handled as though it is the first of its kind to be discovered. Before approaching the obstacle, check both flanks of the road and roadbed for enemy personnel, trip wires, electrical wires, claymore mines, etc, for a minimum of three hundred (300) feet on either side of the obstacle. Once the area around the obstacle has been cleared, the obstacle can be swept by using mine detectors.

c. **RECOMMENDATION.** That every precaution be used to safeguard personnel and equipment. No matter how long the job takes, it can not be rushed. A single mine or booby trap can not be missed. Plan to use a demolition or automatic weapons to clear the obstacle from a distance. Otherwise use a rope or grappling device to pull the obstacle off the road at the location of the obstacle. Recheck the road using mine detectors and then burn the brush before leaving the site. Above all, nothing can be taken for granted and never follow command wires.

11. Construction of a Laterite Base Road During the Monsoon Season.

a. **OBSERVATION.** The requirement for construction of a laterite base

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SUBJECT: Operational Report of 34th Engineer Battalion (Construction)
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road during the monsoon season can be successfully completed if several construction precautions are successfully adhered to.

b. EVALUATION. Moist laterite is virtually impossible to place, compact and grade to achieve the proper road surface. Initially, the laterite source or pit, is required to remain undisturbed for several hours (2 to 4) after a heavy rainfall. After this time the air will sufficiently evaporate the moisture in the laterite and allow it to be used.

c. RECOMMENDATION. That the length of road section intended to be worked during the day's operation be determined first. Hauling will begin with a 3" layer of compacted laterite. After the entire road section is covered, then place the second 3" laterite layer. A sufficient crown to allow proper drainage overnight is then constructed.

12. Repair of the Rear Bed Cross-Member on the 5 ton Dump Truck

a. OBSERVATION. The rear bed cross-member of a 5 ton dump truck separated from the bed hinges, causing the damage to the member. This was due mainly to continuous vibrations of the truck traveling over rough roads.

b. EVALUATION. A section of the bed was cut away to permit access to the damaged cross members. The damaged portion was cut away and replaced with three (3) inch channel iron which was welded in place.

c. RECOMMENDATION. That operators be particularly careful when inspecting the bed hinges and cross members to insure that the welds are not cracked or separated. Also that three (3) inch channel iron be used to repair the cross-member.

13. Military Standard Engines

a. OBSERVATION: In the past, motor pool personnel working on 5KW and 10 KW generators have had trouble rewiring generator electrical systems. It has recently been noted, during close inspection, that the electrical data plates on Military Standard Engines, FSN 2805-872-5971 and FSN 2805-872-5972, were found to be incorrect.

b. EVALUATION. The fault lies in the omission of a fuse symbol between the J-4 plug and the voltage regulator.

c. RECOMMENDATION. The fault in the wiring diagram should be brought to the attention of all motor pool personnel.

14. Compact Sling

a. OBSERVATION. Crane operators sometimes complain because slings made of cable are often lost or stolen off their equipment.

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b. EVALUATION. A substitute for cable slings should be made available to each crane which can be stored in a compact and secure place.

c. RECOMMENDATIONS. Nylon cargo straps, used primarily by aviation units in Vietnam, are useful items for a crane operator to carry on his crane. The straps are easier to handle than cable and serve the same purpose. Their lift capacity is 2500 lbs. each. If the item to be lifted weighs more than the capacity of the strap, then several straps laminated together will increase the lift capabilities of the sling to the desired capacity.

15. E Expedient Detonation Device

a. OBSERVATION. Frequently mines, booby traps, and dud rounds must be blown in place.

b. EVALUATION. In lieu of a blasting machine, a Claymore Detonating Device is adequate for blasting with one cap. Once the original cap is used, just peel back the insulation and use another cap. This device is ideal, for small booby-traps, mines, and dud rounds.

c. RECOMMENDATION. This device should be used in lieu of a blasting machine due to its easy handling, storage, and light weight.

