

UNCLASSIFIED

AD NUMBER	
AD389790	
CLASSIFICATION CHANGES	
TO:	UNCLASSIFIED
FROM:	CONFIDENTIAL
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; 30 APR 1967. Other requests shall be referred to Assistant Chief of Staff Force Development, Army Department, Washington, DC 20310.	
AUTHORITY	
AGO D/A ltr 29 Apr 1980; 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.

SECURITY

MARKING

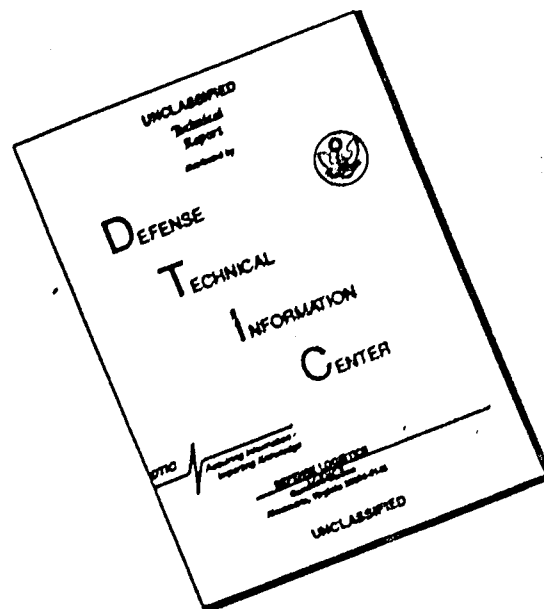
The classified or limited status of this report applies to each page, unless otherwise marked.

Separate page printouts MUST be marked accordingly.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE LAWS, TITLE 18, U.S.C., SECTIONS 793 AND 794. THE TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

DISCLAIMER NOTICE



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



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

IN REPLY REFER TO

AGAM-P (M) (12 Oct 67) FOR OT RD-670287

23 October 1967

AD389790

SUBJECT: Operational Report - Lessons Learned, Headquarters,
19th Engineer Battalion (Combat) (Army)

TO: SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation by USACDC in accordance with paragraph 6f, AR 1-19 and by USCONARC in accordance with paragraph 6c and d, AR 1-19. Evaluations and corrective actions should be reported to ACSFOR OT 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:

G. A. STANFIELD
Colonel, AGC
Acting The Adjutant General

1 Incl
as

DISTRIBUTION:

Commanding Generals

US Continental Army Command

US Army Combat Developments Command

Commandants

US Army Command and General Staff College

US Army War College

US Army Air Defense School

US Army Armor School

US Army Artillery and Missile School

US Army Aviation School

US Army Chemical School

US Army Civil Affairs School

US Army Engineer School

US Army Infantry School

US Army Intelligence School

This document contains information affecting the National Defense of the United States within the meaning of the Espionage Laws, Title 18, U. S. C., Section 793 and 794, the transmission or the revelation of its contents in any manner to an unauthorized person is prohibited by law.

REGRADED UNCLASSIFIED
WHEN SEPARATED FROM
CLASSIFIED INCLOSURES

670287

CONFIDENTIAL



CONFIDENTIAL

DISTRIBUTION (Cont'd)

US Army Medical Field Service School
US Army Military Police School
US Army Ordnance School
US Army Quartermaster School
US Army Security Agency School
US Army Signal School
US Army Special Warfare School
US Army Transportation School

Copies furnished:

Office, Chief of Staff, US Army
Deputy Chiefs of Staff
Chief of Research and Development
Assistant Chiefs of Staff
Chief of Engineers
The Surgeon General
The Provost Marshal General
Commanding Generals
101st Airborne Division (-)
1st Infantry Brigade (Sep)
Commanding Officers
198th Infantry Brigade
19th Engineer Battalion (Combat) (Army)
31st Engineer Battalion (Cbt)

CONFIDENTIAL

CONFIDENTIAL

DEPARTMENT OF THE ARMY
HEADQUARTERS 19TH ENGINEER BATTALION (COMBAT)(ARMY)
APO San Francisco 96238

EGD-EE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly
Period Ending 30 April 1967

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

Commanding General
18th Engineer Brigade
ATTN: AVBC-C
APO San Francisco 96377

Commanding General
U.S. Army Engineer Command, Vietnam
ATTN: AVCC-PO
APO San Francisco 96491

Commanding General
U.S. Army Vietnam
ATTN: AVCC-DH
APO San Francisco 96307

Commander -in- Chief
U.S. Army Pacific
ATTN: GPCP-OT
APO San Francisco 96558

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

FOR OT NO File
670287

CONFIDENTIAL

DOWNGRADED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

SECRET

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR), for Quarterly
Period Ending 30 April 1967

Section 1. Significant Organization or Unit Activities

1. Command

a. During the quarterly reporting period February through April 1967, the 19th Engineer Battalion continued its mission with its major effort being expended on complex construction projects. Additional effort was committed on operational support missions by assigned and attached units. With the end of the monsoon season in January and the arrival of the dry season, construction progress rapidly increased, reflecting the efficient utilization of the full potential of the battalion.

b. Horizontal construction was prevalent during the first half of the quarter. With the attachment of the 1st platoon of the 572nd Engineer Company (Light Equipment), to replace the detached 2nd platoon of the 630th Engineer Company (Light Equipment), necessary equipment support was made available to supplement the critical initial clearing and stripping phases of newly assigned projects.

c. During the second half of the reporting period, the attached 554th Engineer Company (Float Bridge)(-), with its platoon of the 509th Engineer Company (Panel Bridge) was committed to operational support missions. The battalion's construction capability was thus reduced in manpower and equipment support as this unit was relocated to the operational support areas. (See inclosure 1).

d. Significant accomplishments of the 19th Engineer Battalion during this quarter included the completion of two major construction projects, a permanent CH-47 Heliport and expedient renovation of a 3,600', T-17 membrane airstrip located at Van Canh. Two steel stringer, timber trestle bridges were also completed during the reporting period. Two newly assigned construction projects were initiated and are currently progressing on schedule together with the other assigned projects and missions of the battalion.

e. In addition to work accomplished on directed construction projects, the battalion was relocated from its original cantonment site in Valley "A" to a new area approximately 8 miles distant in Valley "F" (See inclosure 2). The move positioned the battalion in part of the proposed 2,000 Man Cantonment Area in the approximate center of two of the assigned project locations. As part of the proposed 2,000 Man Cantonment Site, the battalion constructed 2,200 meters of access roads, developed 4 miles of drainage ditches and erected a prefabrication yard to provide self help construction capabilities to all new units moving into the vicinity.

2. Personnel, Administration, Morale, Discipline.

With the completion of the self help construction program in the old

SECRET

CONFIDENTIAL

EGD-EE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RGS CSFOR-65), for Quarterly Period Ending 30 April 1967.

cantonment area, all personnel morale factors were highly favorable and problems were minimal prior to the battalion's relocation. The challenges presented by the new location are an aid to continued high morale.

a. The relocation of the battalion this quarter was accomplished smoothly, with all units remaining 100% operational at all times. Notification of the movement order was given on 25 March with the scheduled completion date of the move set for 20 April 1967. Site preparation began on 27 March and on 5 April, "B" Company closed in the new cantonment area. Each line company moved in turn as additional areas were completed. At the same time each company relocated, units of the 8th Transportation Group, Qui Nhon Support Command, moved in and occupied the vacated billets. "C" and "A" Company relocated after "B" Company on 8 and 12 April respectively. Headquarters Company and Battalion Headquarters commenced to relocate on 15 April. On 17 April the battalion closed in its new area and the existing compound was completely transferred to the 8th Transportation Group thus completing the move three days ahead of schedule.

b. At the new site, a 9 foot wall was excavated, 2 miles of security fencing emplaced, 3 guard towers were erected and a central shower was established. After arrival in the area a central power system, telephone communications and movie screen were set up. These facilities provided personnel with minimum security and personal comforts in the least possible time. In order to make available essential personal items, a small Post Exchange annex will be established with a \$3,000.00 ceiling imprest fund in the near future. Together with an EM Club and NCO Club, the PX, mess halls, maintenance building, and latrines will be the only wooden structures in the area. These facilities are planned and located so that they may be incorporated into the overall plans for utilization of the area by the proposed units comprising the 2,000 Man Cantonment Area. All other facilities constructed are of an expedient nature, providing minimum durable facilities. This includes wooden portable tent floors and frames for all GP medium and large tents.

c. (C) Replacement personnel assigned in the previous quarter have brought the battalion above full strength; however, the excess personnel will be utilized in the next reporting period to form a "D" Company, authorized under TO & E 5-37E. Although replacement personnel have averaged 88 per month, almost exclusively combat engineers, a shortage exists in the supply field with the most critical being the E-7 in the Battalion Supply Section. The average personnel loss was 60 per month. The present battalion strength including attached units is:

<u>UNIT</u>	<u>AUTHORIZED</u>	<u>ASSIGNED</u>	<u>PERCENT</u>	<u>PRESENT FOR DUTY</u>
19th Engineer Bn (C)(A)	619	652	105%	624
554th Engineer Co (FB)	162	160	99%	155
509th Engineer Co (RB)	43	45	104%	45
1st Plt, 572 Engr Co (LE)	37	37	100%	37

CONFIDENTIAL

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

d. Some personnel are being assigned to this battalion with an MOS not organic to a Combat Engineer Battalion. A SSG, E-6, with a 45240 MOS of an Armament Maintenance Repair man and SGT, E-5, with a 13B40 MOS of a Field Artillery Crewman were assigned during the quarter. Although the numerical number of malassigned personnel is low, unit efficiency is hindered when trained personnel are not assigned appropriate MOS positions.

e. Facilities for the battalion medical section are steadily being improved and the battalion continues to receive excellent medical support from the battalion surgeon, and his staff. Special attention by the surgeon was given this quarter to the venereal disease problem in the form of a information flyer for troop distribution, command health lectures, and special personal attention in all those seen on sick call with the disease. Sanitation inspections revealed necessity for spraying of insecticides in the new cantonment area and spraying was accomplished by R & U representatives.

f. The dentist, previously attached to the battalion was recalled to a consolidated medical facility. Thus dental service previously available in the battalion area is now available only at a distant medical facility.

g. The battalion education program has continued emphasis on the GED testing program. During the quarter, success of the program is illustrated by the fact that over 60 personnel have participated in the education program, either by taking GED tests (High School Equivalency exams) or by studying USAFI Correspondence Courses.

h. Contributions to the various saving programs, soldiers deposits, and U.S. Saving Bonds have maintained a 98% participation during the quarter, however, participation in the Soldiers Deposit program is still limited. The desire to save large sums of money to be used for R & R and purchases of inexpensive luxury items seems to be the primary cause for the limited deposits.

