

UNCLASSIFIED

AD NUMBER

AD824612

LIMITATION CHANGES

TO:

Approved for public release; distribution is unlimited.

FROM:

Distribution authorized to U.S. Gov't. agencies and their contractors;
Administrative/Operational Use; 14 FEB 1967.
Other requests shall be referred to Assistant Chief of Staff Force Development, Attn: FOR-OT-RD, Washington, DC 20310.

AUTHORITY

Ago D/A ltr, 29 Apr 1980

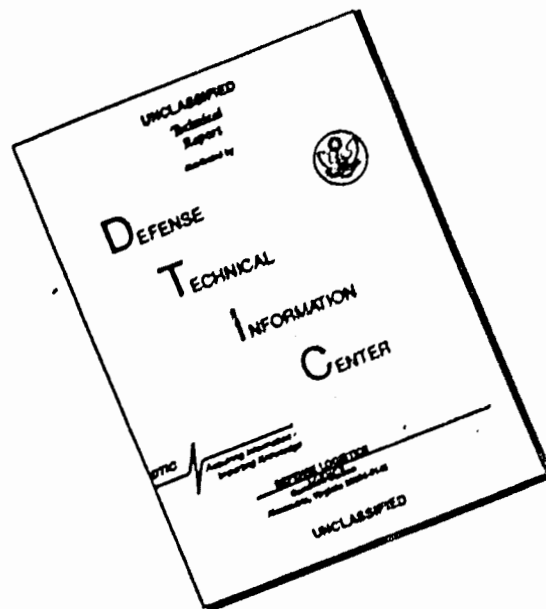
THIS PAGE IS UNCLASSIFIED

THIS REPORT HAS BEEN DELIMITED
AND CLEARED FOR PUBLIC RELEASE
UNDER DOD DIRECTIVE 5200.20 AND
NO RESTRICTIONS ARE IMPOSED UPON
ITS USE AND DISCLOSURE.

DISTRIBUTION STATEMENT A

APPROVED FOR PUBLIC RELEASE;
DISTRIBUTION UNLIMITED.

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

AD 824612

Handwritten initials and mark

HEADQUARTERS
84TH ENGINEER BATTALION (CONSTRUCTION)
APO 96238

EGD-BB-CO

14 February 1967

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

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

Commanding General
18th Engineer Brigade
APO 96377

DDC
RECEIVED
JAN 2 1967
D

Commanding General
United States Army Engineer Command Vietnam (Prov)
APO 96491

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

Commander In Chief
United States Army, Pacific
ATTN: GPOP-MH
APO 96558

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

1. SIGNIFICANT ORGANIZATIONAL ACTIVITIES: During the reporting period the 84th Engineer Battalion (Construction) was active on the following projects:

FOR OT RD
670050

Handwritten initials

STATEMENT #2 UNCLASSIFIED

This document is subject to special export controls and each transmittal to foreign government or foreign nationals may be made only with prior approval of DEPT OF ARMY, OFFICE OF ASST CHIEF OF STAFF FOR FORCE DEVELOPMENT, (FOR-OT-RD) WASH DC 20310

EGD-BE-CO

14 February 1967

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

a. An Khe Airfield; Bde 66-11DC-45

Work was started on this project on 7 Mar 66 and consisted of design and construction of a forward area, medium-lift airfield with associated ramps, taxiways and parking aprons. Although originally designed to be surfaced with a double-surface treatment, it was decided in Dec 66 to use a concrete surface. On 10 Dec 66, this project was transferred to 937th Engr Gp (C). At this time, B Co, 84th Engr Bn, was attached to 937th Engr Gp (C). Throughout construction, the future taxiway was used as a runway and was rehabilitated twice. The first time in May 66, the taxiway was covered with PSP over an asphalt base throughout its length. The second time, in Oct 66, the PSP was removed and a double-surface treatment was applied to the runway. The effort expended on this project while under the 84th Engr Bn included 110,547 US man-hours and 109,371 equipment hours.

b. 60-Ton Ice Plant; An Khe, 35-937/V-66

The construction of a 60-ton ice plant, including site layout, electrical wiring, power installation and associated structures, was started on 20 May 66. The facility became operational approximately ten (10) days after the constructing unit was attached to 937th Engr Gp (C), on 10 Dec 66. Associated structures included a generator shed, water tower, ground water storage tank, erdlator shed and a septic tank. Effort expended included 40,978 US and 1791 Vietnamese man-hours and 4897 equipment hours.

