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AGO ltr 29 Apr 1980

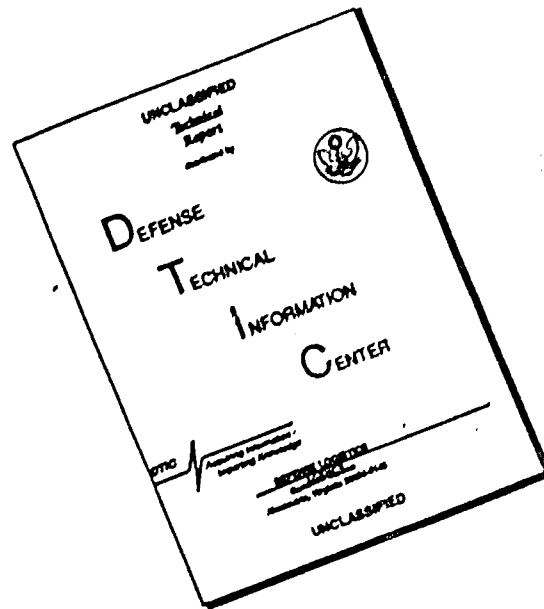
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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

IN REPLY REFER TO

AGDA (M) (30 Jan 70) FOR OT UT 594288

2 February 1970

SUBJECT: Operational Report - Lessons Learned, Headquarters, 93d Engineer
Battalion, Period Ending 31 October 1969

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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
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 93D ENGINEER BATTALION (CONST)
APO San Francisco 96371

EGFB-OP

12 November 1969

**SUBJECT: Operational Report of 93d Engineer Battalion (Const) for Period
Ending 31 October 1969, RCS CS FOR - 65 (RI)**

CINCUSAPAC, ATTN: GPOF-DT, APO San Francisco 96558
Commanding General, USARV, ATTN: AVHGC-BST, APO San Francisco 96375
Commanding Officer, 20th Engr Bde, ATTN: AVEL-OS, APO San Francisco 96491
Commanding Officer, 34th Engr Gp, ATTN: EGF-OP, APO San Francisco 96320

1. Section I: Operations - Significant Activities:

The Battalion remained assigned to the 34th Engineer Group, 20th Engineer Brigade throughout the report period. The Battalion Headquarters remained at Dong Tam Base, RVN, (XS 4744) throughout the report period. The Battalion was relieved of its responsibility of its sector of the berm of 7 Sep 1969, by the 7th ARVN Division which assumed command of Dong Tam Base on 30 Aug 1969. The major personnel changes were as follows: Opt. Lawrence J. Press to Bn EEMO, vice CW2 Benjamin F. Juster, CE; Opt. Richard D. Fowers, CE, to CO, Hq Co, vice 1LT. Darrel J Dwyer; 1LT David B. Williams to Bn S-4, vice 1LT. Russel F Bone; Opt James F. Fisher, CE, to CO, C Company, vice Opt Peter D. Schofield, CE; 1LT William W. Colson, SC, to Signal Officer; Opt Charles W. Streit, CE, to CO, D Company, vice Opt Lawrence J. Press, CE.

B Company relocated from Dong Tam and Moc Hoa to Camp Viking, RVN, on 1 Aug 1969, 2nd Platoon, B Company, nearing completion of (CD 93-69-BB) MACV Upgrade, Moc Hoa, RVN, turned the remainder of the work over to the 36th Engineer Battalion (Const) and relocated to Camp Viking to continue its mission there. Maintenance and security of Camp Viking has been a responsibility of B Company this entire reporting period.

Two Mark VIII LCM Boats were modified by B Company to enable the boats to carry rock in bulk quantities and be loaded and off-loaded by a front end loader.

Route 225 (OSD 225-5942-20-65D) was upgraded from XS 557675 to XS 606667. Much of the road was under water initially due to the heavy rains of the monsoon season. The entire road was raised from the rice paddy level by hauling in rock where needed. The route was then graded and re-shaped to insure proper drainage to prevent surface failure in the near future.