3. Intelligence and Counter Intelligence.

a. Intelligence efforts this period continued to be expended towards major route and bridge reconnaissance missions within and adjacent to the Engineer Area of Responsibility. Route QL 1 reconnaissance reports are required for upgrading and improvement of the road, while Route LTL 6B still is insecure and engineer reconnaissance information is mandatory for future combat missions. The following items describe in detail the major portion of effort expended on reconnaissance reports during the quarter.

(1) Deliberate road and bridge reconnaissance of Route QL-1 from RJ Routes QL-1 and 440 (CR 003 252) to the Song Cau River (CR 066 736). Forty-four bridges and forty-seven miles of road are included. Also included are the locations and detailed descriptions of all major drainage structures (i.e. those structures having span lengths of 4 - 10 feet) and of all culverts.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

(2) A detailed deliberate study of Route QL 1 from the Phu Tai ASP (CR 026 160) to Song Cau (CQ 080 881) was made for the purpose of preparing a report to support planning for the possible expansion of this road to two lanes. Included in the study are forty-one cross sections taken at various points along the pertinent sections of Route 1, roadway photographs, soils test results of several potential fill sites, areas of possible flooding, and a color-coded overlay which categorizes the road into four general descriptions (cut, side hill cut, level, and fill).

(3) A detailed deliberate study of Route QL 1 from R/L Routes QL 1 and 440 (CR 003 252) to the Song Cai River (CQ 066 736) was made for the purpose of estimating the time and equipment required to upgrade by the most expedient means that section of road to Class 31, dry weather. It was concluded that an engineer platoon, augmented with appropriate equipment, could accomplish the task in about three weeks.

(4) An attempt was made to undertake a deliberate bridge and road reconnaissance of the section of Route LTL 6B from Van Canh (BR 838 065) to the southern boundary of the Area of Engineer Responsibility of the 19th Engineer Battalion (BQ 894 880). Since the road is closed to vehicular traffic, the reconnaissance team proceeded on foot. Security was provided by a platoon of CIDG troops with a Special Forces advisor. After examining about 5km of road and two bridge sites, the party was ambushed by an estimated NVA platoon. The resulting firefight, which involved mortar, gunship, and F-100 support acquired through the Van Canh Special Forces Camp, accounted for four NVA KIA by body count. Friendly casualties were two CIDG KIA and one USSF advisor WIA. Enough information was gathered, however, to ascertain that an earlier reconnaissance performed in the spring of 1966 is still essentially valid.

(5) In conjunction with Qui Nhon Support Command and the 523rd Engineer Company (Port Construction), reconnaissance was performed of several potential LST Beach sites in the Song Cau Area. The purpose of the mission was to find a suitable location for an ammunition off-loading facility.

(6) Other minor reconnaissance missions required monitoring of the T-17 membrane airfield at Van Canh (BR 833 065) to insure that all damage is reported and the airfield is maintained in a high state of repair. Periodic hasty reconnaissances of LOC's adjacent to the battalion's area of responsibility were made to include Route QL 19 from Qui Nhon to Pleiku and QL 1 from it's intersection with QL 19 to Bong Son.

b. Coincident with the relocation of the battalion to the new cantonment site, the intelligence section prepared plans for the perimeter fence and guard towers and drafted a set of instructions for interior guards. An innovation in the new guard system includes a roving patrol in a 1/4 ton truck with a post mounted M-60 machine gun. This concept provided the capability of checking the guards more frequently, plus provides ready fire power for any perimeter incident.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 30 April 1967

Added responsibility was delegated when security control of Valley "G" was designated to the battalion after relocating from Valley "A". As sub-sector commander for security matters, with four additional companies located in the valley under its jurisdiction, the intelligence section prepared and distributed a detailed sub-sector defense OPLAN to all units concerned.

c. During the Vietnamese Holiday Tet in February, and continuing into March, Qui Nhon Support Command directed the battalion to administer a daily levy for a greatly increased guard commitment at the Phu Tai Ammo Supply Point. Extreme difficulties were encountered by the Intelligence Section in coordinating with units in other chains of command when it was necessary to place levees on them for guard purposes. Such heavy commitments, in some cases, forced many of the units to stop normal support functions. It was at this time that the matter was resolved by the formation of a provisional guard company from the 1st Logistical Command assets only. The extra guards and later the provisional company were used to provide increased security at the Valley "F" Ammo Supply Point. When released from this heavy guard commitment, the battalion was able to redirect all its work force once again to construction projects.

d. The only incident threatening the security of the area during the reporting period was the landing of 26 empty 155mm illumination round canisters in the cantonment area of the 19th Engineer Battalion. Four injuries, none serious, resulted from the incident. The rounds had been fired to illuminate the area near a QM laundry about a mile away which had been the victim of a sabotage incident. Coordination was made with the artillery unit to prevent future incidents of this type.

4. Plans, Operations and Training.

a. During this quarter, elements of the battalion spent 6 days in training, 83 days in rear area construction, 48 days in combat support operations, and 4 days in movement of the battalion to the new location.

b. Training was conducted from 0900 hours to 1200 hours every Sunday. Combatives essential to combat engineers such as mine detection, weapons familiarization and booby traps, were conducted along with mandatory training during these hours.

c. Rear area construction included the completion of four projects, the assignment of two new projects and the continuation of three long term construction projects.

d. Completed during the period were the following:

(1) Construction of a CH 47 Heliport Facility located at Lane Army Airfield 12 miles west of Qui Nhon (See inclosure 3). Commencing on 2 February 1967, "C" Company cleared twenty-six acres of land covered with brush and a sandy silt topsoil. After removing a total of 880 cubic yards of this brush

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

and waste soil, the land was generally level, with a slight slope to the south-east providing natural drainage. In order to construct the sixteen 60' x 100' pads, 1,250' taxiway and a 400' x 400' maintenance area, over 73,000 cubic yards of laterite were hauled to provide a stable base. To waterproof and provide a firm base, 11,200 tons of river run and crushed rock were employed in a single surface treatment over the entire area. As the perimeter of the facility was being peneprimed, the 40' x 90' touchdown areas on each pad were covered with MBA1 steel matting. Matting was then laid down the length of the taxiway providing a 44' wide strip. This strip was connected on the south end to a 300' x 330' section of steel covered area for maintenance. Despite inclement weather and saturated soil conditions during the critical clearing and stripping phases, the Beneficial Occupancy Date of 1 March was achieved. The total project, completed on 18 March required 47,497 manhours and 10,354 equipment hours.

(2) In support of pending combat operations, the project of rehabilitating Van Canh Airfield, located 40 miles southwest of Qui Nhon was assigned and completed during the quarter (See inclosure 4). The 3,600' airstrip covered with T-17 membrane was originally completed in September 1966; however, constant use and the monsoon season deteriorated the field to the extent that a major reconstruction effort was required. On 8 February 1967 a platoon of "C" Company initiated repair. Beginning at the northern end of the runway, 1,600' of membrane was cut at 75' intervals perpendicular to the runway and rolled back. The exposed soil on the airstrip was then permitted to dry, while sections badly saturated were excavated. Fill was then placed and compacted. Most of the exposed runway surface was scarified, regraded and compacted. The membrane was then replaced and sealed with a double seal, both under and over the seams. The entire apron area had been originally constructed on existing soil and contained numerous tree stumps. Also the natural drainage was insufficient for the area. Thus, the apron, taxiway and drainage system required complete rehabilitation. After removal of the existing matting the exposed apron was completely stripped to a depth of 10 inches. A cut and fill operation was then started raising the height of the area approximately 2 feet and sloping it toward the new drainage ditches. Drainage constructed about the apron area consisted of 12' wide trapezoidal ditches on the perimeter which emptied into a low area to the west of the apron. Similar trapezoidal ditches were cut on both sides of the runway to draw the water table 3' below the runway crown. These ditches were sloped to run off into a natural stream at the north end of the field. Multiple 2' and 3' culverts were placed in the runway ditches where the taxiway joined the runway and under the access road to the airfield. A small hill mass between the apron and runway was lowered 6' to 8' to satisfy design clearance and slope criteria. Final phases of the project included finish grading and compaction of runway shoulders, ditch banks, and cleared areas and application of 580 barrels of peneprime. After resurfacing the complete apron and taxiways with new T-17 membrane, the entire runway was given a new application of non-skid compound and airfield markings were repainted. On the project, 17,970 manhours, 1,235 Vietnamese manhours and 1,315 equipment hours were expended.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

(3) Two Steel Stringer Timber Truss bridges were designed and constructed during February. Both bridges were constructed by "A" Company.

