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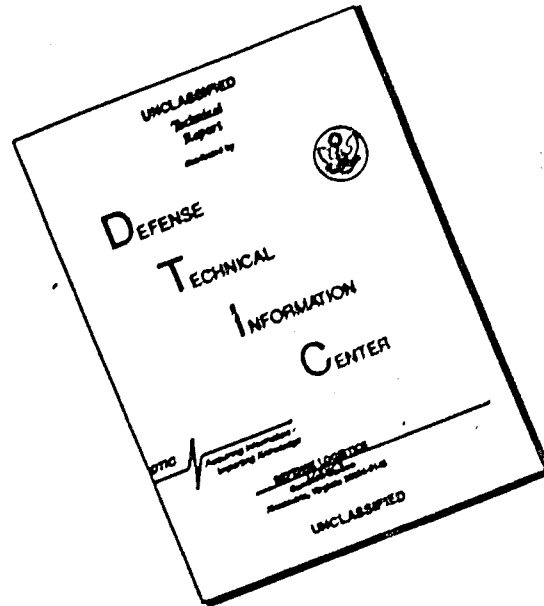
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M)(13 Mar 70) FOR OT UT 694331

19 March 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 46th Engineer Battalion, Period Ending 31 October 1969

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1. Subject report is forwarded for review and evaluation in accordance with paragraph 4b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT UT, Operational Reports Branch, within 90 days of receipt of covering letter.

2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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AD 868633

DEPARTMENT OF THE ARMY
HEADQUARTERS, 46TH ENGINEER BATTALION
APO San Francisco 96491

EGBB-CO

15 November 1969

SUBJECT: Operational Report - Lessons Learned, 46th Engineer Battalion,
Period Ending 31 October 1969, RCS CSFOR-65 (R2)

THRU: Commanding Officer, 159th Engineer Group, ATTN: EGB-OP, APO 96491
Commanding General, 20th Engineer Brigade, ATT: AVBI-OPN, APO 96491
Commanding General, United States Army, Vietnam, ATTN: AVHGC (DST),
APO 96375
Commander-in-Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96588

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

Section 1. Operations: Significant Activities

1. Command: LTC M F Meador commanded the 46th Engineer Battalion during the entire reporting period.
2. Personnel Administration, Morale and Discipline:
 - a. Personnel:

(1) The consolidated strength figures for the reporting period are as follows:

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
(a) As of 31 August 1969:				
1 Authorized:	36	9	822	867
2 Assigned:	34	8	816	858

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	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
(b) As of 30 September 1969:				
1 Authorized:	36	9	822	867
2 Assigned:	36	9	807	852
(c) As of 31 October 1969*				
1 Authorized:	36	9	1047	1082
2 Assigned:	36	9	803	848

* The change in authorized strength for October 1969 was as a result of reorganization of the 46th Engineer Battalion per GO #609, Headquarters, USARPAC dated 31 July 1969, under MTOE OS-115GP04 effective 25 October 1969.

(2) Critical shortage of personnel was experienced throughout the reporting period. The following is a list of MOS's most critical in the accomplishment of the battalion's mission at the end of the reporting period:

<u>MOS</u>	<u>TITLE</u>	<u>AUTHORIZED</u>	<u>ASSIGNED</u>	<u>SHORT</u>
05B	Radio Operator	6	4	2
31G	Tactical Communication Chief	4	1	3
36K	Field Wireman	9	4	5
51H	Construction Foreman	34	28	6
62B	Engineer Equipment Repairman	93	81	12
62F	Crane Operator	29	20	9
62J	General Construction Machinery Operator	32	21	11
62L	Wheeled Tractor Operator	51	41	10
64B	Heavy Vehicle Driver	58	42	16

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(3) Due to the existing shortages of critical MOS's, this headquarters has taken the following steps to alleviate the problems:

- (a) Proper requisitions have been submitted to higher headquarters.
- (b) Records of newly assigned personnel are thoroughly screened, and where possible secondary MOS's are utilized to fill critical shortages.
- (c) On-the-job training is being employed by commanders to fill shortages.

b. Awards: The following awards have been presented during this reporting period:

(1) Soldier's Medal	1
(2) Bronze Star	29
(3) ARCOM	32

c. Morale:

(1) The morale has remained very high throughout the battalion during the reporting period.

(2) Minor improvements of facilities and living conditions continued throughout the battalion.

(3) 80 men voluntarily extended their tours of duty for six months or longer during the reporting period and received a 30 day special leave. 24 men extended their tours less than 6 months.

(4) The reenlistment rate improved during the reporting period with 14 first term and six career enlisted men reenlisting. The battalion exceeded the 20th Engineer Brigade and USARV goal in reenlistments during the period.

(5) A total of 162 men received out of country R&R trips to Bangkok, Hong Kong, Hawaii, Tokyo, Manila, Sydney, Taipei and Singapore.

(6) Many recreational facilities and activities are provided for members of the battalion including swimming pool, movies, service clubs, athletic programs, and commercial entertainment at EM/NCO clubs. The battalion swimming pool became fully operational during the month of August and was a great boost to the morale of the troops.

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d. Disciplines:

(1) Discipline problems remained at approximately the same level as the previous period. Emphasis continues to be placed on punishment under Article 15, UCMJ instead of trial by Court-Martial.

(2) Following is a summary of punishment imposed within the reporting period:

(a) Eighty-six (86) Article 15, UCMJ.

(b) One (1) Summary Court-Martial.

(c) One (1) Special Court-Martial.

e. Casualties: The 46th Engineer Battalion suffered the following casualties during the reporting period:

(1) Killed in Action: 0

(2) Wounded in Action: 0

(3) Non Hostile Death: 3

3. Intelligence: None

4. Operations:

a. Projects Completed During the Reporting Period:

(1) Operational Support:

(a) During this quarter, the Carpenter Shop, HHC, 46th Engineer Battalion, CD 543-5302-0-20, prefabricated the following items in accordance with Operational Support Directives:

1 52 Columbine 4 man, Fighting Bunkers, 10'x10'

2 18 Rose, 12 man Reaction Bunkers, 28'x20'

3 43 Daisy, 24 man Personnel Mortar Bunkers, 7'x24'

4 6 Tulip, 4 man Observation Towers, 14'x14'x20' High

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(b) 207-5420-0-20, Revetments, 357th Transportation Company; D Company, 46th Engineer Battalion: 768 linear feet of 12' high revetments were constructed, filled and capped. These were constructed for the protection of repair shops and communication equipment at Bien Hoa Air Base. Over 200 linear feet of this revetment were constructed on skids to allow access to the communications vans by moving them. The project was started on 15 April 1969 and was completed 15 September 1969.

