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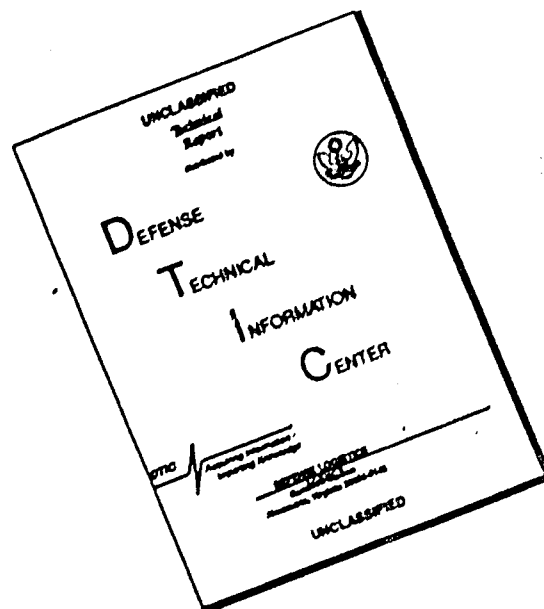
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DEPARTMENT OF THE ARMY
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WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (3 Apr 70)

FOR OT UT 701113

22 April 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 35th Engineer Battalion, Period Ending 31 January 1970

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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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as

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 35TH ENGINEER BATTALION (COMBAT)
APO San Francisco 96320

EGFF-OP

10 February 1970

SUBJECT: Operational Report - Lessons Learned 35th Engineer Battalion
(Combat) for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

THRU: Commanding Officer
34th Engineer Group (Const)
APO SF 96320

Commanding Officer
20th Engineer Brigade
APO SF 96491

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

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

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

1. Section 1. Operations: Significant Activities

During the period 1 November 1969 to 31 January 1970, the 35th Engineer Battalion (Combat) was assigned the mission of widening national highway QL-4 to class "F" road standards from Thanh Hoa to Soc Trang, which was initiated on 1 December 1969.

The project directive CD 410-0303-0-01 required the road to be widened to a CENCOM class "F" standard. The construction method is to prepare an 8.0 meter wide road utilizing two 5-inch lifts of compacted 3" (-) rock, then apply a 7.0 meter wide, 2" layer of asphaltic concrete. Upon completion of this reporting period the following work had been completed:

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1. 13.0 kilometers had been cleared of debris.
2. 12.9 kilometers of subgrade have been prepared utilizing 5600 cubic yards of rock.
3. 12.7 kilometers of subbase have been prepared using 5406.8 cubic yards of rock.
4. 12.6 kilometers of base course have been prepared utilizing 5060 cubic yards of rock.
5. The 517th Engineer Company (LE) attached to our unit has paved 2.6 kilometers using 3120 tons of asphaltic concrete.

The project is programmed to be completed on 31 July 1970, presently our battalion is on schedule with 17.2% complete. In addition to widening the road from Thanh Hoa to Soc Trang our unit has the mission of paving the road from Cai Rang to Thanh Hoa due to be completed by 31 August 1970.

In conjunction with the widening project, the battalion has been assigned the mission of constructing four-two lane, steel stringer, concrete abutment bridges, and two multitube corrugated metal pipe culverts with headwalls. The following work has been completed:

<u>Location</u>	<u>SD</u>	<u>EDC</u>	<u>Work Accomplished</u>	<u>% Complete</u>
Bridge 14 (WR805987)	16 Sep 69	15 Feb 70	3662 cu m sand, 126 cu meters 3"(-) rock, installed deck slabs.	86.5%
Bridge 8 (WR941791)	17 Dec 69	27 Mar 70	1831 cu m sand, 706 cu meters 3"(-) rock, Driving sheet pile	29.0%
Bridge 12 (WR830950)	26 Jan 70	26 Apr 70	Preparing approaches, 1417 cu meters sand	3.0%
Culvert 10A (WR864886)	21 Nov 69	26 Dec 69	Placed two 36" corrugated metal culverts with concrete headwalls	100.0%
Culvert 11A (WR893924)	11 Sep 69	24 Dec 69	Placed two 36" corrugated metal culverts with concrete head- walls.	100.0%

During the quarter the battalion completed the following secondary missions:

1. Soc Trang Detention Center, (CD 510-9314-1-21), 28 August 1969 to 21 December 1969, A Company, 2nd and 3rd Platoons. The scope of work included four 50 man prison barracks, three 30 foot guard towers, one kitchen and food storage building and five support buildings. The project was completed 10 days ahead of schedule.