(a) The first bridge had a 52 foot span which was gapped by six each 24WF94 steel stringers to provide a Class 70 one lane bridge. Located at the entrance of the 45th Engineer Group Construction Complex, 4.5 miles west of Qui Nhon, the bridge was designed to allow maximum loads required for access into the construction complex. "H" beams were driven for abutments with a continuous wing wall of piles on each side extending up and down stream. The wing wall and abutments were surfaced with 4" x 12" and 6" x 6" timber and then backfilled with blast rock. Decking, treadway, curbs, curbs and handrails were added completing the bridge on schedule and permitting a timely completion of the Construction Complex access road. 2,087 manhours and 601 equipment hours were utilized in this bridge construction.

(b) The second bridge is located in front of the Ammo Supply Point four miles southwest of Qui Nhon. This 35' single span bridge rests on four each 30' long "H" piles driven as abutments on both ends. Eight 37" "H" beams were then placed as stringers. With added decking, treadway, curbing, and railings, the 24' wide bridge was completed to allow Class 35 two way and Class 50 one way traffic. Expended effort included 2,496 US manhours and 690 equipment hours.

e. Some work was accomplished on road base course preparation this quarter before the project was transferred to the 84th Engineer Battalion. (Construction). Prior to transferring the project, "A" Company had completed a French Drain on the Long My Depot Access Road to Valley "G", plus grading and shaping 1 mile of the road. A six inch lift of 3" minus rock was laid and compacted on 0.5 miles of the road in preparation for a hot mix asphalt surface. Additional work of back ripping and grading was done on Route 1 South between the Long My Depot Access Road and the Phu Tai Ammo Storage Point. The project was 4% complete at time of transfer.

f. Newly assigned projects.

(1) The Aviation Depot, located at Long My in Valley "F" was directed to include four each 120' x 200' warehouses, a 40' x 50' Data Process Building, 24,450 square yards of open storage area, plus an area for a 300 man cantonment area. Effort on this project, started by "C" Company on 10 March 1967, first consisted of clearing and striping 15 acres of jungle. A 2' laterite base was then placed on all required roads, in conjunction with a cut and fill operation for leveling the building sites for the warehouses. At the end of the reporting period, vertical construction was scheduled to begin on the 120' x 200' warehouses, while the self help unit commenced to implement their self help construction program.

(2) The 2,000 Man Cantonment Area, located adjacent to Long My Depot, was started in preparation for occupancy of the Logistical Depot

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

personnel. In accordance with plans directed by the 45th Engineer Group (Const), clearing and grubbing an area adjacent to the cantonment was started by "C" Company on 27 March 1967. The concept of operation was for the battalion to set up and relocate adjacent to the proposed 2,000 Man Cantonment Area. In this manner, effort expended for the battalion cantonment area would be utilized by the Logistical Depot personnel as they moved into their cantonment area. Then when this battalion is directed to relocate, the Depot Cantonment personnel would expand into the battalion's cantonment area, thus utilizing previously constructed facilities. An additional advantage of the move is realized by the fact that the battalion is more centrally located with respect to assigned projects, thus reducing travel time to and from the job sites. As a result of the directed move "C" Company efforts were directed to clearing and improving the entire 30 acre, 2,000 Man Cantonment Area plus adjacent useable land. Laterite access roads and an internal road network totaling 1.4 miles were then constructed. A portion of the site was leveled, and terraced where necessary for tent sites. A prefabrication yard was established to construct tent frames, tent floors, latrines, shower facilities and mess hall area, all of which will be eventually acquired and utilized by the Logistical Depot personnel as part of their cantonment area.

g. Engineer effort continued on construction projects assigned previous to the reporting quarter, representing a major portion of the battalion's capability.

(1) Long My Logistical Depot Expansion continued with "B" Company committed to the construction of horizontal construction during the first half of the quarter. Over 74,000 cubic yards of laterite and 24,000 cubic yards of spoil was removed as the internal roads, drainage facilities, and storage areas were constructed. During the second half of the quarter, effort was diverted to begin vertical work on the construction of 40' x 200 metal prefabricated, open steel storage sheds. In support of this construction, 1,298 cubic yards of concrete were placed. Present scope of this project envisions fourteen each 40' x 200' storage sheds, of which five are now completed, twelve each 120' x 200' warehouses and 312,000 square feet of asphalt surfaced open storage area. At the end of the quarter the project was 20% complete.

(2) The Phu Tai Ammo Storage Point, located 4.0 miles southwest of Qui Nhon, was under continued maintenance and repair from an existing directive. "A" Company commenced work on the Brass Segregation Yard and a 40' x 100' renovation building both of which were unfinished phases of the old directive. The Brass Yard consists of clearing and bringing to grade a six acre tract of land, cutting drainage ditches, placing culverts, building an "E" shaped access road system, and preparing the area for 200 conex containers. This phase of the old directed project is 80% complete. Under a new directive, fifty three each Ammo Storage Pads were required to be expanded from the existing 40' x 100' pads to 60' x 100' pads, plus the berms were to be increased from an existing height of 8' to 12', with improved drainage. During the quarter this project was initiated. Twelve pads have been completed and the project is 15% complete as of the end of this reporting period.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (NCS CSFOR-65), for Quarterly Period Ending 30 April 1967

(3) The two assigned self-help projects, the 14th Aviation Battalion and the 1/30th Artillery Battalion cantonments were completed for all units present. However, the project was not finished since both units were lacking one unit still scheduled for arrival. During the quarter, assistance to both units was given by "C" Company in the form of hauling rock and laterite in addition to supervision of engineer equipment. The 196th Aviation Company, which arrived in country this quarter and closed with the 14th Aviation Battalion Cantonment Area, initiated self-help construction on their supply room (Now 98% complete), ordnance room (99% complete), NCO Billets (98% complete), EM Billets (96% complete), BOQ (95% complete), and mess hall (99% complete). The 1/30th Artillery Battalion Cantonment is 98% complete; however, plans are under way for expanding the area under the same directive to include a new Artillery Group Cantonment site in the area.

(4) The 24 pad UH-1 Helipad Expansion for Lane Army Airfield was scheduled for construction this period; however, the project was delayed due to the higher priority given to the CH-47 Helicopter Facility.

h. The attached 554th Engineer Company (Float Bridge)(-) and a platoon of the 509th Engineer Company (Panel Bridge) supported both the 19th Engineer Battalion and the 45th Engineer Group in numerous missions during the quarter. Invaluable support on construction projects was given at various times by both units. A "Chinaman" laterite loading facility was constructed and steel erection was performed on two of the 40' x 200' warehouses at Long My Depot Expansion. The 554th Float Bridge Company transported engine supplies on numerous occasions to Bong Son and Tuy Hoa. Two 7 day assault boat commitments in support of the 1st Cavalry Division were successfully accomplished. On 1 April 1967, the 1st platoon of the 554th Engineer Company (FB) moved to Tuy Hoa in support of the 39th Engineer Battalion for a mission in conjunction with Operation Ia June. On 23 April 1967, the remainder of the 554th Engineer Company, less one bridge platoon, to include the 509th Panel Bridge Platoon, moved by sea to Chu Lai on an operational support mission for Operation Oregon.

5. Logistics.

Demands of major construction projects required the stockage and handling of vast quantities of construction material for the Supply Section this quarter. An added requirement for the Supply Section occurred as a result of the relocation of the battalion. With extremely limited loading and transportation equipment, compared to the amount of stock Class IV supplies, the battalion supply section worked efficiently and expeditiously to accomplish the move of their stocks within a 7 day period. Supplies were continuously available throughout the move for all companies. One water purification unit was relocated to provide a water point closer to the new cantonment area. The water point serving Valley "A" is still operated by the battalion. At the new supply yard, one wood frame building was constructed for the storage of items of a perishable nature. The remainder of the section adjusted effectively to meet the varying demands inherent to remaining 100% operational during a unit relocation.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

6. Force Development.

(None)

7. Command Management.

(None)

8. Inspector General.

(None)

9. Information.

a. Battalion Maintenance Section: This section, through continuing efforts and constant surveillance on all engineer equipment, enabled the battalion to perform at a continually high efficiency. Without the support of equipment, the critical item in deliberate construction efforts, the fine progress evident in all the projects would not have been possible.

(1) Engineer Section: In order to keep a deadline rate of less than 5%, this section performed work around the clock and innovated mobile contact teams to be dispatched to the job sites. This work included the evacuation for repair at the Direct Support Unit of one D7E tractor and two graders for transmissions, one scoop loader for an engine, and four 10 KW generators for electrical repairs. Evacuated for turn in were seven HD 16 tractors and two 600 gallon asphalt distributors. Organizational maintenance included 25 quarterly services on major items of engineer equipment as well as the deprocessing of ten D7E tractors and three generators. The majority of repairs at this level of organizational maintenance consisted of component replacement and extensive welding on all equipment plus frequent repair of water purification equipment. Higher echelon repairs accomplished during the quarter included installation of an engine, transmission, set of brake shoes, three wheel seals and four turbochargers on various 175 AM 23 scoop loaders. On 4D graders, three clutches and two wheel seals were replaced, one set of brake shoes installed, one supercharger rebuilt and installed. A crane (M202) required replacement of two clutches and one transmission.