c. Interior, Dial Office, An Khe, Bde 66-140C-45

This project consisted of the completion of the interior of a 40' x 100' Dial Exchange building completed on 10 Oct 66 by B Co, 84th Engr Bn. At the time of transfer of this project to 937th Engr Gp (C) on 10 Dec 66, 7292 US man-hours and 2085 equipment hours had been expended.

d. Permanent Ammo Storage, Phu Tai Valley, Bde 66-26C-45

84th Engr Bn assumed responsibility for this project from 299th Engr Bn on 20 Aug 66. Before transfer of this project to 19th Engr Bn on 21 Dec 66, work accomplished included completion of fifty-four (54) concrete storage pads (40' x 100') and earth berms; construction of twenty (20) 937th Engr Gp standard guard towers, four (4) 937th Engr Gp standard four-hole latrines, one (1) 20' x 50' standard surveillance building, two (2) 20' x 48' steel arch magazines; stabilized 116,587 SY of earth with penepime treatment; excavated 22,820 LF of ditches and placed 4426 CY of concrete. This work was accomplished with the expenditure of 41,376 US and 53,621 Vietnamese man-hours and 7348 equipment hours.

NO.	AVAIL. AND S. E. E. L.
2	
1	

3
EGD-BB-CO

14 February 1967

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

e. Cantonment Construction, Valley A, Bde 66-142DC-45

Initially this directive called for design of self-help construction for a 3000-man cantonment in Valley A. Presently approved plans call for construction of 22,400 SF of community facilities, 214,000 SF of troop housing, 28,000 SF of mess halls and 76,410 SF of administration-supply buildings. To date 28,183 US and 31,446 Vietnamese man-hours and 4385 equipment hours have been expended to render this project 16% complete.

f. Cantonment Construction, Valley F, Bde 66-143DC-45

This project was transferred to 84th Engr Bn from 19th Engr Bn in Dec 66. Scope of work is indefinite at this time, pending approval of one of two cantonment areas in Valley F presently under the sponsorship of 84th Engr Bn.

g. Cantonment Construction, Bde 65-15C-45

This directive covers self-help construction throughout the Qui Nhon area. Presently approved plans call for the construction of 441,600 SF of troop billets, 27,600 SF of mess halls, 111,400 SF of administration-supply buildings and 5976 SF of maintenance buildings. To date 71,792 US engineer and 72,378 Vietnamese and approximately 267,000 self-help man-hours have been expended. This project is approximately 35% complete.

h. Phu Tai Construction Support Complex, GP 45-16DC-66 and GP 45-18DC-66

During the month of Dec 66 a decision was made to combine construction support facilities of this battalion. The commanding officer of 73rd Engr Co (CS) was designated as officer in charge of Support Complex. The Complex includes a 225 TPH crusher, two (2) 75 TPH crushers, an asphalt plant and a concrete batch plant, to be constructed. Personnel supporting Complex include elements of 73rd Engr Co (CS), A Co, 84th Engr Bn, 19th Engr Bn and 444th Engr Det (CM&P). The Complex presently supports all 45th Engr Gp (Const) projects in the Qui Nhon area requiring crushed rock and/or asphalt surfacing. A monthly production goal of 36,000 CY of crushed rock has been set for this facility. To-date figures, including effort expended before separate facilities were combined, include 79,423 US and 31,757 Vietnamese man-hours and 45,611 equipment hours. A maintenance facility is also being constructed in Complex area, and when completed, it will include a 20' x 60' administration building, a 26' x 39' maintenance building and a grease rack and lubricator pad.

i. Qui Nhon Depot, Bde 66-27DC-45

EGD-BB-CO

14 February 1967

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

This project includes construction of open storage areas, shed storage, prefabricated metal warehouses, administration, security fencing, roads and drainage facilities. During this reporting period the foundation was poured for a 50' x 140' Pascoe warehouse, although further work on this facility is presently suspended. In addition, a 20' connection was built between two existing administration buildings. The project is approximately 81% complete, and since starting date of 1 Aug 65, 239,192 US and 38,693 Vietnamese man-hours and 37,061 equipment hours have been expended.

j. Port Access Road (Interim), GP 45-21DC-66

Phase I of this project consisted of construction of a 4000-foot long laterite road placed over hydraulic fill. Minimum compacted thickness of laterite is 18"; and the road has a 48' traveled way with 6' shoulders for approximately the first half of its length; at this point the traveled way narrows to a width of 24 feet. Phase I also includes associated facilities, such as grade crossings and drainage. Phase II as originally defined consists of completion of interim access road by placing a select base of rock on the laterite subbase and then applying a double bituminous surface treatment as the wearing course. During this reporting period the only work done was placement of two (2) 80' long corrugated metal pipe culverts across the road 75 feet north of the railroad tracks. Purpose of culvert was to drain water which had been standing on the west side of the road. To date 17,748 US and 2990 Vietnamese and 12,103 equipment hours have been expended. 62% of project is complete.