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2. Binh Thuy Army Post Fence (CD 210-5714-1-21), 8 October 1969 to 13 December 1969, B Company, 3d Platoon. This mission utilized 302 rolls of concertina, 37 rolls of barb wire, and 302 pickets. This project also included a fence around the new 34th Engineer Group PX area.

3. Ha Tien Airfield Upgrade (OS 291-5903-0-20), 15 October 1969 to 30 November 1969, B Company, 1st Platoon. This project consisted of repairing the soft spots on the runway and stabilizing the airstrip. The platoon, equipment, and all supplies were airlifted to the site.

4. Thuong Thoi Bunker (OS 290-5978-0-20), 7 November 1969 to 26 December 1969, C Company, 1st Platoon. This mission entailed construction of a covered bunker 30' x 42'. All the lumber and materials for the project were flown to the isolated job site. Also a generator and wooden bridge were incorporated into the scope of work.

5. Vung Tau Haul Road, (CD 491-5302-1-21), 7 November 1969 to 31 December 1969, C Company 3d Platoon. C Company was given the mission of upgrading 5 miles of haul road, stabilize the area for the new crusher site and install new culverts and headwalls. A DBST platoon from the 517th (LE) Company applied the surface treatment.

6. 34th Engineer Group Flag Pole (CD 210-5714-1-21), 16 November 1969 to 13 December 1969, C Company, 2d Platoon. Work for this project included construction of forms, placing rebar and pouring cement for two flagpole stands, the poles were then erected and caps poured. A total of 93 bags of cement were used.

7. Thuong Thoi Dike Repair (CD 210-6043-0-20), 22 December 1969 to 8 January 1970, C Company, 1st Platoon. A dike failure occurred while constructing the Thuong Thoi Bunker. C Company initiated a temporary repair utilizing 10,000 sandbags. The 523d Port Construction Company will construct a permanent dike at a later date.

8. Sa Dec K-wall Repair (CD 210-5343-0-20), 6 January to 14 January 1970, D Company, 1st Platoon. A Communications revetment at Sa Dec utilizing K-wall started to buckle at the joints, using 3" x 6" lumber with 6-foot bolts, D Company, 1st Platoon constructed whalers to support the K-wall.

At the close of the quarter several important missions were still in progress:

1. Cao Lanh Detention Facility, (CD 510-0314-2-21), 29 December 1969 to 18 March 1970, C Company, 3d Platoon. This mission consists of two guard towers, two prison barracks, sewage system, a kitchen, electrical lighting and security fence. At the close of this reporting period the project is 24.16% complete.

2. Prefabrication Shop (CD 98-233-LC-034), 11 January 1970 to 21 June 1970, Battalion Maintenance Personnel. This mission was assigned to aid in the construction of the LOC Bridge Program. The stringers are prefabricated and then transported to the bridge site.

3. Nui Hon Soc (CD 290-6084-0-20), 13 January 1970 to 15 February 1970, D Company, 1st Platoon. This project involves construction of a communications revetment and a living/fighting bunker. All supplies are being transported by air. The project is 25% complete.

4. Ba Xoai Camp Repair (CD 210-6095-0-20), 16 January 1970 to 15 February 1970, C Company, 3d Platoon. After a severe mortar attack, C Company, 3d Platoon, was assigned the mission of repairing the fighting bunkers and perimeter wall at Ba Xoai Special Forces Camp. The project is 55% complete.

5. Mine Sweep Detail (CD 287-6038-0-20), 6 December 1969 to 15 February 1970 D Company, 8-man detail. Our battalion has been assigned the mission of supporting the Navy road building project in Can Gio by sweeping the road for mines.

The battalion continued offloading operations at Soc Trang and Phung Hiep Barge Sites. During the reporting period 22,573 tons of rock were unloaded at Phung Hiep and 27,115 tons of rock unloaded at Soc Trang.

During the reporting period, the battalion suffered 13 incidents involving enemy action with 1 WIA at Nui Hon Soc Bunker Facility. He was treated and released, injury was due to mortar round.

Three days were lost due to rain the first week in November. The projects effected were 2 days at Ha Tien project and 1 day at Soc Trang POW project.