(2) Ordnance Section.

Maintenance performed by this section was in continuing efforts to keep equipment, which has seen nearly two years of service in the Republic of Vietnam, operational. Organizational Maintenance entailed Technical Inspection on 75% of the battalion's ordnance equipment. Quarterly, semi-annual, and annual services were performed on 43 items, plus deprocessing 11 items of ordnance equipment. Higher echelon repairs were accomplished to include: replacement on 5 ton dumps of ten engines, seven injector pumps, five transmissions, twelve clutches, ten power steering units and three transfer pumps; on 2½ ton

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

trucks, replacement of two engines, four axles, two clutches, three steering gear assemblies, one cross main spring shafts and two transmissions; on 3/4-ton trucks, replacement of five engines, one clutch and six axle assemblies; on 1/4 ton, replacement of four engines and eight axle assemblies. The battalion wrecker, an extremely critical item of equipment was operated an average of 9.3 hours a day. Although most of this time was for maintenance requirements, much time was also allotted to loading and off-loading operations of various nature.

Section 2, Part I, Observations (Lessons Learned)

1. Personnel:

(Personnel Assignment)

ITEM: Assignment of personnel with MOS not within unit's TO & E.

DISCUSSION: A SSG E-6, an Armament Maintenance Foreman, with a MOS of 45240 and a SGT E-5, Field Artillery Crewman, with a 13B40 MOS were assigned to this unit for replacements in a 76K40 MOS, a job in which the individuals had no experience.

OBSERVATION: Considerable disorganization, coupled with inefficiency of the unit during on-the-job training results when an individual with an improper MOS is assigned as a replacement in a critical position. Failure to properly assign an individual in his skilled MOS is a disservice to the individual and to the efforts of this command.

(VD Control Measures and Effectiveness)

ITEM: Troop Information program on health hazards of venereal disease.

DISCUSSION: One successful method utilized in attempts to control venereal disease was a troop information program conducted by the Battalion Surgeon. Incorporated in the form of pamphlets, fact sheets, lectures and discussions, the program was aimed at overcoming the tendency to minimize the gravity of venereal disease, and the attitude that such diseases can always be easily cured by a brief trip to the Medical Station. Factual information provided to personnel before they expose themselves to the possible contact of the disease was desirable in order to maximize preventive measures.

OBSERVATION: After initiation of the program, the battalion VD rate decreased. It is recommended that regularly scheduled classes be given by the battalion surgeon during training periods since such factual information motivates the troops to avoid the consequences of venereal disease.

UNCLASSIFIED

UNCLASSIFIED

GD-R-CO

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

30 April 1967

2. Operations:

(Expedient Reusable Forming Materials)

ITEM: Utilization of M4T6 Balk for Forming Concrete Pads.

DISCUSSION: During process of construction of 20' x 100' extensions to 40' x 100' Ammunition Storage Pads, use of wooden forming material resulted in a requirement for a considerable amount of form lumber and manhour expenditure for forming operations. Forming materials were unrecoverable after the fourth use.

OBSERVATION: M4T6 balk, heavily greased, decreased time required for forming operation, plus resulted in a savings of wood materials with no damage to the M4T6 float bridge balk.

(Night Construction)

ITEM: Lighting System for night construction effort.

DISCUSSION: To provide light for night construction, 3 flood lights, FSN 6230-299-7072, were mounted on a wooden frame and fitted within a $\frac{1}{2}$ ton trailer. Two sets of these lights using 250 watt bulbs were used extensively during concrete placing operations in construction of 9 each 40' x 200' concrete pads.

OBSERVATION: These lighting sets provided adequate illumination for projects requiring large work forces, were easily constructed and mobile, plus the fact that they were maintained with readily available replacement parts. TO & E generator sets provided adequate power for the lighting sets.

(Limiting Factors of Concrete Paving Machine)

ITEM: Limiting factor of placing concrete from a 34E Paving Machine.

DISCUSSION: Construction of 9 each 6" x 40' x 200' concrete slabs for shed storage buildings provided experience in placing concrete slabs utilizing a 34E Paving Machine. The limiting factor on production of concrete with this machine is the limited capability to screed by hand the placed concrete, and as a result, the concrete can be placed only as fast as it can be screeded and finished.

OBSERVATION: A motorized screed should be supplemented to the 34E paver whenever the paver is scheduled for construction projects. This will permit maximum efficiency of both pieces of equipment, so that the paver can produce at it's maximum rate.

(Adhesive in T-17 Runway and Taxiway Kits)

ITEM: Adhesive requirement for repair of T-17 membrane.

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

DISCUSSION: In repair of T-17 membrane airstrip, repair kits were not available, and thus, runway kits were ordered and cut into 3' x 180' repair strips. Only 10 gallons of adhesive are included in a runway kit, thus it was necessary to order extra adhesive. It was found that 12 gallons were required to glue each 3' 180' strip under the best conditions. If minor patching was required in the area of repair, 15 gallons of adhesive were required.

OBSERVATION: In any case where the glue requirement per kit is greater than that included for the kit perimeter, extra adhesive must be ordered. Basis for ordering should be 1 each 5 gallon can for every 180 square feet of surface to be glued.

(Non-Skid Compound Application in T-17 Runway & Taxiway Kits)

ITEM: Insufficient non-skid compound in T-17 membrane kit.

DISCUSSION: Non-skid compound used on T-17 membrane is allocated in the kits on the basis on one gallon per 100 square feet. On recent airfield projects, this coverage could be obtained only by thinning the non-skid compound slightly with diesel fuel.

OBSERVATION: When preparing to construct a T-17 membrane airstrip, plans should include extra non-skid compound on the bills of material or consideration given for the addition of diesel fuel as a thinner.

(Failure of T-17 Membrane)

ITEM: Failure of manufactured seams is the limiting factor on service life of T-17 membrane.

DISCUSSION: Monitoring on recently constructed T-17 membrane airstrip over a six month period revealed that the narrow manufactured seams are separating while the construction seams, which are much wider, remain tight.

OBSERVATION: After construction and during service of T-17 airstrip, responsible unit must monitor entire airfield, especially manufactured seams, for rupture to insure that all breaks in the membrane that might let water through to the subgrade are repaired.

(Securing T-17 Membrane)

ITEM: Interval of tacking T-17 membrane.

DISCUSSION: T-17 membrane, if tacked on the sides in buried ditches as recommended, tends to localize stretched areas in the membrane and semicircular wrinkles on the runway edge.

OBSERVATION: A spacing of 7 - 8' for tacks produced a better anchorage membrane, eliminating the wrinkled sections.

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

(Expedient Base Course Aggregate)

ITEM: Use of river run rock as base course for asphalt treatment.

DISCUSSION: As a base course for an asphaltic surface on a CH 47 Helicopter Facility, river run gravel was used. The rock generally ranged in size from 6 - 10 inch cobbles to a fine sand. Intermediate sizes were missing in some ranges, but when rolled with a rubber tired roller, followed by a steel wheeled roller, the gravel produced a relatively smooth surface. To complete the asphaltic treatment, a tack coat of MC-0 sprayed at .35 gallons/SY was then applied and allowed to dry for 12 hours. An application of RC-3 at a rate of .50 gallons per square yard followed with a chokestone coat of $\frac{1}{4}$ " (-) chips. This treatment produced a stable surface with an estimated CBR of 60. For a wearing surface, MSA1 matting was placed on each pad in the touchdown area.

OBSERVATION: River run gravel utilized as a base for a single surface treatment proved to be an effective base course. Since the surface is not exposed to continuous heavy traffic this treatment is considered to be extremely effective for its intended purpose of providing a durable waterproof base for a CH 47 Helicopter Facility.

(Expedient Dust Pallative)

ITEM: Use of dilluted asphalt cutback RC-3 as dust pallative.

DISCUSSION: Due to shortage of peneprime on a recent CH-47 Heliport project, an expedient substitute was used successfully. The substitute was made by mixing 60% RC-3 with 40% diesel fuel and applying cold from a trailer mounted asphalt distributor. The mixture was found to penetrate well, plus the asphaltic residue that remained after evaporation of the diluent had a relatively high cohesive strength.

OBSERVATION: Comparison of peneprimed surface and the results of expedient mixture indicated that the asphalt mixture of RC-3 was superior to the results obtained from the peneprimed area.

(Downdraft Effect on MSA1 Matting)

ITEM: Displacement of MSA1 matting due to downdraft of helicopters on matting.

DISCUSSION: MSA1 matting when placed on CH-47 heliport facilities in large quantities was stable when matting was completely interlocked throughout the section. On the forward and trailing edges where matting is hinged, but not interlocked on one side, the downdraft of the CH-47 will roll the outside panels up off the ground.

OBSERVATION: Anchorage must be provided on all panelling not interlocked on all sides, particularly on those panels which can rotate about the hinged axis.

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFPR-65), for Quarterly Period Ending 30 April 1967

(Anchorage for MBA1 Matting Placed on Heliports)

ITEM: Expedient anchorage of MBA1 matting on heliports.

DISCUSSION: Due to high velocity of downdraft of CH-47 Helicopters, anchorage was required on MBA1 matting which was not interlocked on all sides. Number four reinforcement bar, cut at 35" lengths, driven into the heliport base adjacent to the matting, and bent over the matting edge approximately 5 inches proved very successful. The reinforcing bar was then welded in the recess of the mat panel. Spacing for anchors along a hinged length was at each joint, 11.8' apart. Anchorage along lengths where panel ends are exposed were required only every 30 feet. All corners in a mat arrangement were required to be anchored.