k. 540-Bed Hospital, 85th Evacuation, Bde 65-7DC-937

In addition to the 540-bed facility with its associated structures, covered walkways were constructed between and alongside hospital quonsets. Project was terminated on 2 Nov 66 with completion of drainage facilities. Under a separate directive, a scullery was added to existing H-type mess hall which had been constructed by 84th Engr Bn under the original hospital directive. Total effort expended on this project includes 127,777 US and 19,235 Vietnamese man-hours and 29,107 equipment hours.

l. Rehabilitation of Roads 1 & 2 and Villa Road, Bde 65-20DC-45

Although initial plans called for eventual surfacing of these roads with a double-surface treatment, engineer effort has been confined to maintenance of these roads. Most of the effort expended to date has been limited to temporary measures such as filling potholes, shaping roads, cutting ditches and installing culverts. At present, however, measures are being taken on Qui Nhon Road #1 (Red Beach Road) in vicinity of Qui Nhon Depot to provide a lasting solution to the drainage problem. A 360-foot long corrugated metal pipe culvert has been installed from the east side of the road to ARVN beach. Culverts are being installed under

EGD-BB-CO

14 February 1967

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

driveways, ditches are being re-rapped to prevent deterioration due to weather and traffic conditions, and the road itself is being re-shaped to eliminate standing water. This continuous maintenance has required over 25,000 CY of fill and has resulted in expenditure of 24,859 US, 9941 Vietnamese man-hours and 11,869 equipment hours.

m. Pontoon Pier LCU, LCM & LST Ramps, Bde 66-37DC-45

This project as originally defined called for construction of a 500-foot pontoon finger pier and four (4) LCU, LCM & LST ramps plus required mooring facilities. Two of the ramps were built, one being 210' x 58' with a granite cube stone surface and the other 120' x 58' with an 8" reinforced concrete surface. With the departure of the port construction unit attached to this battalion in Sep 66, this headquarters requested cancellation of further responsibilities under this directive. Request is presently being considered by higher headquarters. As a result of the recent monsoon season, an additional requirement has been placed on this unit to rehabilitate the LST beach area and repair the rain damage. To date, 63,000 US and 22,073 Vietnamese man-hours and 16,375 equipment hours have been expended. Project is 63% complete.

n. Refrigeration Facilities, Bde 66-61C-45

This project consists of construction of 9' x 32' concrete pads and erection of 1600 CF prefabricated reefer units upon these pads. Fifty-nine (59) of these units have already been installed in the Qui Nhon Log Depot and are presently operational; thirty-four (34) units are programmed for the Class I yard in Phu Tai. Completion of the latter requirement has been delayed due to shortages of reefer components (13 reefer boxes and 66 cooler units). To date 19,204 US and 20,316 local national man-hours and 3749 equipment hours have been expended. Work accomplished thus far makes this project 89% complete.

o. 4" Submarine Pipeline, Bde 66-177DC-45

Under the provisions of this directive, an existing 4" pipeline in Qui Nhon harbor was extended to a length of 5500 feet to an existing four-point mooring system. In addition, two other 5500-foot 4" submarine pipelines were to be installed alongside the existing pipeline. One of these lines was completed, although heavy seas soon rendered it inoperable. An attempt was made to launch a third pipe, but the heavy seas and inclement weather which were prevalent throughout this reporting period caused work to cease. Pipeline requirements and commitments remaining under this directive are presently being reevaluated by higher headquarters. To date 13,030 US and 990 local national man-hours and 1145 equipment hours have been expended. 82% of project is complete.