(c) 207-5678-0-20, U-6 Revetments; D Company, 46th Engineer Battalion: The project consisted of the repair or rebuilding, capping and filling of two (2) 30' long revetments sections for the 20th Brigade Aviation Section. The purpose of the 12' high revetment was protection of fixed wing aircraft. The project was started on 21 June 1969 and was completed on 16 September 1969.

(d) 207-5823-0-20, Prefabricated Bunker, FSB Concord; D Company, 46th Engineer Battalion: A 20'x24' command bunker was pre-cut at Long Binh and delivered to FSB Concord. Technical assistance and skilled labor were provided for the assembly of the bunker. The project was started on 9 September 1969 and was completed on 17 September 1969.

(e) 207-5827-0-20, Repair of UH-1 Revetments; D Company, 46th Engineer Battalion: Twelve parallel UH-1 revetments were capped with a 3 inch layer of sand-cement. Corrugated metal which had previously been used had worked loose from the backwash of the rotors and was becoming a hazard to the aircraft. The project was started on 29 August 1969 and was completed on 9 September 1969.

(f) 207-5841-0-20, Berm Construction, Bien Hoa; D Company, 46th Engineer Battalion: The project consisted of the repair and relocation of 30' of 6 foot earth berm around a command radar bunker at Bien Hoa Air Base. The project was started on 20 August 1969 and was completed on 22 August 1969.

(g) 207-5890-0-20, Repair of Culvert; B Company, 46th Engineer Battalion: The repair of a culvert headwall on the 20th Brigade helipad was accomplished by straightening the drainage ditch parallel to the culvert and rebuilding the headwall. Fifty-five gallon drums filled with sand were used for the headwall. The project was started on 4 September 1969 and was completed on 5 September 1969.

(h) 243-5517-0-20, Repair Ammo Supply Dump, Long Binh; C Company, 46th Engineer Battalion: Installed 210 feet of culvert, constructed one (1) 39'x14' vehicular bridge and upgraded 2,500 SY of untreated road for 3d Ordnance Battalion. The project was started on 9 June 1969 and was completed on 7 October 1969.

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(i) 243-5658-0-20, Class III POL Berms; A Company, 46th Engineer Battalion: 2,860 linear feet of 24 inch high earthen berm and 330 linear feet of 18 inch high earthen berm were constructed. Both berms were covered with penepime for erosion control. The berms were constructed for the 1st Logistical Command, and were located in the Class III POL Yard, Long Binh. The project was started on 2 August 1969 and was completed on 21 September 1969.

(j) 243-5675-0-20, Hurricane Revetments; C Company, 46th Engineer Battalion: This unit constructed a concrete block revetment six feet tall around a VHF Site at IIFFV. This project was started on 1 August 1969 and was completed on 27 August 1969.

(k) 243-5683-0-20, TOC's, Long Binh; C Company, 46th Engineer Battalion: This unit constructed one (1) 20'x48' TOC Bunker for the Saigon Support Command. The project was started on 8 September 1969 and was completed on 24 September 1969.

(l) 243-5731-0-20, Perimeter Upgrade, Resor Quarry; C Company, 46th Engineer Battalion: This unit laid 1,500 linear feet of triple concertina and 750 linear feet of two strand barbed wire entanglement for 103d Engineer Construction Support Company. This project was started on 15 September 1969 and was completed on 10 October 1969.

(m) 243-5907-0-20, Bunker Repair; C Company, 46th Engineer Battalion: This unit removed existing fill at bunker retaining wall, replaced old fill with new fill and compacted. This project was started on 16 September 1969 and was completed on 3 October 1969.

(n) 243-5923-0-20, Aircraft Maintenance Shelters; A Company, 46th Engineer Battalion: Three (3) aircraft maintenance shelters were erected for the 11th Air Cav Regt at Camp Fresnell Jones. The project was started on 2 September 1969 and was completed on 18 September 1969.

(o) 273-5497-0-20, Repair of Tower; B Company, 46th Engineer Battalion: A secondary roof was constructed on a 60 foot observation tower. Construction was accomplished with steel "I" beams, 4"x4" timber and 2"x6" timber. The secondary roof was then covered with sand bags. Completion of this task provides greater security for the guards in the tower. The project was started on 24 July 1969 and was completed on 31 July 1969.

(p) 273-5516-0-20, Saigon Area Roads, Vinh Loc; B Company, 46th Engineer Battalion: The project called for the upgrade of 12 miles of roads throughout the greater Vinh Loc area. This upgrade was not started until after the wet season. 5000 yards of rock were needed to build these roads. The completion of this project provided the villagers of Vinh Loc with a road network. The project was started on 7 April 1969 and was completed on 31 August 1969.

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(q) 273-5541-0-20, B-28, An Loc Bridge Lighting; B Company, 46th Engineer Battalion: A permanent lighting system was installed on this bridge. It consisted of twenty-four (24) 500 watt flood lights hanging in eight (8) clusters. All electrical wiring is protected from weather and wear by aluminum conduit. A two-way hook-up system has been installed for use with generator power or local power. The project was started 9 July 1969 and was completed on 14 August 1969.

(r) 273-5633-0-20, B-24, So Ba Bridge PPS; B Company, 46th Engineer Battalion: A 3" pipe and chain link fence cage type pier protection system was constructed around both piers of the bridge. Due to depth of the water and swift current, a special bracing system was utilized. The system consisted of 6"x6"x $\frac{1}{2}$ " angle iron around the pier and top of the cage. Angle iron braces were then welded to the cage and the pier giving the system stability. Chain link fencing was then dropped around the pier and tied by divers. The project was started on 1 July 1969 and was completed on 8 August 1969.

(s) 273-5800-0-20, Fuel Storage Sheds; B Company, 46th Engineer Battalion: In July 1969 B Company built generator sheds at eleven (11) bridge sites. Each one of these generator sheds required a fuel storage shed. The storage shed was constructed of a concrete floor and corrugated tin roof. The size of the storage shed was dependent on the size of the generator at the particular bridge site. The project was started on 13 August 1969 and was completed on 11 September 1969.

(t) 289-5883-0-20, Road Relocation, Xuan Loc; B Company, 46th Engineer Battalion: The project called for the relocation of a half-mile segment of road on the perimeter of Husky Compound in Xuan Loc. Four thousand yards of laterite were hauled from a nearby pit, graded and compacted. Except for the daily monsoon rain, working conditions for the project were ideal. There was no traffic problem, drainage was good and no civilian property was involved. Borrow Pit was on site so that haul distance was minimum. The project was started on 16 September 1969 and was completed on 10 October 1969.