OBSERVATION: Method for anchorage of MBA1 on heliports proved successful; however, this system is considered sufficient for heliports only, and should under no circumstances be used on airstrips, due to the sharp exposed edges.

(Trajectory of Flare Shell Casing)

ITEM: Trajectory of 155mm Flare Canisters.

DISCUSSION: An experience of this battalion revealed the fact that friendly artillery was either not aware of the location of all units in the area or not concerned with the trajectory of the canisters. Recently 26 each 155mm illumination round canisters fell into a heavily populated troop cantonment area located behind a hill on which the illumination was being directed. Since the area involved has been a static position and the units involved, both the artillery and the cantonment areas, had been located in the same area for up to two years, it was felt that the trajectory of 155 mm canisters and the effect of the impact was not considered by the artillery unit during the illumination mission.

OBSERVATION: Unit commanders should insure that coordination is made with all local artillery units as to the exact location of the neighboring units in order to prevent such incidents. Artillery units should carefully analyze trajectory of all rounds when providing support in heavily populated areas.

(Fill Haul Efficiency)

ITEM: Laterite haul efficiency based on overall equipment performance.

DISCUSSION: Laterite haul based on equipment that has been in use in RVN since the arrival of this unit in September 1965, has an efficiency of 40 to 50 per cent, due basically to front loader and 5 ton dump truck breakdown.

OBSERVATION: When scheduling haul operations based on aging equipment, approximately twice the required equipment should be scheduled in order to complete the mission in the required time frame.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

(Expedient Field Use of CONEX Container)

ITEM: CONEX modification for increased capability in field operations.

DISCUSSION: This battalion's photography section requires a constant capability for photographic materials; however, this capability in the field was at times impossible to maintain without a photographic dark room. A wooden CONEX, easily adapted by modifying the door and constructing interior shelves, was used successfully as a field expediant. Further rehabilitation and/or reconstruction of CONEX containers provided can increase storage capability for all units while under field conditions.

OBSERVATION: Modification of wooden and metal conexas can result in an excellent field dark room, expedient storage and for quick transportation of the entire facility.

3. Training and Organization:

(Assignment of Medical Aidmen)

ITEM: Medical Aidmen attached to line companies.

DISCUSSION: Present practice of attaching medical aidmen directly to support a line company, as opposed to leaving them in the battalion medical section, has proved very effective. Medics living with a line company familiarize themselves with the personalities and medical needs of the individuals in the company. Such understanding greatly facilitates treatment in matters of minor medical importance. When medics can manage these problems, fewer people report to sick call. In particular, both emergency and minor first aid can be rendered promptly and on-the-spot by an available medic.

OBSERVATION: For the purpose of increasing the Medical Section's effectiveness, medical aidmen should be attached to line companies to provide prompt attention and to handle problems within their capability, thus reducing the number of personnel who go on sick call.

(Loading and Off Loading Equipment)

ITEM: Loading equipment for Battalion Supply Section.

DISCUSSION: Combat Engineer Battalions in RVN assigned heavy construction projects require a much larger Class IV yard than normally required when committed to operational support. Under such circumstances, TO & E cranes and wreckers are usually committed to construction projects. As a result, additional man-hours are required for hand loading and unloading battalion supplies.

OBSERVATION: Engineer Combat Battalions engaged in heavy construction projects should be authorized a fork lift on M TO & E for movement of supplies

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

Such an addition would supplement cranes and wreckers, thus increasing and improving the capability of the battalion to supply materials required.

(Reconnaissance Communication Equipment)

ITEM: Requirement of back-pack, AN/PRC 25 for reconnaissance teams.

DISCUSSION: Due to the poor state of repair and/or destruction of roads and bridges in Vietnam, many bridge and road reconnaissance missions must be performed on foot rather than in a vehicle. Initial reconnaissance generally requires missions into enemy controlled territory where radio communication with air and medivac communication is mandatory.

OBSERVATION: One back-pack AN/PRC 25 should be added to the TC & E of the Intelligence Section, Engineer Battalion (C)(A) for use on ground reconnaissance missions.

4. Intelligence:

(None)

5. Logistics:

(Ration Supplements)

ITEM: Supplemental issue of rations for shift work.

DISCUSSION: Battalion units have been doing shift work in order to accomplish assigned construction projects. Shift work is often necessary to meet construction deadlines and to complete construction under ideal conditions, (e.g., concrete placement at night). Also to maximize capability, equipment is often utilized on 24 hour basis. In these cases, where two each 12 hour shifts are scheduled, a midnight meal is required. One battalion unit requested supplemental rations for night shift personnel but received the rations only after considerable delay since approval was required at USARPAC.

OBSERVATION: Approval of supplemental rations at a lower command level would permit a flexible and responsive procedure when shift work is required on construction projects.

(Hand Tools - Prefabricated Buildings)

ITEM: Vendor supplied hand tools with Pascoe prefabricated buildings.

DISCUSSION: The tools provided in erection kit of Pascoe open shed buildings, especially wrenches and sockets, have a short lifetime. When in constant use, the sockets are stripped and wrenches fail to adjust properly.

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

SUBJECT: Operational Report-Lessons Learned (RCS CSFOS-65), for Quarterly
Period Ending 30 April 1967

30 April 1967

OBSERVATION: The presence of low quality tools in prefabricated kits necessitates procurement of tools from other sources, thus forcing the diversion of tools intended for other tasks.

(Expedient Wheel Seal for Scoop Loader)

ITEM: Expedient wheel seal for Model 175 AM and 175 AM 23 scoop loader.

DISCUSSION: As an expedient repair for a leaking wheel seal (rear) on Model 175 AM and 175 AM 23 scoop loader, the inner wheel seal for a 5 ton truck (any model) was used successfully with modification of seal spring. Modification includes the removal of the spring from under the seal lip, detaching the ends of the spring, and laying the spring flat. By cutting off 3/4" at one end of the spring, reattaching the ends, and pressing the spring back into the seal body, the modification is complete.

OBSERVATION: Modified 5 ton truck wheel seal may be used on scoop loader as an expedient repair.

(Concrete Mixer Failure)

ITEM: Prevent hardening of concrete in mixer during mechanical failure.

DISCUSSION: To prevent setting of concrete in a mixer which will not discharge due to a mechanical failure, a sack of sugar poured into the mix will prevent setting of the mix.

OBSERVATION: The problem presented by the mechanical failure of a concrete mixer as the mix begins to set in the drum is easily solved with addition of the sugar.

(Timing of Continental Engine)

ITEM: Timing of Continental engine in the Huber Warco 10 ton roller, Model E1012M.

DISCUSSION: Although the Technical Manual does not so state, the Continental engine in the Huber Warco 10 ton roller (Model E1012M) is not timed in the ordinary manner. The magneto must be timed with the number six piston (furthest from the radiator) at top dead center on the compression stroke.

OBSERVATION: Procedure should be followed when timing Continental engine in Huber Warco 10 ton roller.

Section 2, Part II, Recommendations.

1. Personnel

None.

UNCLASSIFIED

UNCLASSIFIED

EGD-BE-CO

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

2. Operations:

a. Weather favorable to construction efforts was prevalent during this quarter, with only occasional brief periods of inclement weather. The temperature is moderate, in the 85° F to 100° F range, providing excellent working conditions for personnel on the projects. This quarter is considered to be the most favorable for construction in this area of RVN. Therefore, planning should be directed towards providing maximum equipment support and adequate construction drawings so that construction operations can proceed at the fastest possible rate.

b. Experience data gathered in placing concrete for 20' x 100' building pads, from both a 16S concrete mixer and a 34E paver, proved that the rate for the 34E paver was approximately twice that of the 16S. The limiting factor for the 16S is the mixing rate. However, the limiting factor of the 34E paver is the units capability to screed and finish the concrete by hand. The rate for the 34E including forming, placing, and finishing was 4.1 manhours/CY; the 16S rate was 7.6 manhours/CY. Since the 34E paver can mix and place concrete at a much faster rate than can be screeded, it is the recommendation that for maximum efficiency for paver production, a motorized screed be provided with the 34E paver. It is estimated that the rate could be increased by 40% with the utilization of a motorized screed.

c. Although a battalion can remain 100% operational during a movement of the nature performed during this reporting period, it is extremely difficult to maintain the full battalion's construction capability on projects during the move. Minimum convenience facilities, to include Post Exchange, latrines, mess hall, billets, motor pool areas, showers, drainage and communication lines are required for the area. Time and effort must be expended for the move itself, to include preparation of the movement of vast quantities of stockpiled supplies.

Plans for such a relocation of battalion size facilities in the future should permit allocation of time and manpower for the relocation. From experience acquired during this quarter, it is considered that a full 5 battalion days should be allowed as a minimum for such a movement. This time will vary, depending on condition and amount of site preparation at the new cantonment area, and distance to the new location.

3. Training and Organization:

The loading and un-loading equipment of the battalion is deemed inadequate for the actual mission performed by this battalion's supply section. The supply and transportation requirement for over thirty each 40' x 100' steel prefabricated buildings, five each 120' x 200' buildings, plus materials required for self-help programs and major construction projects, far exceeds normal loading equipment capabilities. Recommend that provisions be made to augment combat battalions committed to construction projects with increased loading and off-loading capability.