EGD-BB-CO

14 February 1967

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

p. 314-Man Cantonment; Bde 66-159DC-45

This directive provides for construction of a 314-man cantonment adjacent to 67th Evacuation Hospital. Engineer troops to date have been used to construct a 20' x 120' DS trical frame building, two (2) each 20' x 48' quonsets, and to provide adequate drainage facilities throughout the area. A recent amendment to the directive calls for construction of a WOQ with complete facilities. Effort expended to date includes 9354 US and 5191 Vietnamese man-hours and 1532 equipment hours. Project is 99% complete.

q. Qui Nhon Log Derot Reefer Storage; Bde 65-158DC-45C

Under this directive this unit was originally charged with responsibility of constructing 456,000 CF of cold storage, 400,000 SF of covered storage, and 512,000 SY of open storage. In Dec 66, this project was transferred to 19th Engr Bn with the exception of a 40' x 110' refrigerated warehouse. Facilities include a 20,800 CF freezer room at -20.6°C, a 9800 CF dairy products room at 1.7°C, a 5900 CF fruit and vegetable room at 4.5°C, and a 3580 CF receiving room. Warehouse is prefabricated and of Japanese manufacture. Two compressors, each having a 30 KW motor, use Freon 12 to provide refrigeration for this facility. Work to date has involved expenditure of 20,705 US and 7566 Vietnamese man-hours and is presently 52% complete. Equipment hours have totaled 2792.

r. Well-Water Points; Command Directive 65-200-01-T-MA

This project has been limited to design only. A ground water storage tank has been designed and six (6) proposed sites have been laid out. Work is being held up pending definition of scope of work by higher headquarters.

s. Rehabilitate Tank Farms; Bde 66-165C-45

This project consists of repairing damage done to Tank Farms East and West by recent monsoon rains. Work is confined to reshaping and re-rapping fuel tank berms, replacing old culverts and adding new ones where necessary, and reshaping roads throughout the farms.

t. Operational Support

Under this project heading, emergency drainage repairs were performed at PX Storage Area, and access road to Vung Chua Signal Mountain was repaired to provide fair weather access to light traffic.

EGD-BB-CO

14 February 1967

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

u. Road Surfacing, GP 45-1C-67A

Provisions of this project call for surfacing of approximately 18 miles of road in the Qui Nhon area. Specifications call for a 6" base course of 3" minus rock covered with a 22 foot wide surface of 3" hot mix asphalt. All surfacing will be done by the asphalt platoon of 73rd Engr Co (CS). Base preparation for 5 of the 10 sections of road to be surfaced will be done by D Co, 84th Engr Bn; the remainder will be done by elements of 19th and 35th Engr Bns. Throughout all aspects of construction adequate drainage facilities will be provided. Approximately 2% of project is complete.

v. ADPS Facility Expansion, 91-937/V-66

This project, started on 1 Nov 66 and completed 7 Dec 66, required a total of 2285 US and 250 Vietnamese man-hours. Work included placing a six-inch concrete floor slab with 3 foot walls, erecting a standard 20' x 48' quonset on top of the wall, and placing a six-inch reinforced concrete pad 10' x 35' adjacent to the building for an equipment van. Along with seven air conditioners, electrical wiring was installed for all ADPS facilities.

w. Port Facilities (Increment 1), Command Directive 65-201-05-T-6S

Work on this facility has been limited to placement of two (2) 48-inch CMP culverts each 300 feet long. Included under scope of work are 14,000 SY of Portland Cement concrete LST and Wharf Arrons; grading and surfacing an all-weather, well-drained access road 48 feet in width and two miles in length on causeway leading to DeLong Pier abutment; grading and surfacing an all-weather, well-drained system of roadways 24 feet in width within the port area; 65,000 SY of open storage hardstand and three miles of security fencing.

x. Combat Support - Operation Duke

Provisional Detachment #1 left Headquarters, 84th Engr Bn, Qui Nhon, Vietnam on 15 Sep 66. Men and equipment were loaded on U.S.S. Gunston Hall (LSD-5), a landing ship dock. After unloading from the LSD by means of LCU's, the Detachment conducted a tactical road convoy and arrived at their job site on 18 Sep 66.

English Field, the object of Operation Duke, was physically in existence and was being used for light aircraft at the time this operation started. Its length was 2000 feet over a varied grade. In order to meet specifications, it was necessary to improve the existing 2000 feet of runway and extend it 2200 feet. A parking arron to accommodate five C-130 aircraft and a 75' x 300' cargo handling ramp were

EGD-BB-CO

14 February 1967

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

constructed. In addition, a road was constructed around the runway extension and a security fence was installed around the airfield. Construction was scheduled such that an operational runway was in existence at all times.

Return to home station was by land convoy on 11 Nov 66. Peak personnel strength during the operation amounted to seven (7) officers and 138 enlisted men.

y. Training .