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9 August 1972

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SUBJECT: Operational Report for 93rd Engineer Battalion (Const) for Period Ending 31 October 1969, RCS CS FOR - 65 (RI)

B Company was also tasked with the construction of a sapper boom for the Ben Luc Bridge. The project (OSD 273-5547-0-20) calls for 1360 LF to be constructed. 12" x 12" timbers are being bolted together with cyclone fence hanging down in the water to make a solid floating boom to prevent floating charges moving down the water from destroying the bridge. Approximately 1/3 these boom sections have been constructed and placed in the water. Swift water currents during the incoming and outgoing tide conditions, as well as non-availability of a bridge construction boat has caused considerable delay in the project.

Construction of JP-4 storage and discharge system, at Dong Tam, RVN, is now in progress. Twenty Four foot tall revetments 500 feet in length have been constructed around the tank farm and they are now being filled with sand. Two of the existing 3000 barrel tanks are now being repaired and the pipeline from the tank to the barge off load site is being installed.

TL-18 East from XS 742717 to XS 825720 was filled, crowned, and the drainage improved, Route 231 from XS 722791 to XS 738781 and continuing on unnumbered route from XS 738781 to XS 742717 was also upgraded. The entire route was badly in need of repair because of deep pot holes where the subsurface had failed during the monsoon season. Rock was hauled to all the low areas and the road graded and crowned to insure proper drainage. TL-18 West is now being upgraded in the same manner.

C Company remained at Tan An, RVN (XS 5465). Their work on Tan An Cantonment Phase II continues. The 3d Platoon of C Company remained TDY at Phan Rang, RVN, attached to the 35th Engineer Group.

Tan An Airfield was turned over to the 3d Brigade, 9th Infantry Division on 24 August 1969. Phase I Tan An Cantonment was completed on 23 August 1969. Completed during this phase were all required latrines and showers, five 20x100' BEQ's; two 20x200' BEQ's; two 20x100' BOQ's; one 20x200' BOQ; one 40x96' Warehouse; two 20x100' Administration Building; and one 20x200' Administration Building. The horizontal construction sites and upgrading of existing roads continued during this period. The following procedures were to be used on existing portion of roads. Main roads were to be widened to 32'. One 6" lift of clay-lime stabilization was to be used on existing portion of roads. Two 6" lifts of clay-lime stabilization were to be put on the new portion of roads. This would be capped with a 6" layer of clay-lime stabilization and sealed with RC-800. Secondary roads were to be widened to 24'. One 6" lift of clay-lime was to be used on both old and new portions of road. This would be capped with a 6" lift of clay-lime stabilization and sealed with RC-800. Due to the onset of the rainy season we could not follow that plan. Heavy rain fell, and to keep the roads passable we utilized lime to stabilize the road, and 3" rock as a wearing surface for the road.

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SUBJECT: Operational Report of 93d Engineer Battalion (Const) for Period Ending 31 October 1969

This process worked out very well and we have continued to use it.

So far during Phase II Tan An Cantonment, 40% of the roads have been upgraded, 12 culverts with concrete headwalls have been placed, 2 Pascoe Warehouses have been erected, and one 20x100' BOQ has been built, and one 20x100' HQ is 35% completed. At this time, Phase II is approximately 4 weeks behind schedule due to the continuation of the rainy season.

Ben Tre Airfield developed several subbase failures that had to be corrected to use the runway. This repair was accomplished by taking up the damaged AM2 matting, rocking the base, and replacing the old matting. Since there weren't any construction joints in the runway, some difficulty was encountered replacing the last row of matting.

D Company has remained at Dong Tam Base, RVN, the entire reporting period.

One span of a three span 200 foot Bittel Bridge was raised by D Company in Ben Luc, RVN. The raising operation required the pier extensions to be prefabricated and installed at the project site in small enough sections to allow work under the bridge.

Eight generators were removed from the Dong Tam Power Plant and shipped to Vinnel Company, Cam Ranh Bay, RVN.