UNCLASSIFIED

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly Period Ending 30 April 1967

4. Intelligence:

a. The requirement during the initial period of the quarter, directed through the security chain of command from the Qui Nhon Support Command, to increase the guard at the Phu Tai Ammunition Supply Point placed a serious handicap on all units, particularly those not under the Qui Nhon Support Command. As sub-area commander, a great deal of friction and difficulty developed as adjacent units were levied for large personnel commitments for both day and night. Since many units were stripped of personnel, assigned missions in some instances were extremely curtailed, if not ceased. The requirement, which continued for approximately one month, was solved when a provisional guard was formed from the Support Command's own assets. It is felt that the implementation of the provisional guard initially as the security element would have proven much more satisfactory. This would permit units under other command channels to have continued assigned construction projects and support missions without a draw down on capability.

b. On 12 April, during the bombardment of the battalion area, twenty-six each 155 mm illumination canisters, each weighing over 50 pounds, fell in the cantonment area. Little defense could have been provided against the projectiles which in most cases fell with sufficient impact to become buried under four feet of soil. The gravity of the situation can not be over emphasized since it is circumstantial that only four personnel were injured. It is advised that in all cases unit commanders notify artillery units of exact location of all units, and obtain and keep on hand the telephone number, radio frequency and call sign of the support artillery. In the particular incident cited, the battery was assigned to the Tiger Division of the Republic of Korea Army, in which case contact was difficult. All possible coordination should be made in advance to prevent such incidents.

5. Logistics:

None

6. Equipment and Maintenance:

With augmentation of fifteen items of engineer equipment this period, problems have developed in the maintenance of the equipment. The Prescribed Load List does not allow the maintenance section to stock repair parts. As a result, in order to repair the equipment, the battalion must constantly seek the necessary parts elsewhere. Authorization for a Direct Support Unit to repair, or authorization of a Prescribed Load List, should accompany each item of non-TO & E equipment.

4. Incl

1. Command & Control Diagram.
2. Overlay of new 19th Engr Bn Cantonment Area.
3. CH-47 Heliport Facility.
4. Van Canh Airfield.

Updon (R) - 2
NOLAN C. RHODES
LTC, CE
Commanding

UNCLASSIFIED

EGD-BE-CO

UNCLASSIFIED

30 April 1967

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65), for Quarterly
Period Ending 30 April 1967

DISTRIBUTION:

- 3 - 45th Engr Gp (Const)
- 2 - CINC USARPAC, ATTN: GPOP-OT (Air Mail)
- 3 - CG, USARV, ATTN: AVGC-DH (Courier)
- 6 - CG, USAECV (P), ATTN: AVCC-PO (Courier)
- 3 - CG, 18th Engr Bde, ATTN: AVBC-C (Courier)

UNCLASSIFIED

23
MED-3 (30 Apr 67)

1st Ed

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly Period Ending 30 April 1967

HEADQUARTERS, 45th Engineer Group (Construction), APO 96238, 27 May 1967

THRU: Commanding General, 18th Engineer Brigade, ATTN: AVBC-C, APO 96377
Commanding General, United States Army Engineer Command, ATTN: AVGCP&O,
APO 96491
Commanding General, United States Army, Vietnam, ATTN: AVHGC-DH,
APO 96307
Commander in Chief, United States Army, Pacific, ATTN: GROF-CT,
APO 96558

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

1. Operational Report-Lessons Learned of the 19th Engineer Battalion (Combat) for the period ending 30 April 1967 is forwarded.

2. Concur with observations except for the following:

a. Page 13. ITEM. Utilization of M4T6 Balk for forming concrete pads. Not recommended for general use, although M4T6 Balk is an efficient expedient. Tactical bridging components are frequently in short supply and should be maintained at selected units against operational contingencies.

b. Page 17. ITEM. Loading equipment for Battalion Supply Section. MTO&E action should be initiated by unit requiring such action whenever sufficient justification exists.

c. Page 18. ITEM. Requirements for Back-Pack, AN/PRC 25 for reconnaissance teams. Sufficient AN/PRC 25's are available within the unit to permit periodic use by reconnaissance teams.

d. Page 19. ITEM. Prevent hardening of concrete in mixer during mechanical failure. It should be noted that the concrete cannot be used after being treated with sugar.

e. Page 16. ITEM. Laterite haul efficiency based on overall equipment performance. Although it is realized that the deadline factor should be considered when planning equipment operation, 40-50 percent efficiency is unusually low. Further, scoop loaders are not suitable for sustained loading operations from a fixed site. More suitable equipment such as a shovel or Chinaman should be used.


K. T. SAWYER
Colonel, Corps of Engineers
Commanding

AVBC-C (12 June 67)

2nd Ind

Cpt Mills/cky/DBT-163

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65) for the
Quarterly Period Ending 30 April 1967

24

Headquarters, 18th Engineer Brigade, APO US Forces 96377

14 JUN 1967

TO: Commanding General, U.S. Army Engineer Command, Vietnam (Prov)
ATTN: ACVV-P&O, APO US Forces 96491

1. This Headquarters has reviewed the Operational Report - Lessons Learned (RCS CSFOR-65) for the 19th Engineer Battalion (Combat) and considers it an adequate report of unit activities and accomplishments during the period ending 30 April 1967.

2. Concur with the observations of the Battalion Commander, as endorsed by Commanding Officer, 45th Engineer Group (Construction), with the following comments:

a. Page 4, paragraph d. - Malassigned personnel were not indicated on the unit's most recent Personnel Inventory Roster. Unit has been requested to notify this Headquarters of all cases involving malassigned personnel.

b. Page 11, paragraph 9.a. - Maintenance - Ample direct support capability is available in the battalion's area of operation and does not justify the unit's performance of maintenance beyond its echelon. The combat engineer battalion does not have the capabilities in tools, equipment, or personnel to adequately carry out higher echelon maintenance repair without jeopardizing their primary responsibility for organizational type maintenance. If organizational maintenance is kept up, and operators are made aware of their responsibilities for proper operation and maintenance, a lower unit deadline rate will result. Units should rely more heavily on their maintenance support units; if demands are not placed on a DS unit in a given area, past experience has shown that the DS unit will be relocated to an area where its services are needed more, thus causing undue hardship where support is needed, but not requested.

c. Page 13, paragraph 2, Item: Utilization of M4T6 Balk - Concur; this should be used only as an expedient measure; sheet metal may be used as a form material between balk pieces.

d. Page 14, Item: Insufficient non-skid compound in T-17 membrane kit - Thinning of non-skid compound with diesel fuel produces a highly flammable compound and reduces the effective life of the membrane.

e. Page 16, Item: Expedient anchorage on M8A1 matting on heliports - Experience gained at several M8A1 heliports indicate that the rebar method is only a temporary solution at best, and does not prevent the occurrence of curling. To prevent curling and shifting, the mats should be anchored along the sides of the runway by bending approximately 1 - 1/2 feet of the mat edge into a trench (2:1 slope) and back filling the trench. Bending can be accomplished by driving a loaded truck or heavy, rubber tired tractor along the

25
AVBC-C (30 April 1967)

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65) For The
Quarterly Period Ending 30 April 1967

edge of the runway. The most effective method is to use full panels along the edge in every fourth to sixth run instead of half panels. The extra six feet of mat is then bent into a hole and backfilled. The rebar method or similar anchorage could then be used at the ends of the runway or helipad.

f. Page 17, Item: CONEX modification - A darkroom made from a CONEX transporter is a common expedient solution to the requirement for photographic processing facilities among Brigade Units. Its mobility is a significant advantage at battalion level for field use. A modified CONEX container not a satisfactory dark room for large photographic demands at a permanent type cantonment.

g. Page 18, paragraph 5, Logistics, Item: Ration Supplements - Policy statements on this subject were contained in USARV message AVD-SD-13701 which was distributed to all units in the 18th Engineer Brigade. CG, USARV, is the approving authority on all requests for increased issues of rations. AR-31-200, paragraph 116, and USARPAC Regulation 30-11, dated 29 October 1965, describe necessary procedures for requesting increased ration issues. Food Service inspections by this headquarters do not indicate any cases where insufficient rations are issued.

h. Page 19, Item: Expedient wheel seal for model 175AM Scoop Loader - This modified seal may do the job temporarily, but due to the shorter spring, it will not be seated properly in the seal and has a tendency to move and wear a groove in the shaft. The direct support unit is authorized to carry this seal in their ASL. If the loader had been turned in to the support unit for repair, the correct seal would have been installed. Reference: TM-5-3805-202-35P, page 65, dated April 1964.

i. Page 19, Item: Concrete Mixer Failure - Addition of one-half pint of sugar per sack of cement will prevent the hydration of the cement in the mixer. The mixer should be emptied and cleaned as soon as possible. This mix cannot be considered as a form of concrete and should be disposed of, as the inhibiting action of the sugar results in a mix of essentially zero strength.

j. Page 19, Item: Timing of Continental engine in the Huber Warco 10 ton roller, model E1012M - TM-5-3895-263-15, dated March 1964, page 55, para 119, with figures 50 and 52, explain the procedure for timing the engine. Maintenance personnel must utilize the equipment TM's while performing maintenance on equipment.

k. Page 21, paragraph 6, Equipment and Maintenance - If the equipment is augmented from another unit, then parts on the PLL can be drawn from them. If it is not on the PLL, then the owning unit would not have the parts on hand. Either case would require a requisition to be submitted. The demand data should be returned to the owning organization to enable them to

26
AVBC-C (30 April 1967)

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65) For The
Quarterly Period Ending 30 April 1967

adjust their PLL accordingly. Equipment augmented to the Battalion, not on hand receipt from another unit, is authorized a PLL and must be submitted and requisitioned by that unit. If higher echelon repair is required a DA Form 2407 submitted with the equipment will obtain support from the Direct Support Unit. If the Direct Support Unit will not accept the equipment for repair, then it should be reported through channels to this headquarters for action.