The battalion engaged in training for 13 days during the reporting period. Training subjects stressed were as follows:

- (1) Survival, Evasion and Escape
- (2) Combatives
- (3) Driver Training and Vehicular Safety
- (4) Character Guidance
- (5) CBR
- (6) Prevention of Venereal Disease
- (7) Geneva Convention
- (8) Military Justice
- (9) Clandestine Surveillance & Listening Devices
- (10) Document Security

Section 2, COMMANDER'S OBSERVATIONS AND RECOMMENDATIONS

a. Part I; Lessons Learned

GENERAL OPERATIONS

(1) ITEM: Road Maintenance

(a) DISCUSSION: Continuous maintenance necessary during the rain season causes rapid wear of grader blade cutting edges and scarifier teeth.

(b) OBSERVATION: Prior to the rainy season additional cutting edges and scarifier teeth should be requisitioned. Maximum usage

9
EGD-BB-CO

14 February 1967

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

rate was one set of cutting edges and one set of scarifier teeth per grader per day.

✓ (2) ITEM: Crushed Rock for road maintenance

(a) DISCUSSION: Road maintenance during the rainy season is difficult. It requires large quantities of crushed rock. Grading of dirt roads during rain creates soupy mud which does not drain readily.

(b) OBSERVATION: Prior to the rainy season roads should be prepared so as to minimize necessary road maintenance during the rainy season. Preparation should include shaving to a minimum crown of 1/2" per foot and clearing and repairing drainage and culverts.

(3) ITEM: Combat Support Convoys

(a) DISCUSSION: Minor breakdowns often occur during combat support convoys.

(b) OBSERVATION: At least one organizational mechanic should accompany all combat support convoys.

(4) ITEM: Equipment for medium- and thin-section vertical concrete

(a) DISCUSSION: Significant difficulty has been encountered when placing concrete into heavily reinforced 8-foot high, thin sections because of non-availability of a concrete bucket and thin vibrator. These items of equipment are not currently TO&E to the engineer construction battalion.

(b) OBSERVATION: One each 0.5 cubic yard concrete bucket and 1 1/2" diameter self-powered concrete vibrator should be added to TO&E 5-118D, engineer construction company.

(5) ITEM: Drainage of areas of laterite-capped sand

(a) DISCUSSION: Concrete forms and low areas on laterite-capped sand are often difficult to drain.

(b) OBSERVATION: These areas are easily drained by digging a drywell into the underlying sand and filling it with large rock.

(6) ITEM: Bridging short spans

(a) DISCUSSION: Difficulty has been encountered in moving equipment over concrete forms without damaging the forms.

EGD-BB-CO

14 February 1967

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

(b) OBSERVATION: A good expedient bridging material is a set of lowbed ramps.

(7) ITEM: Cold mix asphalt

(a) DISCUSSION: One and one-half inch minus crushed stone has been found to be unsuitable for asphaltic cold mix. Heavy traffic loads and high number of loading cycles tend to break it down and eject it from potholes.

(b) OBSERVATION: Optimum size crushed stone for asphaltic cold mix has been found to be 3/4-inch to 1/4-inch. Crushed stone of size within this range used with a sand filler makes a dense mix which can withstand repeated loading.

(8) ITEM: 10-ton tractor mated with 25-ton lowbed

(a) DISCUSSION: In many instances large bulky loads are loaded on the combination of 10-ton tractor and 25-ton lowbed. Incorrect loading causes lack of traction for the driving wheel of the tractor.

(b) OBSERVATION: It has been found that by placing heaviest loads close to the gooseneck of the trailer, traction will be increased.

(9) ITEM: 5-ton dumps operation

(a) DISCUSSION: During and immediately following every haul and spread operation involving 5-ton dump trucks, the direct support maintenance activities receive a substantial number of job orders for repair or replacement of dump lift cylinders and broken mountings.

(b) OBSERVATION: Many breakdowns can be eliminated if drivers and supervisors review methods of dumping as in para 20, TM 9-2200-211-10. Drivers should never accelerate quickly while the dump bed is in the raised position. This improper operating procedure causes bent cylinders and cracked welds.

ASPHALT/CRUSHER OPERATIONS

(10) ITEM: Clogging of crusher jaws and rolls

(a) DISCUSSION: During the rainy season, crusher production was cut due to mud and wet fines piling up in the vibrating screen of the primary crusher and coating the secondary rolls.

EGD-BB-CO

14 February 1967

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

(b) OBSERVATION: Since waste from the primary is needed for washed chip and stone, a water line is run from the wash plant and a high pressure jet is used to keep the mud from piling up. An air compressor can also be used. All end products are taken off the primary and sent through a screening unit. The screening unit is set up in line with the primary and fines and 1 1/2" minus stone are taken off. Stone over 1 1/2" is sent through the secondary unit and then into the wash unit, yielding washed 1 1/2" minus, 3/4" minus and 1/4" and chip. Use of a 60-ton storage bin and an additional conveyor allows recirculation of the waste product through the wash plant. This increases the yield of 3/4", 1/4" and chip. The bin also can be loaded by front loader so that bank run gravel or river sand can be washed when needed. The mud problem in the secondary is thus eliminated by recirculating the primary waste so as to by-pass the secondary. 80% of the primary waste is salvaged when washed.