(u) 289-5929-0-20, Tower Relocation; B Company, 46th Engineer Battalion: The project directive called for a 60 foot air control tower to be moved from Blackhorse to Plantation. The tower was disassembled into two (2) sections and flown to Plantation by a flying crane. At Plantation new footings were constructed, and the tower was placed on them with the aid of the flying crane. The project was started on 14 September 1969 and was completed on 6 October 1969.

(v) 289-5966-0-20, Bunker Repair Plantation; C Company, 46th Engineer Battalion: This unit inspected existing bunkers and prepared a Bill of Materials for their repair. Additionally, this unit provided technical assistance for rehabilitation. The project was started on 20 October 1969 and was completed on 28 October 1969.

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(x) 290-5628-0-20, Lightning Arrestors; B Company, 46th Engineer Battalion: The project called for lightning arrestors to be placed on eight (8) observation towers throughout the Saigon area. This was accomplished by using 6' copper ground rods on two sides of the tower roof with $\frac{1}{2}$ " cable running to a grounding rod at the base of the tower. The cable was held away from the tower with the use of a 2"x4" slant off with glass insulators. The project was started on 16 July 1969 and was completed on 29 July 1969.

(2) Lines of Communications:

(a) 159-68-004, Resor Quarry; B and C Companies, 46th Engineer Battalion: The constructing units installed wiring for the entire cantonment area and a lighting system for the crusher site, worked on grading, stabilization and drainage for crusher site; and constructed three (3) ammunition bunkers. A 60'x40'x8" concrete pad was required for a new secondary cone crusher at Resor Quarry. The existing site for the pad was 2 feet lower than the needed pad elevation. About 265 cubic yards of quarry rock and crushed rock were used in bringing the pad site to the desired elevation. Steel 8" forms were used and 60 yards of reinforced concrete were placed. This directive was terminated 31 October 1969.

(b) 201-15-1-M4, Road Repair, Bien Hoa; D Company, 46th Engineer Battalion: The project consisted of the removal of a 40' section of 48" culvert from the Bien Hoa Bypass, keeping the road passable at all times. Potholes in the road were repaired and the ditches were cleaned out. The project was started on 12 October 1969 and was completed on 15 October 1969.

(3) Minimum Essential Requirements: None

(4) Base Construction:

(a) 43-210-01-T-6S/7S, 332d Dispensary; C Company, 46th Engineer Battalion: This unit completed construction of one (1) 40'x100' dispensary without beds, to include one (1) drain filled septic tank and 50 linear feet of water pipe. This project was started on 14 May 1969 and was completed on 2 September 1969.

(b) 66-219DC-76, 145th Aviation BOQ's; D Company, 46th Engineer Battalion: Two (2) double story BOQ buildings were completed during the reporting period. Primary work done during the period was the electrical system, interior work and hanging of doors. The completed project provides approximately 68,000 SF of billet space for the 145th Aviation Battalion. The project was started on 17 March 1969 and was completed on 18 September 1969.

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(c) 873-0303-0-01, III CTZ MACV Advisor Upgrade, Cat Lai; D Company, 46th Engineer Battalion: A 20'x57' concrete block building was constructed to house Naval Advisors at Cat Lai. The billets will house about twelve persons. The scope of construction included water supply and distribution, water-borne sewage and septic tank, electrical distribution and installation of a hot water heater. The walls for the latrine and shower are constructed of specially made half-size concrete blocks. The concrete block outer walls were filled with cement up to the four foot level for protection from shrapnel and small arms fire. The septic tank was also constructed of concrete blocks. Sidewalks were placed around the building. The project was started on 30 August 1969 and was completed on 27 October 1969.

(5) Base Construction: Suspended:

- (a) 43-292-08-T-MA, Ammo Renovation Building.
- (b) 43-301-07, Maintenance Hardstand, 79th and 185th Maintenance Battalions.
- (c) 43-350-01, BOQ and BEQ, Plantation.
- (d) 43-360-01, 25th Aviation Technical Supply Facilities.
- (e) 43-369-01, Supply and Storage Facilities.
- (f) 43-370-02, Aviation Support Facilities, Plantation.
- (g) 43-387-01-159, 95th MP Battalion, Motor Repair Shop.
- (h) 46-223-02, Bulk Aircraft Fuel Storage.
- (i) 507-5306-0-20, Aviation Support Facilities.
- (j) 543-0306-0-01, 6th Transportation Cantonment.
- (k) 773-0302-0-01, 1272 Man Cantonment, Cat Lai.
- (l) 773-0302-0-01, SEA Huts.
- (m) 773-0303-0-01, 6th Transportation Maintenance Facilities.

The above projects suspended by confidential message, 75749, CG, USARV, DIG 060441- August 1969, subject: New Construction.

(6) Revolutionary Development Support: None

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b. Projects on which work was accomplished this quarters and which are still active:

(1) Operational Support:

(a) 68-159-31A, VIP Trailer Revetments; B and D Companies, 46th Engineer Battalion: The project called for earth filled revetments around the sleeping end of 100 VIP trailers on Long Binh Post. After testing a 6" concrete wall, the concrete wall proved to be just as efficient as the earth filled revetments with a labor and cost savings. The concrete revetments have replaced earth filled revetments. The project was started on 11 August 1969 and is presently 2% complete. (See Lessons Learned Section, Para 2c(2)).

(b) 207-5593-0-20, Perimeter Upgrade, Bien Hoa; C Company, 46th Engineer Battalion: This unit provided technical assistance, equipment support and materials issue to the 101st Airborne Division for the upgrade of their perimeter. The project was started 27 May 1969 and is now 8% complete.

(c) 243-5729-1-23, Maintenance of Base Camp Perimeter; D Company, 46th Engineer Battalion: Work accomplished during this period included moving an ammunition bunker and construction of a blast wall for it; completing the cementing of the outside of a personnel bunker; continuous repair of perimeter bunkers; capping of revetment barrels around billets with cement; construction of a protective barbed wire fence around the motor pool; and construction of a concrete block revetment for protection of the POL area. The project was started on 19 March 1969 and is continuous.

(d) 243-5924-0-20, Defense Upgrade, Plantation; C Company, 46th Engineer Battalion: This unit cleared fourteen (14) acres to improve fields of fire for the 12th Aviation Group. The project was started on 19 October 1969 and is now 75% complete.