A 29'x40' Commo Bunker was constructed at Ben Tre by D Company, at the MACV Compound. Water Storage, water distribution, and sewage treatment facilities were begun at Ben Luc, Thu Thua, Ben Phuoc, and Can Duoc MACV Installations.

TL-21 Upgrade to a 16 foot wide road continued during this period from IS 663557 to IS 723515.

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

a. Personnel: None

b. Operations:

(1) Standard Stairway Modification

a. Observation: Constructing stairways required many hours.

b. Evaluation: To meet the deadline for construction at Tan An Airfield we had to find ways to shorten the time required for our vertical construction. The plans for a standard 100' 2-story building called for four stairways with two landings.

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SUBJECT: Operational Report of 93d Engineer Battalion (Const) for Period
Ending 31 October 1969

(c) Recommendation: Instead of building the upper landings and erecting it we extended 3 joists out from the building at the required points for the second story doors to form the landings. This saved us many hours on vertical construction effort.

(2) Method for Preparing Culvert Subbase:

(a) Observations: In the Delta there is a high percentage of culvert failure. This occurs during the rainy season when very heavy rains and high water table causes erosion and weakening of the subsurface. Culverts fail if the culvert sinks to a level where it will silt up and no longer drain or if the cover is reduced to such an extent that traffic crushes it.

(b) Evaluation: A method of preparing an adequate base for these special conditions was needed.

(c) Recommendation: To overcome these problems, a sand cement mixture was used. The first step after digging the ditch is to keep all water out of the ditch to prevent a weakening of the subbase. The next step is to place a four inch layer of concrete or sand cement. If concrete is used, the culvert should be placed and the concrete allowed to set up. With sand cement, just place the culvert and continue to backfill. In both cases, the concrete or sand cement should come one third of the way up the culvert. This forms a solid cradle bearing surface for the culvert. The third step is to backfill the culvert using 1½" (-) rock. Fill is placed in 6" to 8" lifts mixing in cement and tamping each lift. Bring this up 8" to 12" over the culvert. Then bring in your fill for the designed cover for the culvert. This method has been successful using the procedures described.

(3) LCM Boats for Transporting Rock

(a) Observation: In the Mekong Delta transportation of rock to outlying provinces is almost impossible due to the low classification of bridges and the non-availability of adequate roads.

(b) Evaluation: An efficient means of transporting rock to hard access sites had to be devised.

(c) Mark VIII LCM Boats can be used if a modification is built to fit in the boats and act as a material bearing surface. A three sided removable container built with 3"x12" decking and 3/8" steel plate walls secured to the hand rails makes an efficient rock container since it facilitates the use of a front loader to load and off-load the material.

EGFB-OP

SUBJECT: Operational Report for 93rd Engineer Battalion (Const) for Period Ending 31 October 1969

(3) An Expedient Method for Connecting AM2 Matting

(a) Observation: After removing rows of AM2 Matting from a runway, the interlocking clips of the matting prevent the reunion of the two resulting sections of runway.

(b) Evaluation: A method had to be devised to allow the mating of the pieces of interlocking matting in the middle of the runway, without disassembling the matting all the way to the end of the pad.

(c) Recommendation: By using a jack hammer equipped with a sharp rock chisel, remove the interlocking male lip. The removal of this lip will permit the two sections of matting to be joined. The only loss of strength is in tension in a horizontal direction perpendicular to the joint. This is compensated for by using 12"x4"x1/8" steel plates placed two feet on center along the weakened joint and held in place with six 5/8" bolt head metal screws.

(4) An Expedient Method of Cleaning Pipe

(a) Observation: When constructing a POL pipeline it is necessary to clean the inside of the pipe before installing the system in order to prevent the fuel from being contaminated by rust and dirt.

(b) Evaluation: A method to clean 4" POL Pipe had to be found.

(c) Recommendation: If an Artillery Unit is in the area and they have a 105 Howitzer brush that can be used, this makes an ideal cleaning mechanism when dipped in solvent, or diesel fuel.