(11) ITEM: Headwall failure

(a) DISCUSSION: Many problems have been encountered in crusher operations due to excess leaning or complete failure of headwalls. This is due primarily to a water head building up behind the wall.

(b) OBSERVATION: A simple headwall can be built by use of steel WF beams used as columns. Four columns, 12 feet O. C. are set vertical in a trench 5 feet deep filled with concrete. Reinforcing dowels are allowed to project out of the trench to allow an 18" wall to be placed around the columns for a height of 4 feet. Weep holes are provided every 3 feet along the wall. This design provides a durable toe for the headwall. The weep holes allow water to drain through the toe eliminating a build-up of water pressure at the toe. Pierced steel plank is then welded to the steel columns and braced with timber. The timber is wedged against the web of the column between the flanges. The first 10 feet of the headwall must be backfilled with over-sized blast rock to allow proper drainage. The columns are further strengthened by use of 9/16" cable fastened to deadmen, which are placed at 4-foot intervals during backfilling.

(12) ITEM: Asphalt spillage

(a) DISCUSSION: The asphalt plant layout, TM 5-337-1, shows a mixer supported by jack legs set back one foot from headwall. With the mixer positioned this way, the discharge chute extends only 3 feet from the headwall. This does not allow enough room for loading of 5-ton dump trucks, causing spillage problems. The chute cannot be extended, as it is a drop type chute.

EGD-BB-CO

14 February 1967

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

(b) OBSERVATION: The mixer was supported on H-beams placed under the tandem axle assembly and rear axle. This allowed positioning of the mixer so as to have the front of the chassis 16" over the headwall. Thus, the mixer discharge chute is now positioned 6 feet 3 inches beyond the headwall, resulting in center loading of 5-ton truck bodies. The headwall must be strong, since the center of gravity of the machine is now 28 inches from the headwall.

(13) ITEM: Asphalt leakage in headwalls

(a) DISCUSSION: Due to the presence of large quantities of diesel fuel, asphalt products, and other POL products in the plant area, much leakage of spilled products was found to be seeping through headwalls, causing a sludge to be formed in the truck loading area.

(b) OBSERVATION: A simple solution was found by using sheet pile. Corner sections of sheet pile were erected as columns in concrete filled holes. Regular sheet pile was then fitted and welded to the columns horizontally. This caused a tight wall without the need of driving piles. One hundred feet of headwall was erected and backfilled in a 24-hour period.

(14) ITEM: Crawler mounted rock drills

(a) DISCUSSION: Breakage of the chuck in Japanese crawler drills caused loss of drilling capacity.

(b) OBSERVATION: Wagon drills were found to be slow and inefficient due to the immobility of such drills in uneven terrain. Since there is an abundance of wagon steel and bits on hand, a method is now being studied which utilizes the hammer from the wagon drill mounted on the mast of the crawler drill. The RPM of the wagon drill hammer is slower, so care must be taken during drilling operations to control drill speed. This utilizes the best feature of the crawler drill: mobility. The time saved utilizing this mobility makes the one hour conversion practical. Wagon drills have also been towed using crawler drills which were down for chucks. This conversion makes possible the use of a piece of equipment that would have otherwise been deadlined for inability to drill.

(15) ITEM: Secondary blasting

(a) DISCUSSION: Mudcapping, snakeholding, and blocking of secondary blast rock is a time consuming process.

(b) OBSERVATION: Use of C-4, placed on top of boulders to be blasted, was found to be quick, efficient, and practical.

EGD-BB-CO

14 February 1967

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

Two pounds of C-4 on a 1 cubic yard rock will reduce the rock to useable size. The preparation time is very quick and inspection for unspent explosives after blasting is much safer.


(16) ITEM: Replacement of striker bars in Chicago-Pneumatic drills

(a) DISCUSSION: Deadline time for Chicago-Pneumatic drills is due primarily to failure of striker bars.