(e) 253-5709-0-20, 1st Cav TOC; B Company, 46th Engineer Battalion: The TOC is a 40'x60' bunker. The walls consist of sand filled revetments and the roof is a two foot deep sand box. Approximately 265 yards of fill were needed to bring the ground to proper elevation before the 8" concrete floor could be placed. A 75 foot retaining wall was constructed to hold fill in place due to the limited area of the construction site. The project was started on 1 August 1969 and is 98% complete.

(f) 273-5461-0-20, Binh Loi Pier Protective System; B Company, 46th Engineer Battalion: A pier protective system was required for the defense of the critical Binh Loi Bridge on one of the primary roads in the Saigon area. Due to the depth of the water in the area and large tidal elevation change, a chain link fence and pipe cage system was impractical. A floating collar with suspended concertina was prefabricated on shore. These were moved into position around each collar with the aid of bridge erection boats. The overall scope required the support of the 41st Port Construction Company. Presently, pier fenders are being constructed to keep river traffic from hitting the floating collars. The project was started on 20 March 1969 and is presently 73% complete.

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(g) 289-5961-0-20, AALA, POL Berm and Aviation Refuel Area; B Company, 46th Engineer Battalion: The project directive calls for a POL berm to house four (4) fuel bladders, twelve (12) helipads for refueling and two (2) helicopter rear pad. The area where the site is located originally had variation of up to 20 feet elevation. This required about 30,000 yards of fill to be placed and compacted before actual construction began. The project was started on 14 October 1969 and is 35% complete. The completion date is 10 November 1969.

(h) 289-5983-0-20, Husky Rehabilitation, 7/8th Artillery Gun Pads; B Company, 46th Engineer Battalion: This project directive was received on 24 October 1969 requiring two (2) 175 mm / 8 inch gun pads to be constructed by 1 November 1969. A "marshy gun pad" design required a 40 foot octagonal gun pad surrounded by a 4 foot deep by 8 foot wide trench filled with rock. Two (2) additional gun pads are to be constructed along with two (2) 12 man living-fighting bunkers and one (1) 20'x40' FDC. The project was started on 24 October 1969 and is 45% complete. The scheduled completion date is 15 December 1969.

(i) 443-5212-0-20, Laterite Pit; A Company, 46th Engineer Battalion: Work continues at the site on an as required basis. A Company will continue to load and tally trucks as required by S-3 directives. The project was started on 12 December 1968 and is a continuous project.

(j) 543-5301-0-20, Operation of Block Shop; D Company, 46th Engineer Battalion: Approximately 36,000 three hole, 8"x8"x16" concrete blocks were manufactured during this period. Work is done by Vietnamese with American supervision. The project was started on 10 October 1967 and is continuous.

(2) Lines of Communications:

(a) 98-201, Road Maintenance, Di An Bypass; D Company, 46th Engineer Battalion: Work done during this period consists of the placing of three (3) 60 foot sections of 60 inch culvert. Concrete headwalls were constructed on the upper and lower sides of the culverts to preclude heavy rains causing the road to wash out. Investigation of the problem revealed that half of the Di An Base Camp was draining into culverts at one point on the road and that the area of the culverts was insufficient. The addition of three (3) 60 inch culverts solved the problem. The project was started on 4 July 1969 and is continuous.

(b) 407-5301-0-20, Asphalt Plant, Resor Quarry; C Company, 46th Engineer Battalion: This unit worked on construction of a haul road, to include hauling, grading, compacting of laterite and installation of culverts. Also worked on construction of a pad for the plant. This includes earthwork on the pad, prefabbing of forms and rebar. The project was started on 29 September 1969 and is 28% complete.

EGBS-CC

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(c) 489-5302-0-20, Base Camp Construction, Gia Ray; C Company, 46th Engineer Battalion: Work accomplished includes construction of hardstand for MER construction of concrete pads for troop housing and maintenance area. Shaped and graded interior roads and cleared perimeter. Work was started on 25 October 1969 and is presently 10% complete.

(3) Minimum Essential Requirements:

(a) 343-5311-0-20, 543d Transportation Company; D Company, 46th Engineer Battalion: Work accomplished includes construction of a 22,600 square yard hardstand with access road around the pad. Approximately 30,000 cubic yards of fill were hauled, compacted and graded to complete the pad. Latrines and showers were prefabricated and assembled at the site. The project continued at a slow pace because of the rainy season. The project was started on 25 June 1969 and is now 98% complete. Application of a dust pallative is all that remains.

(b) 343-5318-0-20, 9th Medical Laboratory MER; D Company, 46th Engineer Battalion: Work accomplished includes construction of a 3,750 square yard hardstand for a motor pool. Two (2) 36 inch culverts were placed for the entrances to the pad. Approximately 2,000 cubic yards of laterite were hauled, compacted and graded for the project. Primary work remaining is penepriming the area. The project was started on 22 October 1969 and is presently 90% complete.

(4) Base Construction:

(a) 525-0304-0-01, Removal and Storage of Pre-Engineered Buildings, Dong Tam; D Company, 46th Engineer Battalion: This project consisted of the dismantling, banding and transport to Long Binh of pre-engineered buildings from Dong Tam Base Camp. This unit dismantled and hauled one (1) 70'x144' Pascoe warehouse and three (3) 40'x96' buildings to Long Binh. Two (2) other 40'x96' buildings which had previously been dismantled were banded and hauled to Long Binh. The remaining work under this directive is the disassembly of two (2) 40'x98' buildings. This work is to be done by the 93d Engineer Battalion. The project was started on 29 September 1969 and is presently 90% complete.

(b) 543-0301-0-01, SEA Signal School; C Company, 46th Engineer Battalion: This unit wired existing Adams Huts Building, also provided technical assistance, equipment support and material issue for a 35'x120' concrete hardstand. This project was started on 25 February 1969 and is now 98% complete.

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(c) 543-0302-0-01, LOC Maintenance Facility; C and D Companies, 46th Engineer Battalion: The project consists of a three (3) building maintenance complex for the MCA/LOC equipment. The units constructed a 600'x400' hardstand with drainage and access roads, asphalted parking areas and are presently constructing a wash rack, loading ramp, latrine and security fence. The project was started on 28 April 1969 and is 96.5% complete.

(d) 889-0303-0-01, MACV Housing; B Company, 46th Engineer Battalion: The project calls for a two (2) water closet latrine. The construction is to be concrete block with a concrete floor. The directive also requires that a septic tank be constructed to accept waste from the latrine. The project was started on 21 September 1969 and is 15% complete. The scheduled completion has been delayed due to receipt of an Operation Support project.