(5) An Expedient Towing Pin

(a) Many times when towed equipment is taken to the field (rollers, harrows, etc.) the towing pins become lost or broken.

(b) Evaluation: An expedient replacement for the towing pins had to be found.

(c) Recommendation: Bailey Bridge pins make excellent pins if a pair of small handles are welded to the top of the pin to keep it from falling through the hole.

(6) Expedient Method to Charge LOC Ready Mix Trucks

(a) Observation: The time required to charge Ready Mix Trucks was excessive.

(b) Evaluation: A method to charge Ready Mix Trucks to expedite operations had to be found.

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SUBJECT: Operational Report of 93d Engineer Battalion (Const) for Period
Ending 31 October 1969

(c) To charge the trucks we used a hopper off a regular batch plant. The hopper was placed on the ground and a 50 foot conveyor belt was placed under the hopper. Two front loaders were used to fill the hopper. One was used for aggregate and the other was used for the cement. Using this operation it took an average of ten minutes to charge a truck. This method has worked out extremely well and saved us countless man hours.

c. Other: None.

8 Incl's
as
Incls 1, 2 and 3 wd HQ, DA


JOHN J. PLUNKETT
LTC, CE
Commanding

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EGF-OP (31 Oct 69) 1st Ind

SUBJECT: Operational Report of 93rd Engineer Battalion (Const) for Period
Ending 31 October 1969, RCS CSFOR-65(R2)

DA, HEADQUARTERS 34TH ENGINEER GROUP (CONST), APO 96320 19 NOV 1969

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

The subject report submitted by the 93rd Engineer Battalion (Const) has been reviewed by this headquarters and is considered comprehensive and of value for documentation and review of the reporting unit's activities and experiences.

FOR THE COMMANDER:


IVY L. MYERS
CPT, CE
Adjutant

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CO, 93rd Engr Bn (Const)

AVBI-OS (12 Nov 69) 2nd Ind

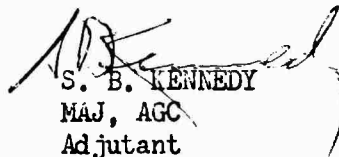
SUBJECT: Operational Report of 93rd Engineer Battalion (Const) for Period
Ending 31 October 1969, RCS CSFOR-65(R2)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491 07 DEC 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, 34th Engr Gp
CO, 93rd Engr Bn


AVHGC-DST (12 Nov 69) 3d Ind
SUBJECT: Operational Report of 93d Engineer Battalion (Const) for Period
Ending 31 October 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 27 DEC 1969

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, 93d Engineer Battalion (Const).
2. Reference item concerning "An Expedient Method for Connecting AM2 Matting", page 5, paragraph 2b(3); nonconcur. Proper replacement of interlocking sections of AM2 Matting should be accomplished by use of "key rows" as described in DA Pamphlet 525-3-1, Military Operations, Lessons Learned, Military Engineering, dated December 1968.

FOR THE COMMANDER:


B. A. GOODWIN
MAJ, AGC
Assistant Adjutant General

Cy furn:
93d Engr Bn
20th Engr Bde

GPOP-DT (12 Nov 69) 4th Ind

SUBJECT: Operational Report of HQ, 93d Engineer Battalion (Const) for
Period Ending 31 October 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 8 JAN 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

ADMINISTRATIVE DATA

1. Personnel Strength: At the end of the reporting period, the Battalion personnel strength including attachments was as follows:

	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
Authorized	32	7	708	748
Assigned	33	7	657	697