16. Mounting Bracket for Radio Antenna AT-1096/VRC

a. OBSERVATION. A problem was encountered with the cracking from normal wear of the intermediate support of the AT-1096/VRC Antenna on a M151A1 1/2 ton vehicle.

b. EVALUATION. The intermediate aluminum support of the antenna had cracked several times due to normal wear and the vibration encountered in the operation of the vehicle. The particular mount had been welded, but the problem still persisted. A new mount was ordered but was not readily available.

c. RECOMMENDATION. The radio was a necessity to the efficient operation of the unit. Therefore a substitute mount was fabricated out of two pieces of 1/2" steel plate welded together and cut to the dimensions of the original aluminum plate, slightly longer bolts must be procured to complete the adaption. At this time no problem has been encountered with the fabricated mount.

C. Training. None

D. Intelligence. None

E. Logistics.

Stacking of Dimensional Lumber

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for Period Ending 31 July 1968.

1. **OBSERVATION.** Dimensional lumber stacked level will rapidly deteriorate when exposed to the monsoon rains of Vietnam.

2. **EVALUATION.** Dimensional lumber stacked on a slope deteriorates more slowly than lumber stacked on a level. Stacking the lumber on a slope allows the water to shed. This may be accomplished by using a dunnage 4" x 4" material on one end and 8" x 8" material on the other end.

3. **RECOMMENDATION.** That all dimensional lumber exposed to the monsoon rains be stacked on a slope to allow the water to shed. Slope stacking alleviates the problem of rapid deterioration.

f. **Organization.** None.

4 Incls

- 1.- Organization Chart
- 2 - Overlay of 34th Engr Bn Area of Operation and Line of Communications Responsibility
- 3 - Operational Support Missions
- 4 - O&MA and MCA Construction Projects

EDWARD P. STEFANIK
LTC, CE
Commanding

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ECE-CO (31 Jul 68) 1st Ind
SUBJECT: Operational Report of 34th Engineer Battalion (Construction)
for Period Ending 31 July 1968, RCS CSFOR-65

DA, HEADQUARTERS, 79TH ENGINEER GROUP, APO 96491, 20 August 1968

TO: Commanding General, 20th Engineer Brigade, ATTN: AVBI-OS,
APO 96491

The Operational Report of the 34th Engineer Battalion (Construction) for the period ending 31 July 1968 has been reviewed. It is considered to be an adequate summary of the battalion's operational experience during that period.



RICHARD L. WEST
Colonel, CE
Commanding

NOT REPRODUCIBLE

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AVBI-03 (31 Jul 68) 2nd Ind

SUBJECT: Operational Report of 34th Engineer Battalion (Construction)
for Period Ending 31 July 1968, ACS CSFOR-65

DA, HEAD QUARTERS, 20TH ENGINEER BRIGADE, APO SF 96491 SEP 23 1968

TO: Commanding General, USARV, ATTN: 4VHGC-DST, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.
2. Reference Section II paragraph B.6: If cotter pins are properly installed, they will not vibrate loose; frequent checks are prudent, but should not be necessary daily.
3. This headquarters has instructed 79th Engineer Group that a DA Form 2028 should be submitted to DA concerning the deficiencies noted in Section II, paragraph B.13.

FOR THE COMMANDER:



RICHARD E. TAYLOR
1LT, AGC
Assistant Adjutant

4 Incl
mc

Copies Furnished:
CG, 8th US Army
CG, 18th Engr Bde

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AVHGC-DST (31 Jul 68) 3d Ind

MAJ Klingman/ds/LEN 4433

SUBJECT: Operational Report of 34th Engineer Battalion (Construction)
for Period Ending 31 July 1968, RCS CSFOR-65

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375

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 July 1968 from Headquarters, 34th Engineer Battalion (Construction), and concurs with the report as modified by the preceding indorsement.

FOR THE COMMANDER:



A.R. GUENTHER
CPT. AGC
ASST ADJUTANT GENERAL

4 Incl
nc

Cy furn:
HQ 20th Engr Bde
HQ 34th Engr Bn (Const)

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GPOP-DT (31 Jul 68) 4th Ind
SUBJECT: Operational Report of HQ, 34th Engr Bn (Const) for Period
Ending 31 July 1968, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 1 5 OCT 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 indorse-
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



C. L. SHORTT
CPT, AGC
Asst AG

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The following items are recommended for inclusion in the Lessons Learned Index:

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** FOR OT RD # : Appears in the Reply Reference line of the Letter of Transmittal. This number must be accurately stated.

***Page # : That page on which the item of interest is located.