(5) Revolutionary Development Support: None

c. 103d Engineer Company (CS) conducted the following activity during the reporting period:

(1) Quarry Operations: 7,533 cubic yards of 3"(-) base course rock, 955 cubic yards of 1½"-¾" concrete aggregate, 17,206 cubic yards of 1½"(-) base course rock and 10,505 cubic yards of ¾"(-) asphalt aggregate were produced during the reporting period. A permanent lighting system was installed for the 225 TPH crushing plant. The following equipment was added to the quarry operations through the MCA-LOC Buy:

(a) 1 - Front Loader, 6½ cubic yards

(b) 1 - Allis Chalmers Cone Crusher.

(2) Asphalt Operations: None

d. The 46th Engineer Battalion spent 72 days this reporting period on operations. An additional seven (7) days were spent moving a platoon from D Company to Dong Tam, a platoon from C Company and a platoon from A Company to Gia Ray, and B Company, a reinforced platoon, to Xuan Loc.

5. Organization: The 46th Engineer Battalion was reorganized under MTOE, 05-15GPO4 P00168 as directed by General Order Number 609, Headquarters, USARPAC, dated 31 July 1969.

6. Training: The 46th Engineer Battalion spent fourteen (14) days during the reporting period in training. This training included weapons qualifications/familiarization, and semi-annual gas chamber exercise.

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7. Logistics:

a. The 46th Engineer Battalion has been directed to pick-up, install and operate one (1) 100-150 ton per hour Barber Greene asphalt plant at Resor Quarry (Bien Hoa) and one (1) 250 ton per hour Cedar Rapids rock crusher (MCA/LOC) at Gia Ray. Both items have been picked-up from the depot and are currently being deprocessed.

b. Critical items received from the depot:

<u>NOMENCLATURE</u>	<u>RECEIVED</u>	<u>SHORT</u>
Grader, Motorized	2	0
Tractor, Wheeled, 290	2	0
Lubrication and Service Unit	2	1
Roller, Towed, Sheepsfoot	4	2
Woodworking Set	4	2
Truck, Utility, $\frac{3}{4}$ Ton	3	1
Crane, 20 Ton	2	0
Tractor, Full Tracked, D7E	4	0

c. Critical Items Shortages:

<u>NOMENCLATURE</u>	<u>AUTHORIZED</u>	<u>SHORT</u>
Lubricating and Service Unit	6	1
Shop Equip, Organ Repair, Lt Truck	1	1
Shop Equip, Wood Wrk, Tlr Mtd	8	2
Forklift, Truck, 10,000 lbs	2	2
Shop Equip, Contact Truck	6	3
Vibrator Concrete, Pneumatic	12	6
Roller, Towed, Sheepsfoot	6	2

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<u>NOMENCLATURE</u>	<u>AUTHORIZED</u>	<u>SHORT</u>
Radio Set, AN/PRC-25	3	1
Crane, Shovel, Crawler, 40 Ton, Mounted	1	1
Radio Set, AN/VRC-46, $\frac{3}{4}$ Ton Truck Mtd	13	1
Semi-Trailer, Low Bed, 25 Tons	26	6
Roller, Air Mobile, Vibrating	3	3
Roller, Motorized, 10-12 Tons	3	2
Roller, Motorized, 5-8 Tons	1	1
Shovel, Front Bucket, 10 Ton Crane	1	1
Night Vision Sight	11	8
Pneumatic Tool and Compressor Outfit	7	1
Truck, Dump, 5 Ton	48	2
Roller, Towed, 4 Tire, $7\frac{1}{2}$ -50 Tons	4	2
Compressor, 600 CFM	2	1
Tagline Crane & Crane Shovel, $\frac{3}{4}$ Bucket	7	3
Compressor, Rep Pw Driven 5 CFM 175 PSI	5	2
Boom, Crane, 30 Ton	6	6
Welding Shop, Trailer Mounted, 300 Amp	6	2
Floodlight Set, PTB 5 KW, 120-206 V	26	17
Distribution, Water, Tank Mounted, 1000G	6	1

d. MCA-LOC Equipment Program: A MCA-LOC cone crusher is now operating at Resor Quarry. Problems encountered in operating the quarry are: Obtaining striker bars, couplings, bits and rock drills. MCA-LOC Equipment now on hand at the 46th Engineer Battalion and 103d Engineer Company are as follows:

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<u>NOMENCLATURE</u>	<u>QUANTITY</u>
Tamper, Hand, Gas Operated	3
Crusher, Cone	1
Loader, Scoop	2
Compressor, 600 CFM	4
Drill, Rock	1
Sharpening Machine (Drill Bits)	1
Welding Machine, 400 and 600 Amp	3
Welding Attachment	1

The 46th Engineer Battalion has notified next higher headquarters and 20th Engineer Brigade MRE and S-4 of critical shortages. Items have been placed on Red Ball, and action taken to locate needed items in other units.

e. Equipment Shortages RICC-1 Lines:

<u>NOMENCLATURE</u>	<u>QUANTITY</u>
Total RICC-1 Items Authorized	127
Number of lines at 100 - 90%	68
Number of lines at 90 - 80%	9
Number of lines at 80 - 70%	4
Number of lines at 70 - 1%	19
Number of lines at 0%	27

f. Republic of Vietnam Armed Forces Improvement and Modernization Materials Transferred:

<u>NOMENCLATURE</u>	<u>QUANTITY</u>
Pipefitters Tool Kit	1
Rotary Sweeper	1

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NOMENCLATURE

QUANTITY

Trailer, Low Bed, 25 Tons	1
Roller, Motorized, 10 Tons	1
Trailer, Accessary, 12½ Tons	1

g. During this period from the first week in August to the last week in September 1969 critical equipment deadline rate increased from 10% to 16.2%. Throughout the period approximately 30% of the deadlined equipment was awaiting parts.

h. To alleviate these maintenance and repair parts problems, the following measures were implemented within the battalion:

(1) A project called IME Follow-On was implemented at the 103d Engineer Company to establish a realistic PLL for the Pioneer Rock Crusher, and related equipment such as Euclid Dump Trucks, D9G Dozer and Rock Drills. The replacement parts for these drills that are consumed in use such as drill steel, couplings, striker bars and drill bits are becoming critical and in-country supply apparently is non-existent. High priority requisitions have been submitted to CONUS to obtain a basic load of these items.

(2) Classes have been established on a weekly basis to train officers, NCO's, and Specialists, to effectively perform their functions under the Army Maintenance System and TAERS Reporting System. A battalion CMMI Team has been established and monthly inspections of all assigned units of the battalion are performed to assist subordinate commanders in identifying and remedying existing maintenance management shortcomings. Due to this increased knowledge, an increase in deadlined items found upon inspection were experienced.