2. Turn-over: The following personnel turn-over occurred during this period:

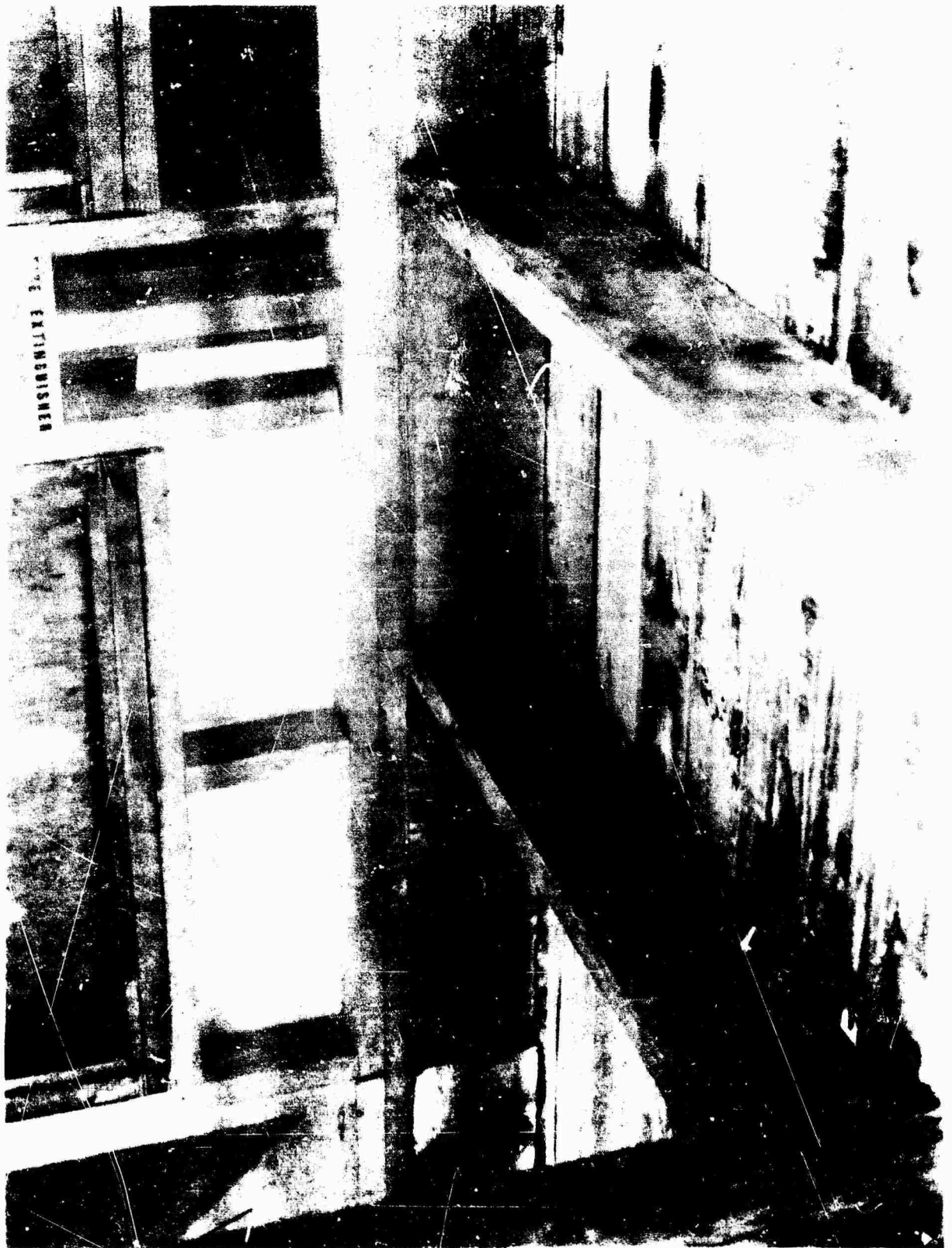
	<u>OFF</u>	<u>WO</u>	<u>EM</u>	<u>TOTAL</u>
Transferred Out	7	1	198	206
Transferred In	11	0	153	164
Gained by Attachments	0	0	0	0

3. Procurement of Local Nationals: The Battalion employed 194 permanent and 25 daily hire nationals at the end of the period. Additional personnel transferred from the 86th Engr Bn to include carpenters, Jr. Helpers, and Kitchen Police.