The battalion strength decreased from the preceding quarter to 91% in January. The 517th Engineer Company (LE) increased in strength from the preceding quarter to 93% of authorized personnel.

Critical MOS shortages in the battalion included:

- 51N40 - short 4
- 62F30 - short 6
- 62N40 - short 4
- 63A10 - short 11

The battalion had 79 extensions during the quarter and 253 decorations were awarded to personnel of battalion including 72 Bronze Stars.

During the reporting period the battalion spent 78 days on projects and 14 days in training.

2. Section 2, Lessons Learned: Commanders Observations: Evaluations and Recommendations.

- a. Personnel: None
- b. Intelligence: None
- c. Operations:

(1) Prevention of Swing Clutch Wear

(a) OBSERVATION: When a crane operates on a surface which is not level the swing clutches will begin to wear.

(b) EVALUATION: This wear on the swing clutches causes the crane to be deadlined for extended periods of time.

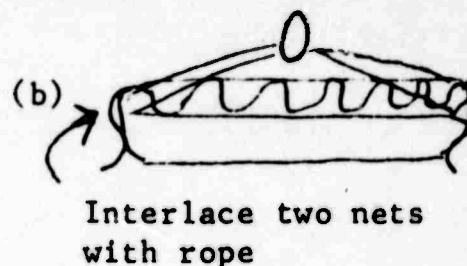
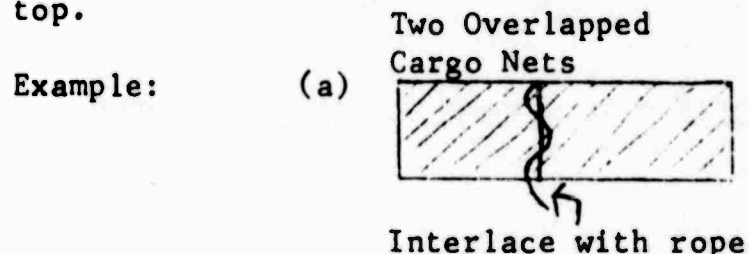
(c) RECOMMENDATION: Use a small line level placed in the cab to measure significant deviations of 4 degrees or more.

(2) Air Transport of Large Dimensional Lumber

(a) OBSERVATION: Loading long, bulky lumber in a CH-47 helicopter.

(b) EVALUATION: Time required to load and offload the helicopter critically delays operations and flying time for the CH-47 helicopter.

(c) RECOMMENDATION: Take two standard size cargo nets and interlace them with rope or excess cargo straps. Hook the slings to a releasing ring and take more rope or excess straps and interlace the two nets across the top.



(3) Sandbagging Bunkers

(a) OBSERVATION: Building fighting bunkers takes considerable time to sandbag the roof.

(b) EVALUATION: Under combat conditions the time involved to construct fighting bunkers becomes increasingly critical.

(c) RECOMMENDATION: Extend the sides of the bunker 2 feet above the decking of the roof. Fill the 2-feet in depth space with sand then add a layer of sandbags. This method will save time and cost of sandbags.

(4) Protecting Bunkers from Burning

(a) OBSERVATION: During a mortar attack a sandbagged bunker may catch on fire.

(b) EVALUATION: A method is needed to decrease exposure of flammable material.

(c) RECOMMENDATION: Place wire mesh over sandbags and apply cement mortar providing a protective covering.

d. Organization: None

e. Training: None

f. Logistics: None

g. Communications:

(1) Malfunctioning H-189 Hand Set

(a) OBSERVATION: Heavy dew accumulating on the hand set will cause it to malfunction.

(b) EVALUATION: Due to heavy moisture content and rainy season proper maintenance of equipment is needed.

(c) RECOMMENDATIONS: Place a plastic bag over the hand set and secure with a rubber band.

h. Materiel: None

i. Other: None

3. Section 3. Headquarters Department of the Army Survey Information: None

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J. W. RAY
LTC, CE
Commanding

EGF-OP (10 Feb 70) 1st Ind

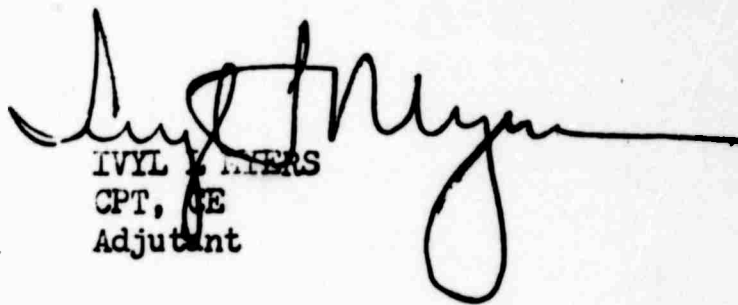
SUBJECT: Operational Report of 35th Engineer Battalion for Period Ending
31 January 1970, RCS CSFOR-65 (R2)