(3) A procedure has been set up within the battalion whereby units desiring critical repair parts for mission essential equipment creating project delays may contact the Battalion Maintenance Officer, and he in turn may contact the appropriate agency controlling retrograde and salvage yards to obtain permission to exchange unserviceable parts in these yards.

8. Communications:

a. FM Tactical Radio:

(1) The battalion command net consists of the following:

(a) A battalion net control station (AN/VRC-47)

(b) The battalion commander (AN/VRC-47)

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(c) The battalion operations officer (AN/VRC-46)

(d) Company Commanders:

1 A Company (AN/VRC-46)

2 B Company (AN/VRC-47)

3 C Company (AN/VRC-47)

4 D Company (AN/VRC-47)

5 103d Engineer Company (AN/VRC-47)

(e) Net Control Stations in each company, A, B, C, D and 103d Engineer Companies (AN/VRC-47). The net is open 24 hours per day.

(2) 159th Engineer Group Command Net is monitored 12 hours per day (0630 - 1830) by the battalion commander (AN/VRC-47) and the battalion NCS (AN/VRC-47).

(3) The 160th Signal Group's Ground Defense Net is monitored 12 hours per day (1830 - 0630) by the battalion NCS (AN/VRC-47).

(4) Long Binh Post Fire Direction Net is entered during alert conditions by the battalion Forward Observer and Sector Operations Center Artillery Liaison Officer (2 each AN/VRC25's).

(5) A radio relay station (AN/VRC-49) is being used at Gia Ray to maintain contact with the deploying companies.

b. Radio - Teletype Net: The Battalion Communications Center operates in the 159th Engineer Group Teletype Net 12 hours per day (0800 - 2000) with an AN/VRC-142).

c. Telephone System: A tactical switchboard system (4 each SB-22's) is operated by the battalion communications section 24 hours per day. This system has a 63 line capacity with 60 lines currently being utilized.

9. Materials:

a. Construction materials are in acute shortage. Command controlled lumber cannot be requisitioned through normal channels. Releases are made to the 20th Engineer Brigade and subsequently parcelled out to the battalions. Project delays have been kept at a minimum by reallocation of assets by the 159th Engineer Group. Corrugated metal has been substituted for lx in facings on bunkers and

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other appropriate structures. This substitution has alleviated the demand on 1x material. The total amount of controlled lumber released from the depot to this battalion from 1 August 1969 through 31 October 1969 is as follows:

<u>SIZE</u>	<u>AMOUNT</u>
1x4	18,000 BF
1x8	25,000 BF
2x4	40,000 BF
2x6	4,000 BF
2x8	30,000 BF
2x10	61,430 BF
2x14	2,352 BF
3x8	2,000 BF
4x4	2,292 BF
4x6	4,000 BF
4x10	55,372 BF
4x12	32,450 BF

b. Quantities of materials consumed during this reporting period are as follows:

<u>SIZE</u>	<u>AMOUNT</u>
1x4	48,196 BF*
1x6	0 BF*
1x8	35,175 BF*
1x10	8,875 BF
1x12	2,640 BF*
2x2	0 BF*
2x4	59,700 BF
2x6	7,496
2x8	28,124 BF
2x10	100,493 BF
2x12	9,830 BF
3x8	15,046 BF
3x12	0 BF*
4x4	5,674 BF
4x6	6,400 BF
4x8	4,592 BF
4x10	20,080 BF
4x12	65,722 BF
6x6	43,114 BF*
6x8	7,792 BF*
6x12	666 BF

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<u>SIZE</u>	<u>AMOUNT</u>
6x16	2,900 EF*
8x8	8,915 EF*
8x10	20,380 EF
10x10	1,200 EF
10x14	12,500 EF*
12x12	3,000 EF*
12x14	418 EF*
14x14	864 EF
Plywood 1/4"	500 SH*
Plywood 3/8"	0 SH*
Plywood 1/2"	1,143 SH*
Plywood 5/8"	0 SH*
Plywood 3/4"	529 SH*
Plywood 1"	0 SH*

* Stock depleted during the reporting period. Demand was greater than supply. Substitutions made where appropriate.

c. The total amount of cement released from the depot to this battalion (1 August 1969 through 31 October 1969) was 5,000 bags which is the normal weekly consumption rate for a construction battalion. Due to the lack of cement the Block Shop (operated by D Company) has ceased production and a freeze has been placed on the issuing of cement from S-4 except for top priority projects. Plywood and masonite are non-existent at the depot.

d. Requisitioning of AP-3 and AP-5 are being processed for the asphalt plant through the Long Binh ECMY. Requisitions have been filed with Stock Control for seven (7) months, each requisition is for 6,000 barrels each month.

10. Other: None

Section 2. Lessons Learned: Commander's
Observations, Evaluation and Recommendations:

A. Personnel: There has been some turbulence of military personnel during the reporting period as usually happens during the summer months. As a result of the constant turn over of personnel, a disproportionately large number of highly skilled NCO's and specialists have been lost due to rotation to CONUS or other overseas areas. The quality of replacements received is average; however, they lack the necessary skills and experience to use them effectively immediately upon arrival. It takes approximately two (2) months of on-the-job training for a soldier at the AIT level to become proficient in his MOS. Although the OJT program achieves some results it tends to slow down the primary mission of the battalion.

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Recommendations: That some provisions be made by USCONARC to program replacements to Engineer Construction Units in Vietnam after they have had at least two (2) months duty with a CONUS unit and gained sufficient practical knowledge and experience in their MOS. This would both benefit the individual in becoming better qualified in his field and the ultimate unit in Vietnam.

B. Intelligence: None

C. Operations:

(1) A Company was assigned the task of erecting an aircraft maintenance tent:

(a) Observation: Directions of the installation of the tent liners for the aircraft maintenance tent were to install liner after tent has been completely assembled.

(b) Evaluation: Due to the height of the aircraft maintenance tent it is impractical and dangerous to use ladders to install the liner to the center ridge when an easier access is available.

(c) Recommendation: It is recommended that the liner be attached to the center ridge and to the next tying point on either side of the center ridge prior to placing the canvas over the ribbing. This will enable the installer to stand on the ribs for support and enable both hands to be used while installing the tent liner.

(2) Substitution of 6 inch concrete revetment for an earth filled revetment:

(a) Observation: The project called for the construction of revetments around house trailers used as BOQs.