4. Discipline: Disciplinary actions taken during the reporting period were as follows:

	<u>ART 15</u>	<u>SUMMARY COURT</u>	<u>SPECIAL COURT</u>
August	8	0	0
September	20	1	0
October	28	0	3

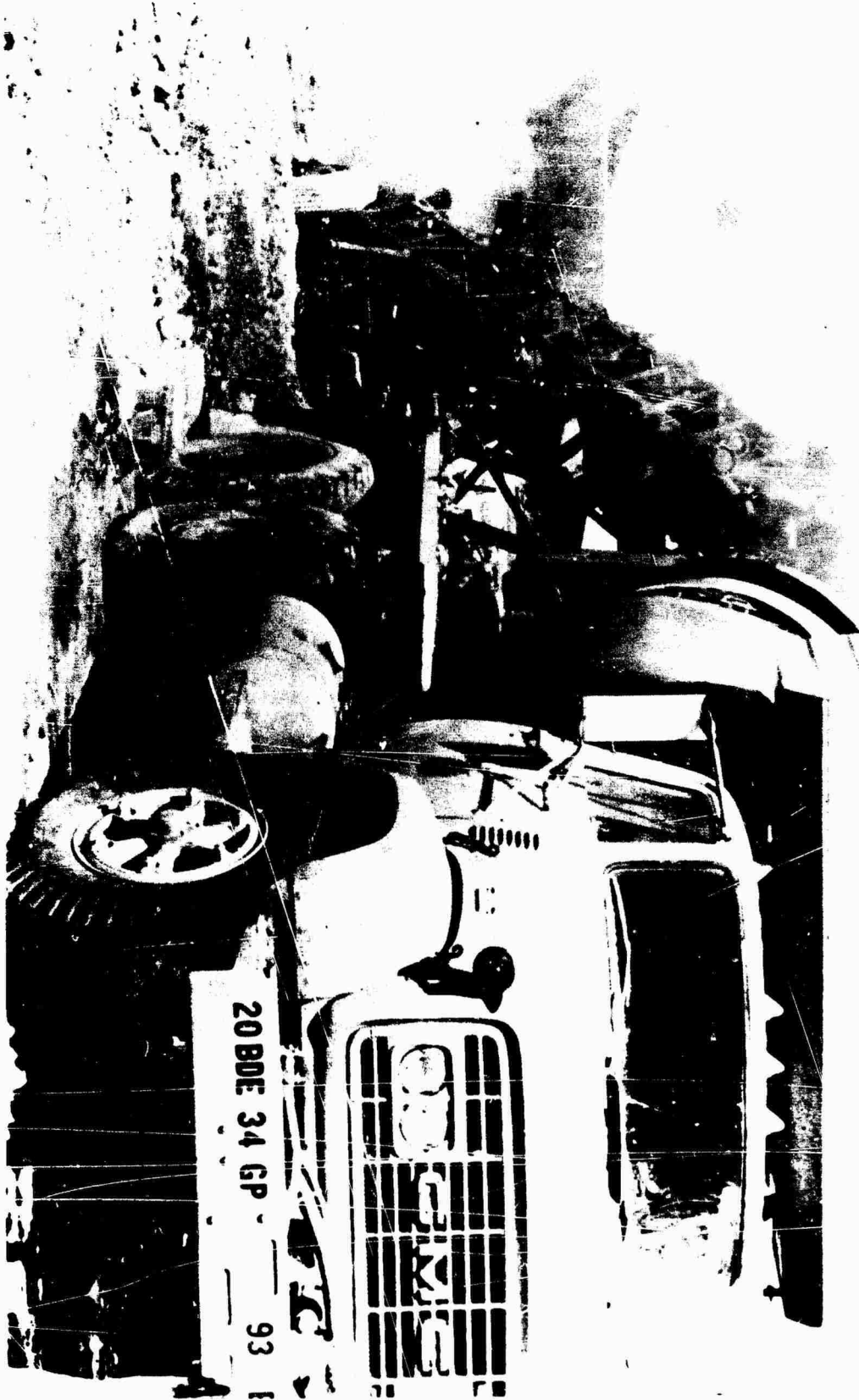
5. Chaplain Activities: During the quarter opportunities for Sunday worship for Protestants, and Roman Catholics were provided. Jewish and other denominational coverage was also made available. Services for Catholics and Protestants at Moc Hoa was provided at the MACV Facility there.