(b) OBSERVATION: Striker bars can be made on machine lathes using axle steel from salvaged vehicles. Carbide lathe tools are necessary, but heat-treating of the finished product is unnecessary when using high grade axle steel. Fabrication of one bar takes 6 hours.

b. Part II: Recommendations: None

1 Incl
84th Engr Bn Organizational
Structure


WILLIAM A RANK
LTC, CE
Commanding

75

EGD-3 (14 Feb 67) 1st Ind SOM Winter/wdc/QNL 131
SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 31 January 1967

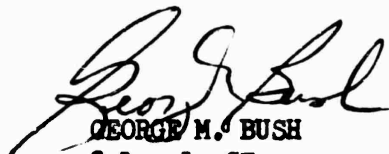
HEADQUARTERS, 45th Engineer Group (Construction), APO 96238, 22 Feb 67

THRU: Commanding General, 16th Engineer Brigade, APO 96377
Commanding General, United States Army Engineer Command, Vietnam,
APO 96491
Commanding General, United States Army, Vietnam, ATTN: AVC-DH, APO
96307
Commander in Chief, United States Army, Pacific, ATTN: GPOP-MH, APO
96558

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

Concur with observations of Commanding Officer, 84th Engineer Battalion
(Construction).

1 Incl
nc


GEORGE M. BUSH
Colonel, CE
Commanding

+

16

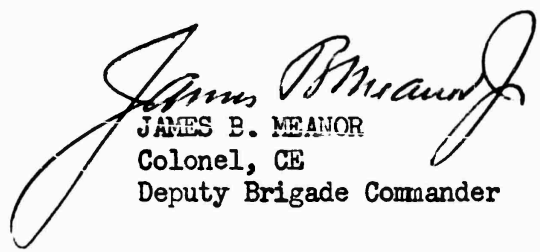
AVBC-C (14 Feb '67) 2nd Ind Cpt Mills/hwg/DBT-163
SUBJECT: Operational Report - Lessons Learned (RCS ACSFOR - 65) for
 Quarterly Period Ending 31 January 1967.

Headquarters, 18th Engineer Brigade, APO US Forces 96377 1 3 MAR 1967

TO: Commanding General, U.S. Army Engineer Command, Vietnam, (Prov), APO
 US Forces 96491

1. This headquarters has reviewed the Operational Report - Lessons
Learned for the period ending 31 January 1967, as indorsed, and considers
it an excellent report of the unit activities and accomplishments.

2. Concur with the observations of the Commanding Officer, 84th
Engineer Battalion (Construction).


JAMES B. MEANOR
Colonel, CE
Deputy Brigade Commander

4-14

17

AVCC-MND (14 Feb 67) 3d Ind MAJ Fowler/wgk/BH 478
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly
Period Ending 31 January 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND
VIETNAM (PROV), APO 96491 4 APR 1967

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

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 January 1967 of the 84th Engineer Battalion (Construction) as indorsed and considers the report satisfactory.

2. This headquarters concurs in the information provided subject to the following comments:


a. Section 1, paragraph 1r, page 6. Command directive 65-200-01-T-MA, dated 16 December 1966, defines the scope of the work in detail.

b. Section 2, Part I, paragraph a(2). A road upgrading program is planned and envisions raising all essential roads to all-weather standards to minimize maintenance requirements during the rainy season.

c. Section 2, Part I, paragraph a(4). The concrete vibrators in the TOE are a general purpose type and are considered adequate for placing thin wall concrete sections. Concrete buckets of the type mentioned are within the capabilities of the unit to construct.

d. Section 2, Part I, paragraph a(8). This observation will be brought to the attention of all Engineer units.

FOR THE COMMANDER:


RICHARD J. DUCOTE
Colonel, CE
Chief of Staff

USARV, ATTN: AVHGC-DH

McK
18

AVHGC-DH (14 Feb 67) 4th Ind
SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 January 1967 (RCS CSFOR-65)

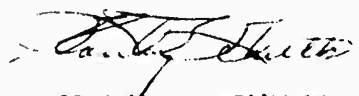
HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96307
9 APR 1967

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

1. This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 31 January 1967 from Headquarters, 84th Engineer Battalion (Construction) as indorsed.

2. The report is considered adequate. The unit's observations should prove helpful to other engineer units in RVN.

FOR THE COMMANDER:



STANLEY E. SCHULTS
Major, AGC
Asst Adjutant General

1 Incl
nc

19

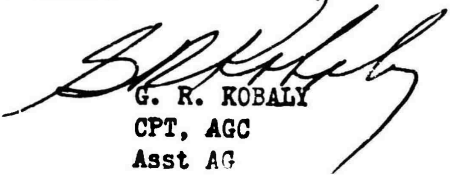
GPOP-OT (14 Feb 67) 5th Ind
SUBJECT: Operational Report-Lessons Learned for the Period Ending
31 January 1967 (RCS CSFOR-65) - Hq 84th Engr Bn (Constr)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 4 MAY 1967

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

This headquarters concurs in the basic report as indorsed.