(b) Evaluation: Earth filled revetments are constructed of 2x4, 4x4 and corrugated aluminum. At the present time these materials are in great shortage in Vietnam. A concrete revetment 8 feet long and 8 feet high was designed to replace the earth filled. They are placed individually on footers. Very little earth work needs to be done. The twelve (12) concrete revetments needed for one trailer can be placed in 4 hours with the use of a crane or forklift. These concrete revetments have been tested with small arms, grenades and satchel charges. The result shows that the concrete revetments offer an equal degree of protection. The concrete type revetment has proven to be faster to construct and more economical than earth filled revetments. In comparing costs per linear foot and manhours per linear foot the concrete revetment is far superior to the earth filled revetment. These revetments take up less space and are esthetically more pleasing. In addition, concrete revetments are portable and therefore can be moved to other sites as needed.

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(c) Recommendation: It is recommended that the concrete revetments be used in lieu of the earth filled revetment on small projects.

(3) Grader:

(a) Observation: The Letourneau-Westinghouse grader provided this unit is too light to perform many assigned missions.

(b) Evaluation: Observation of the 440 HA Grader has shown that it cannot be used as a cutting grader but is best suited for spreading fill. In some cases the circle reverse will not even hold a blade to loose fill. The use of rippers is not always possible in some operations and in any case is time consuming.

(c) Recommendation: The army should provide a heavy grader since many mission requirements cannot be effectively met with the present model.

(4) Hand Tamper:

(a) Observation: Lack of efficient hand tampers slows backfilling of culverts and other small earth filled construction.

(b) Evaluation: Experience has shown that gasoline powered tampers such as the LOC Tamper #RAPAK, are several times more effective than the pneumatic tampers. The large sled of the gasoline model insures a more thorough coverage and allows for faster operations. Backfill time around culverts is often a critical item in road building and hardstand construction.

(c) Recommendation: That one (1) gasoline tamper be provided for each construction platoon in the battalion.

(5) Cannibalization:

(a) Observation: The deadline rate for equipment has increased in this unit by the limiting of cannibalization points in this area.

(b) Evaluation: There is a low equipment density for many engineer items in-country and in the national stockage of repair parts. Many items that are turned in for collection, classification and salvage are no longer made available for cannibalization. The retrograde operation has priority over the cannibalization operation. The Battalion Maintenance Officer gives personal attention to obtaining critical parts for mission essential items with some success; but this is neither sufficient nor satisfactory for all items.

(c) Recommendation: That a more liberal policy on cannibalization for engineer equipment be adopted.

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(6) Concrete Block Interior Walls:

(a) Observation: A space-saving attractive interior wall was needed to complete a concrete block building for housing MACV Advisors. The wall was to inclose the latrine/shower facility.

(b) Evaluation: Although the original plans called for wooden interior walls, it was felt that the moisture in this location would soon rot the walls and require replacement of the walls.

(c) Recommendations: A suitable and attractive substitute which this unit used was half-size concrete block. The blocks were made using simple wooden forms and were four inches thick. The blocks were placed to make a four inch thick interior wall and were plastered with a smooth plaster. This resulted in a space-saving, sturdy, water resistant wall which will not require replacement.

(7) Installation of the Allis Chalmers Cone Crusher - 45"

(a) Observation: The cone crusher was installed at Resor Quarry to be used as a secondary unit between the primary jaw crusher and the VDE 54 unit. product was to be taken from this machine. It was to be used only as a further step in reduction. Two (2) conveyors, one fifty-two feet and the other forty-two feet long, came with the cone crusher. No provisions were made for the side discharge conveyors. Also the machine did not have any wear plates in any of the hoppers.

(b) Evaluation: If the machine is to be used as designed, an additional 35' channel conveyor is needed. At Resor Quarry this problem was solved by the use of a 35 foot lattice frame conveyor and a 13 foot channel iron conveyor. The Allis Chalmers Cone Crusher experiences severe wear in the screen and hoppers, caused by the blue granite that is crushed at Resor Quarry. The machine would have lasted less than two weeks if additional steel wear plates were not used to line the hoppers and the screen in the shaker box were not reinforced.

(c) Recommendation: That when an Allis Chalmers Cone Crusher is bought by the army, it include wear plates in all hoppers and a heavier strength screen for the shaker box. Also, an additional conveyor is needed and should be included with the cone crusher.

D. Organization: None

E. Training: None

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Period Ending 31 October 1969, RCS CSFOR-65 (R2)

F. Logistics: None

G. Communications: None

H. Material: None

I. Other: None

1 Incl
Organizational Structure



M F MEADOR
LTC, CE
Commanding

DISTRIBUTION:

2-CINCUSAPAC, ATTN: GPOP-DT (AIR MAIL)
2-CG, USARV, ATTN: AUHGC-DST (COURIER)
15-CO, 159th Engr Gp
1-File

EGB-OP (15 Nov 69) 1st Ind

SUBJECT: Operational Report Lessons Learned, 46th Engineer Battalion
(Construction), Period Ending 31 October 1969, RCS CSFOR-65 (R2)

DA, HQ, 159th Engineer Group, APO 96491 23 November 1969

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

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1969.
2. Comments are made on the following paragraphs:

a. Section 1, paragraph 7c: The Commander's Critical Items List has been used to report listed shortages to higher headquarters. The report has aided in verification of validity of requisitions but has not directly assisted in procuring equipment more rapidly.

b. Section 1, paragraph 7d: Drill steel and accessories are still in extremely short supply. The switchboard of the Army Supply System from the "reverse buttress" to the "rope thread" components has caused problems due to the nonavailability of the adapter coupling (FSN 3620-129-2571) in Vietnam. Certain components of the older system are on hand but are useless unless all four components are available (i.e., striker bar, coupling, drill steel, and rock bits.) Information received by the USARV Engineer Section indicates that procurement of reverse buttress components has ceased. Some components of the new system are on hand, however, as with the old system, key components are missing (e.g., a durable drill bit). The rope thread system components are not available in quantity. On 15 October 1969 Brigade was instructed by USARV S&M to do no ordering of drilling supplies, as USARV would execute and monitor procurement on a large quantity basis (to be shipped in specific scheduled increments). The first shipment was to be for immediate delivery (ED: 25 Oct 69), the items scheduled to arrive on 25 Oct 69 have still not arrived in country. The USARV Engineer S&M Division informed this headquarters on 8 November that no firm release or shipping information is available.

c. Section 1, paragraph 9c: Group resources are currently being reallocated to preclude work stoppage.

d. Section 2, paragraph A: The recommendation would enhance the proficiency of men assigned to this command. The effect of additional assignment turbulence within CONUS was not considered.

e. Section 2, paragraphs C (3) and (4): Concur with the recommendation. MTOE requests were not submitted; USARV letter dated 12 October 1969 declared a moratorium on all but critical MTOE, TDA requests.