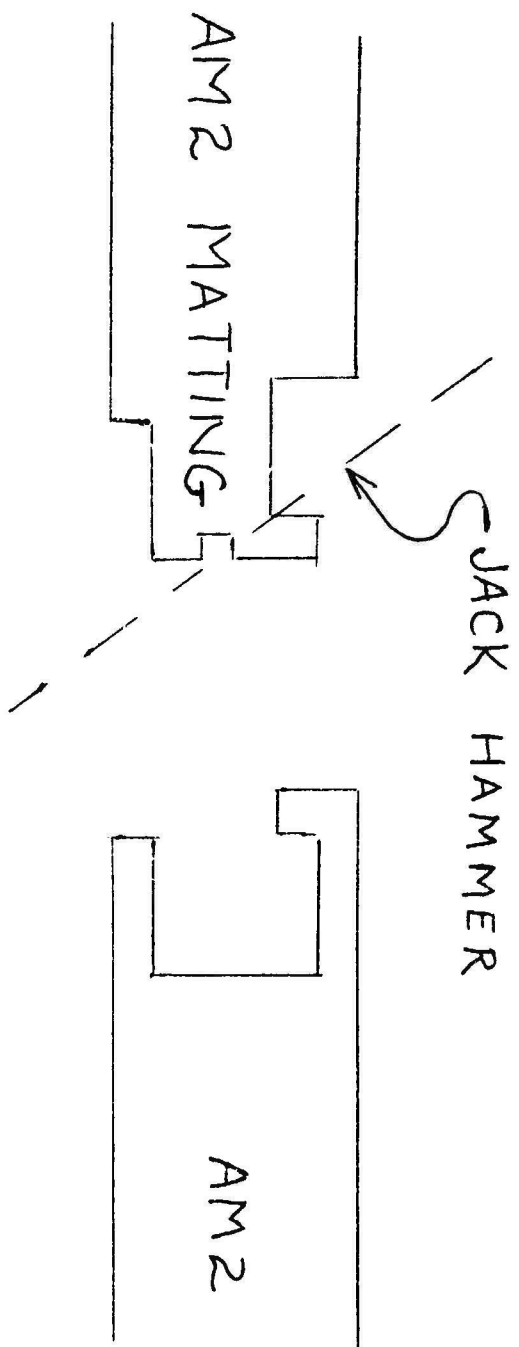
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DOCUMENT CONTROL DATA - R & D		
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1. ORIGINATING ACTIVITY (Corporate author)		2a. REPORT SECURITY CLASSIFICATION
HQ, OACSFOR, DA, Washington, D.C. 20310		FOR OFFICIAL USE ONLY
		2b. GROUP
		FOUO CANCELLED 9 AUGUST 1972
3. REPORT TITLE		
Operational Report - Lessons Learned, HQ, 93d Engineer Battalion		
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)		
Experiences of unit engaged in counterinsurgency operations, 1 Aug 69 to 31 Oct 69.		
5. AUTHOR(S) (First name, middle initial, last name)		
CO, 93d Engineer Battalion		
6. REPORT DATE	7a. TOTAL NO. OF PAGES	7b. NO. OF REFS
12 November 1969	18	
8a. CONTRACT OR GRANT NO.	8b. ORIGINATOR'S REPORT NUMBER(S)	
	694288	
b. PROJECT NO.	9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
N/A		
c.		
d.		
10. DISTRIBUTION STATEMENT		
11. SUPPLEMENTARY NOTES	12. SPONSORING MILITARY ACTIVITY	
N/A	OACSFOR, DA, Washington, D.C. 20310	
13. ABSTRACT		