DA, HEADQUARTERS 34TH ENGINEER GROUP (CONST), APO 96320 20 February 1970

TO: Assistant Chief of Staff for Force Development, Department of the Army,
Washington, D.C. 20310
Commanding Officer, 20th Engineer Brigade, ATTN: AVBI-OS, APO 96491

The ORLL submitted by the 35th Engineer Battalion has been reviewed by this
Headquarters and is considered comprehensive and of value for documentation
and review of the reporting units activities and experiences.

FOR THE COMMANDER:


CIVIL ENGINEERS
CPT, CE
Adjutant

CF:
CO, 35th Engr Bn

AVBI-OS (10 Feb 70) 2nd Ind

SUBJECT: Operational Report for 35th Engineer Battalion (Combat) for
the Period Ending 31 January 1970, RCS CSFOR-65 (R2)

DA, Headquarters, 20th Engineer Brigade, APO 96491

10 MAR 1970

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. This headquarters concurs with the submitted report with the following comments:

a. Section II, paragraph 2c, (2), page 5: The lumber must be securely bundled and the cargo net must be of adequate tensile strength. A cargo loop is required between the net and hook to allow for free rotation of the load. It is suggested that a drag chute be attached to one end of the bundle for streamlining and stability. Flare chutes are acceptable.

b. Section II, paragraph 2g, page 6: This recommendation has merit, however, other units doing the same thing have had to be very conscientious about performing preventive maintenance. Leaving the plastic cover on the H-139 handset for extended periods of time allows mildew to accumulate resulting in internal wiring corroding or shorting. As a matter of interest, USARV Message 200421Z Dec 69, Subject: Repair and Return (R&R) for SEA (NOTAL), deletes these handsets from the R&R program. Peculiar piece parts assets are either in short supply or completely exhausted (earphone elements). The microphone elements will be issued until exhausted, at which time all H-189 handsets will be maintained by cannibalization in accordance with the provisions of AR 750-50. They will gradually be phased out through attrition and replaced by another item.

FOR THE COMMANDER:

For Kenneth J. Koehler 14CE
H. V. COSMILER III
1LT, CE
Assistant Adjutant

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AVHGC-DST (10 Feb 70) 3d Ind
SUBJECT: Operational Report - Lessons Learned 35th Engineer Battalion
(Combat) for Period Ending 31 January 1970, RCS-65 (R2)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 23 MAR 1970

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 January 1970 from Headquarters, 35th Engineer Battalion (Combat) and concurs with the comments of indorsing headquarters.

2. Comments follow:

a. Reference item concerning "Air Transport of Large Dimensional Lumber", page 5, paragraph 2c(2) and second Indorsement, paragraph 2a; concur. Detailed instructions for the rigging of helicopter external loads are outlined in TM 55-450-11.

b. Reference item concerning "Protecting Bunkers from Burning", page 5, paragraph c(4); nonconcur. The strike of a projectile on the cemented surface will cause spalling which may create additional hazards for the bunker occupants. In addition, the surface will conceal any void caused by deterioration of the sandbags on water intrusion, thus preventing an accurate determination of the degree of protection provided by the bunker.

FOR THE COMMANDER:



C. E. MICHELS

MAJ, AGC

Assistant Adjutant General

Cy furn:
35th Engr Bn
20th Engr Bde

GPOP-DT (10 Feb 70) 4th Ind
SUBJECT: Operational Report of HQ, 35th Engineer Battalion (Combat)
for Period Ending 31 January 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558 27 MAR 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:



C. L. SHORTT
CPT, AGC
Asst AG

Organization of 35th Engineer Battalion (Combat)

1. Assigned:
 - a. Headquarters and Headquarters Company (Minus Land Clearing Platoon)
 - b. Four Engineer Companies (A, B, C, D)
2. Attached: 517th Engineer Company (Light Equipment)

Inclosure 1

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CO, 35th Engineer Battalion		
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35th Engineer Battalion

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