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(Construction), Period Ending 31 October 1969, RCS CSFOR-65(R2)

f. Section 2, paragraph C(5): Controlled substitution of parts for low density engineer items would improve the maintenance posture of the equipment within the 159th Engineer Group. Uncontrolled substitution is not acceptable.



J. K. BRATTON
COL, CE
Commanding

CF:
CO, 46th Engr Bn

AVBI-OS (15 Nov 69) 2nd Ind
SUBJECT: Operational Report Lessons Learned, 46th Engineer
Battalion (Construction), Period Ending 31 October 1969,
RCS CSFOR-65 (R2)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491 07 FEB 1969

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

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.
2. Subject report has been reviewed by this headquarters and is considered adequate.

FOR THE COMMANDER:


S. B. KENNEDY
MAJ, AGC
Adjutant

CF:
CO, 159th Engr Gp
CO, 46th Engr Bn

AVHCC-JST (15 Nov 69) 3d ind

SUBJECT: Operational Report-Lessons Learned, 46th Engineer Battalion,
Period Ending 31 October 1969, AFS CSFOR-65 (R2)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 2 5

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

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1969 from Headquarters, 46th Engineer Battalion and comments of indorsing headquarters.

2. Comments follow:

a. Reference item concerning "MCA-LOC Equipment Program", section 1, page 15, paragraph 7d; 1st Indorsement, paragraph 2b; concur with requirement for drill steel and accessories. Actions to procure the material have been completed. All items except drill bits are now on hand in 6 to 9 month supply levels. Availability data indicates that the drill bits will be on hand by 31 January 1970.

b. Reference item concerning "Personnel", section 2, page 20, paragraph A and 1st Indorsement, paragraph 2d; concur. However, Department of the Army and CG, USCONARC, are aware of the lack of skill possessed by the AIT graduate and the need for practical experience. In some of the highly technical MOS, the AIT graduate is given OJT prior to assignment to USARV. During the buildup of forces in Vietnam, 1965 through 1968, rapid increases in USARV authorizations and necessarily long training lead times for certain MOS precluded any additional lead time being added to AIT for the OJT suggested. While it would seem, now that authorizations are more stable, OJT for the AIT graduate could be adopted, it must be remembered that the draft call figures are being reduced commensurate with the phased reduction in forces thereby nullifying the practicality of increasing training lead times for the purpose of OJT prior to assignment overseas. Another factor to be considered is availability and/or lack of equipment at CONUS installations.

c. Reference items concerning "Grader" and "Hand Tamper", section II, page 22, paragraph C(3) and C(4), and 1st Indorsement, paragraph 2e; concur. The recommendations that a heavy grader be authorized because many mission requirements cannot be effectively accomplished with the present light-weight grader and that one gasoline tamper be authorized for each construction platoon in the battalion appears to have merit. However, Headquarters, 159th Engineer Group has indicated in their 1st Indorsement that the requirement is not of a critical nature, and therefore a MTOE should not be submitted in view of the USARV moratorium on submission of MTOE. When the moratorium on MTOE submissions is lifted, a proposed MTOE change should be submitted. Upon receipt of the proposed MTOE, this headquarters will further evaluate and process the documentation in accordance with established procedures. If the recommendations are considered to have

AVHGC-05T (15 Nov 69) 3d ind
SUBJECT: Operational Report-Lessons Learned, 46th Engineer Battalion,
Period ending 31 October 1969, RCS USFOR-65 (R2)

Army wide application, a proposed base TOE, change should be prepared by the unit and submitted through command channels to the US Army Combat Developments Command IAW AR 310-31 and AR 310-44.

d. Reference item concerning "Cannibalization", section II, page 22, paragraph C(5) and 1st Indorsement, paragraph 2f; concur. The need to augment supply support operations through controlled expansion and liberalization of cannibalization operations has been recognized. USARV Supplement 1 (Titled: Use of Controlled Cannibalization as a Source of Repair Parts for Supply Augmentation) to AR 750-50 has been staffed and approved, and is presently pending publication and distribution. The implementation of this Supplement should resolve existing problems.

e. Reference item concerning "Installation of the Allis Chalmers Cone Crusher-45 inch", section II, page 23, paragraph C(7); concur. The deficiencies in the Allis Chalmers Cone Crusher should be submitted in the form of an Equipment Improvement Recommendation (DA Form 2407-EIR) for evaluation by USAMECOM. If additional conveyors are required they should be obtained through normal supply action. The unit will be so advised by this headquarters.

FOR THE COMMANDER:


C. E. MICHELE
MAJ. AGC
Assistant Adjutant General

Cy furn:
46th ENGR BN
20th ENGR BDE

GPOP-DT (15 Nov 69) 4th Ind
SUBJECT: Operational Report of HQ, 46th Engineer Battalion for Period
Ending 31 October 1969, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 9 FEB 70

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

This headquarters concurs in subject report as indorsed.

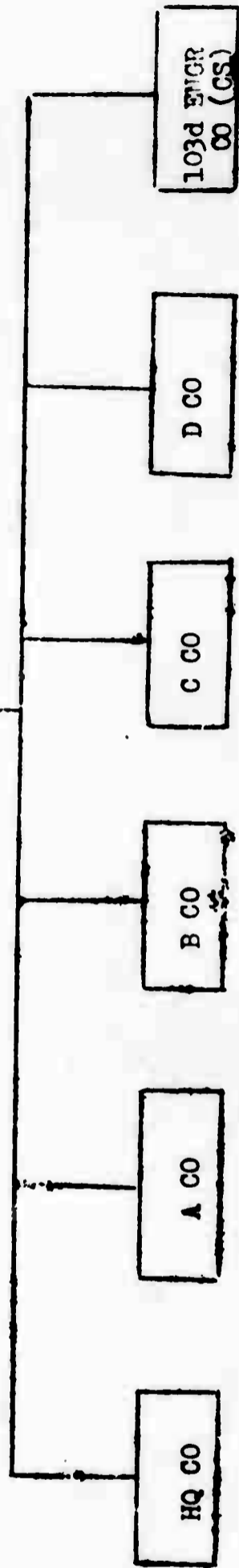
FOR THE COMMANDER IN CHIEF:



D. A. TUCKER
CPT. AGC
ASST AG

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HEADQUARTERS, 46TH ENGINEER BATTALION



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Incl 1

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HQ, OACSFOR, DA, Washington, D.C. 20310	FOR OFFICIAL USE ONLY	
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