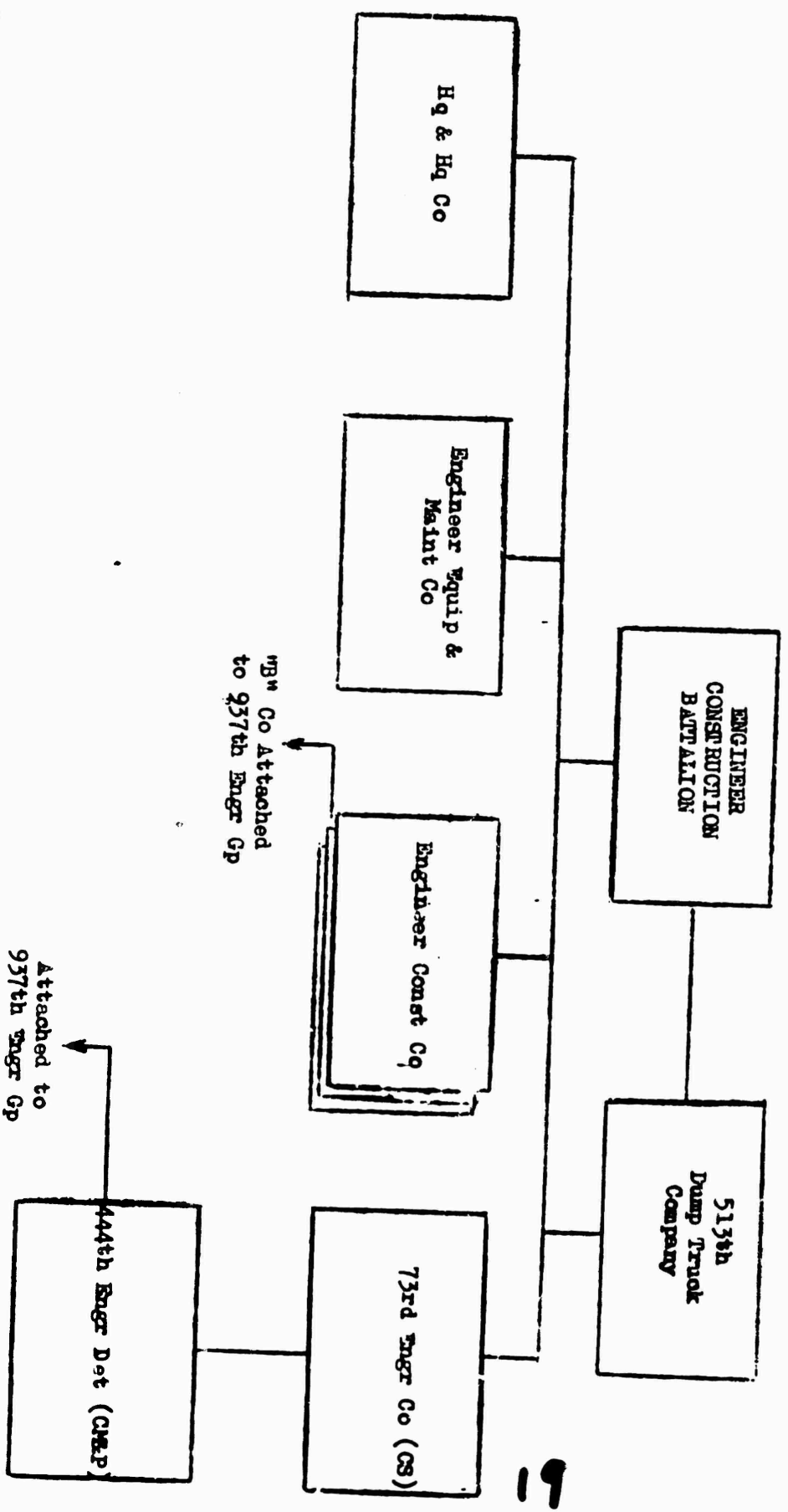
FOR THE COMMANDER IN CHIEF:



G. R. KOBALY
CPT, AGC
Asst AG

1 Incl
nc

84TH ENGINEER BATTALION (CONSTRUCTION) ORGANIZATIONAL STRUCTURE



Inclosure 1 to Operational Report-Lessons Learned (MOS CSFOR-65) for Quarterly Period Ending 31 January 1967