C. M. DUKE
Brigadier General, USA
Commanding

27
AVCC-P&O (30 Apr 67)

3d Ind

CPT Hubbard/ecb/BNH 487

SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for Quarterly
Period Ending 30 April 1967

HEADQUARTERS, UNITED STATES ARMY ENGINEER COMMAND
VIETNAM (PROV), APO 96491 22 JUN 1967

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

1. The subject report, submitted by the 19th Engineer Battalion (Cbt), has been reviewed by this headquarters and is considered adequate.

2. The recommendations and comments made by the submitting and Indorsing commanders have been reviewed and this headquarters concurs, subject to the following added comments:

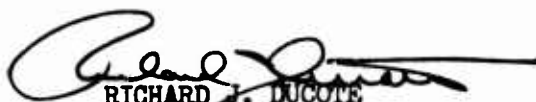
a. Section 2, Part I, paragraph 2, pages 13 and 14, ITEM: Adhesive Requirement for Repair of T-17 Membrane. T-17 rehabilitation/repair kits are now available in RVN.

b. Section 2, Part I, paragraph 2, page 14, ITEM: Failure of Manufactured Seams in T-17 Membrane. This headquarters is compiling data on T-17 and airfield matting failures and will submit a report with a request to have deficiencies corrected in materials produced in the future.

c. Section 2, Part I, paragraph 5, pages 18 and 19, ITEM: Hand Tools for Prefabricated Buildings. This is the first report of faulty tools with PASCOE buildings. Further investigation will be made and recommendations submitted, as required.

d. Section 2, Part II, paragraph 6, page 21. AR 735-35 authorizes unit commanders to have parts on hand necessary for mission accomplishment. All equipment on hand would be authorized by TOE, MTOE or other special authority. The 18th Engineer Brigade will be requested to determine scope of unit problem and assistance will be furnished, as required.

FOR THE COMMANDER:



RICHARD J. DUCOTE

Colonel, CE

Chief of Staff

USARV, ATTN: AVHGC-DH

28

CONFIDENTIAL

AVHGC-DST (30 Apr 67) 4th Ind
SUBJECT: Operational Report-Lessons Learned for the Period Ending
30 April 1967 (RCS CSFOR-65) (U)

HEADQUARTERS, UNITED STATES ARMY VIETNAM, APO San Francisco 96375 20 AUG 1967

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

1. (U) This headquarters has reviewed the Operational Report-Lessons Learned for the period ending 30 April 1967 from Headquarters, 19th Engineer Battalion as indorsed.

2. (C) Pertinent comments follow:

a. Reference item concerning T-17 membrane, pages 13 and 14, and paragraph 2a, 3d Indorsement. Concur in comments, recommendations, and action taken by submitting and indorsing commanders.

b. Reference item concerning low quality tools in prefabricated kits, pages 18 and 19 and paragraph 2c, 3d Indorsement. Concur in comments, recommendations, and action taken by submitting and indorsing commanders.

c. Reference item concerning increasing loading and off-loading capability, paragraph 3, page 20. Concur in recommendation to increase loading and off-loading capability. When DA-imposed moratorium is terminated unit will be notified to submit MTOE action.

d. Reference item concerning requirement for close coordination with artillery units, paragraph 4b, page 21: Concur. Artillery units have an effective safety procedure for firing of illumination ammunition. They must be kept informed of the location of all friendly units in the area of operations to preclude injuries to personnel.

FOR THE COMMANDER:

4 Incl
nc


R. J. KENNEDY
Cpt. USA
Asst Adjutant General

DECLASSIFIED AT 3 YEAR INTERVALS
DECLASSIFIED AFTER 12 YEARS
DOD DIR 5200.10

CONFIDENTIAL

8-70

29
GPOP-DT(30 Apr 67) 5th Ind (U)
SUBJECT: Operational Report for the Quarterly Period Ending 30 April 1967
from HQ, 19th Engr Bn (Cbt)(Army) (RCS CSFOR-65) (U)

HQ, US ARMY, PACIFIC, APO San Francisco 96558 3 OCT 1967

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

This headquarters has evaluated subject report and forwarding
indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:

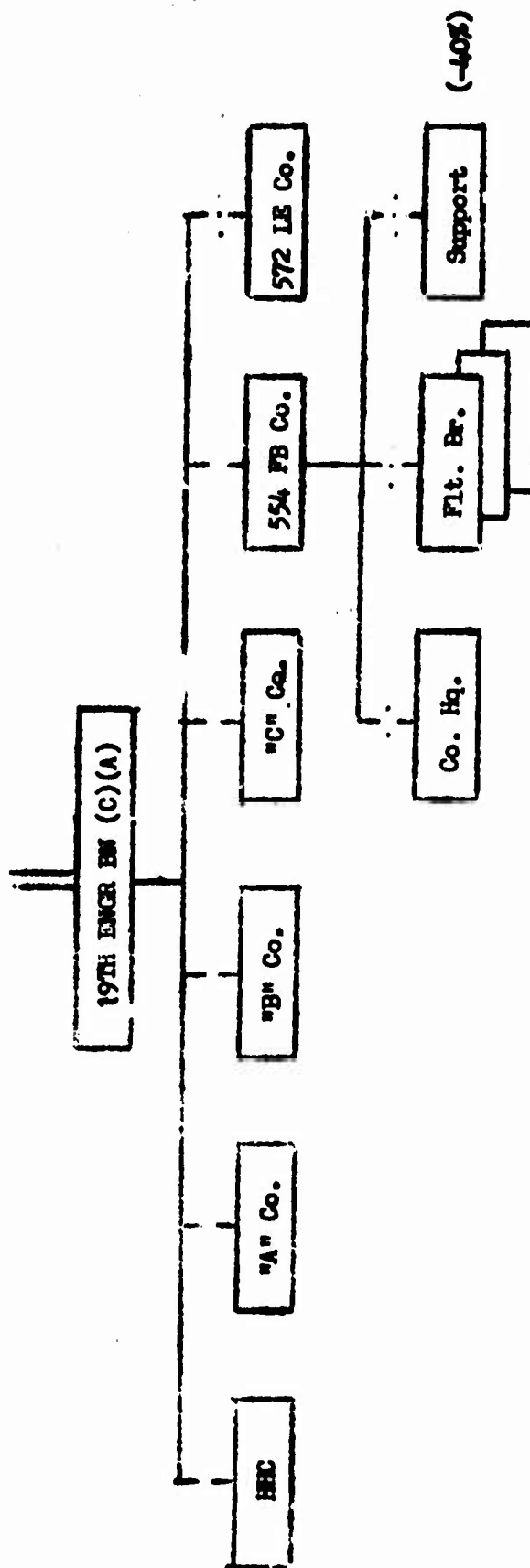

K. F. OSBOURN
MAJ, AGC
Asst AG

4 Incl
nc

616287

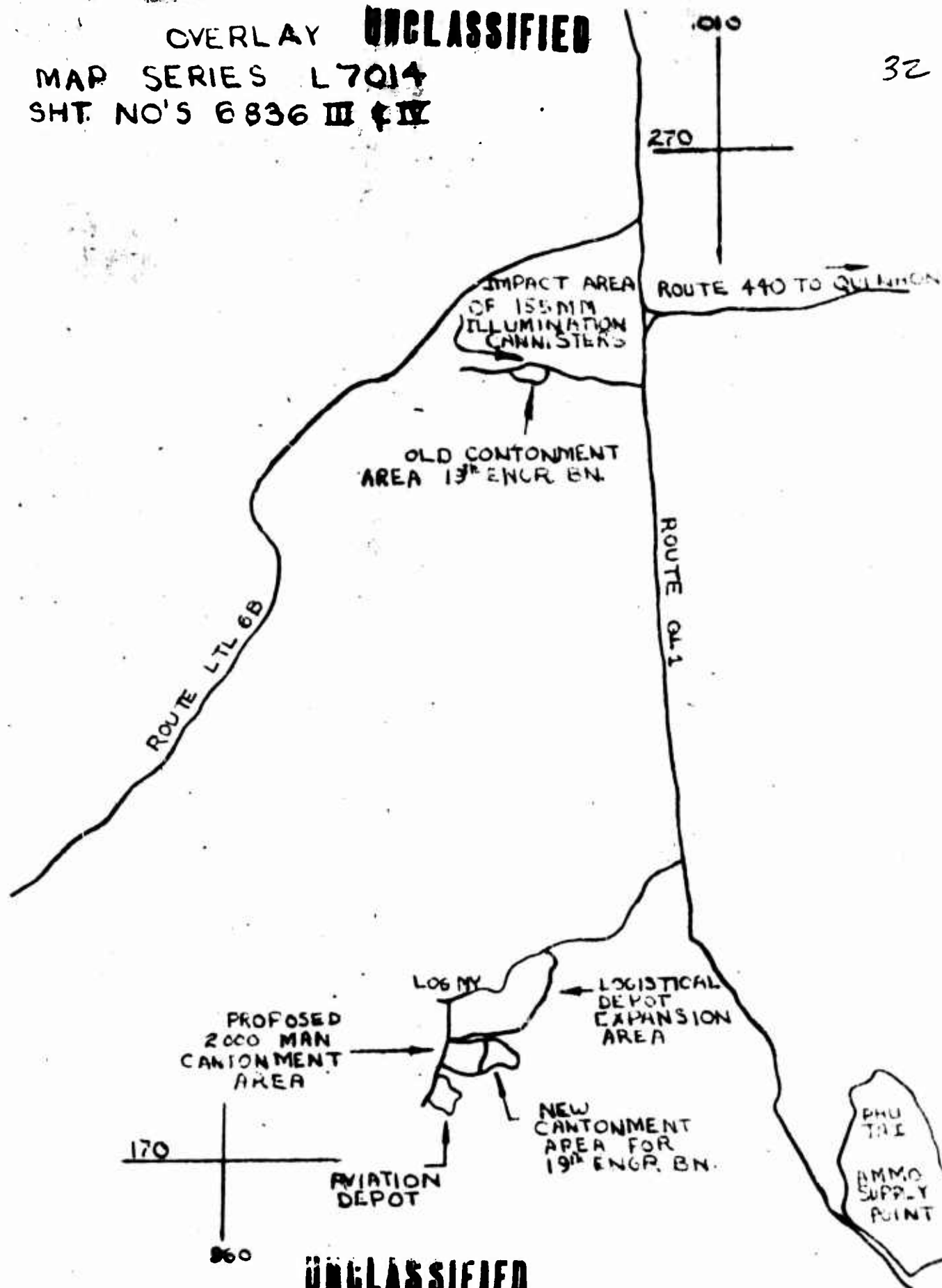
Incl 1

COMMAND & CONTROL:



OVERLAY **UNCLASSIFIED**
MAP SERIES L7014
SHT. NO'S 6836 III & IV

32

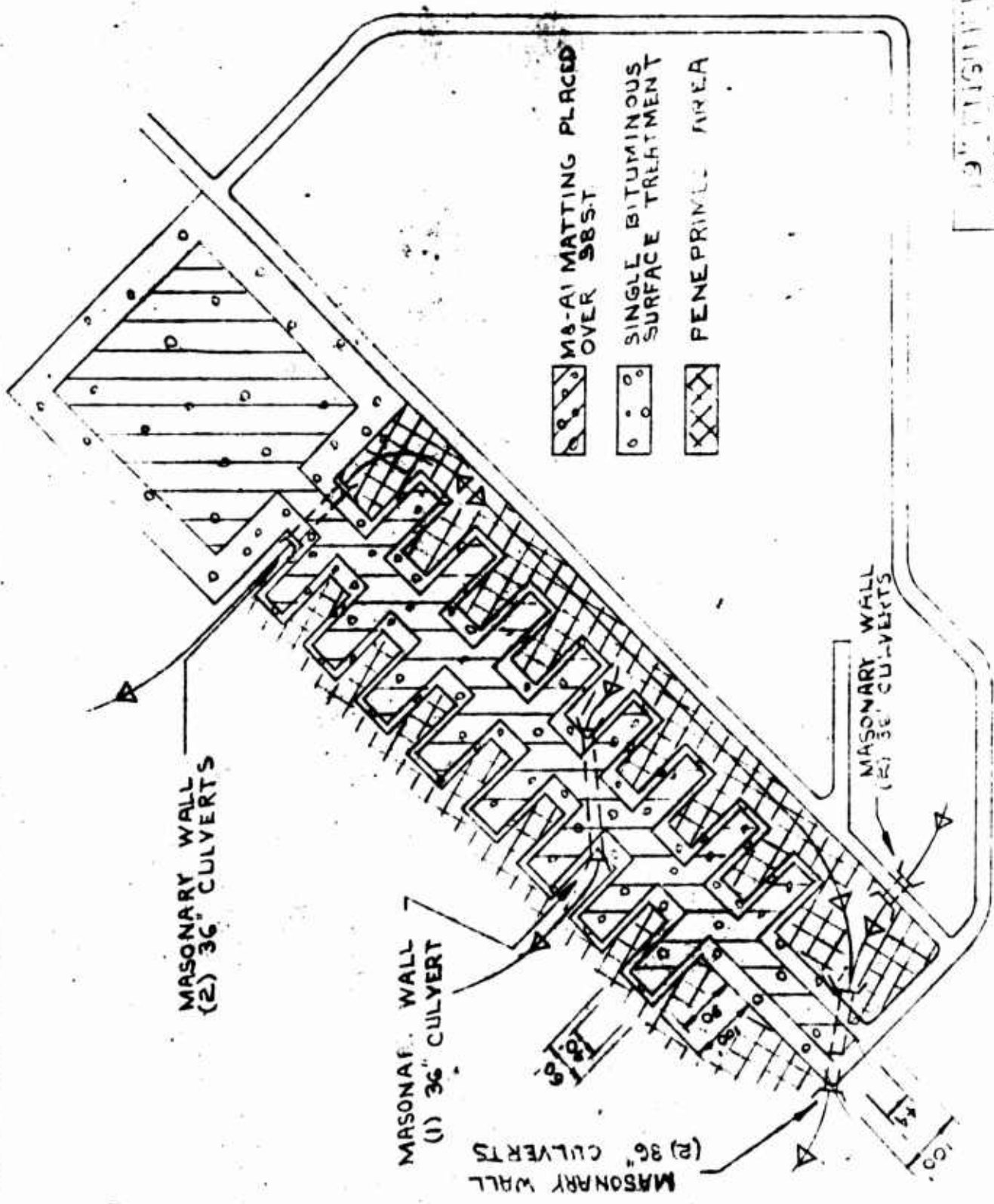


UNCLASSIFIED

INCL. 2

UNCLASSIFIED

1975 DISINTEGRATED
14 MAR 21 CH 47 100 FIELD



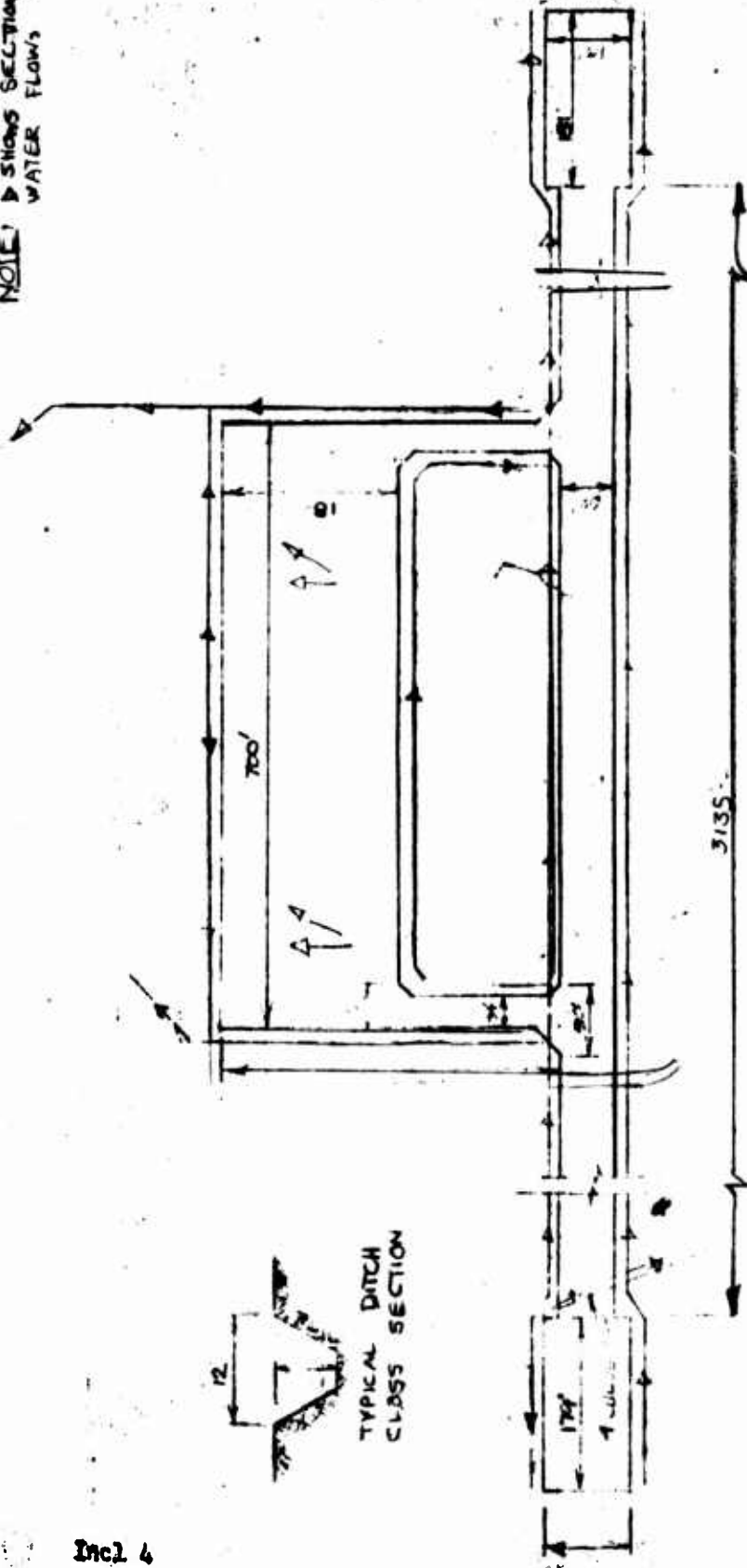
INCL. 3.

UNCLASSIFIED

DECLASSIFIED

34

NOTE: D SHOWS SECTION
WATER FLOWS



SCALE: 1"=200' APPROX

VAN CANH
AIRFIELD

Incl 4

SECRET