

~~CONFIDENTIAL~~

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

Jan - Apr 66

ECC-19E-CO

9 May 1966

SUBJECT: Operational Report on Lessons Learned (RCS CSGPO-28 (R1)),
for Period 1 January thru 30 April 1966

THRU: Commanding Officer
937th Engineer Group (Combat)
APO San Francisco 96238

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

1. Section I. Significant Organizational Activities

a. Administration:

(1) Strength: On 30 April 1966, the battalion reached its lowest strength since arrival in this command.

(a) Status Enlisted:

<u>UNITS</u>	<u>AUTH</u>	<u>ASGD</u>	<u>PERCENT</u>	<u>INTNS IN</u>	<u>INCOUNTRY STRENGTH &</u>
19th Engr. Bn.	586	529	90.2 %	27	502 - 85%
(PB) 509th Engr. Co.	124	120	96 %	3	117 - 94%
(PB) 553rd Engr. Co. (2nd & 3rd Platoons)	54	50	92 %	0	50 - 92%

(b) In country strength is so low that further reduction in strength will adversely effect the present construction mission.

(c) Factors contributing to the low strength posture:

(1) The battalion and attached units were short a total of 44 EM as of 1 January 1966.

(2) During the period 1 January 1966 thru 30 April 1966, a total of 41 EM have been diverted from this unit to other units in Vietnam.

(3) During the period 1 January 1966 to 30 April 1966, a total of 9 EM were reassigned through medical channels.

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(4) The 509th Engr. Co., attached to the 19th Engr. Bn., did not have a valid 8 month requisition at DA, which was required to be submitted prior to departure from CONUS. An emergency requisition was placed by this battalion on 9 December 1965. The first direct replacement from CONUS was received by this unit on 3 February 1966. During the period 20 October 1965 to 2 February 1966 diversion of 28 EM from 19th Engr. Bn. was necessary in order to maintain the 509th Engr. Co. at operational strength

(5) The 2nd and 3rd platoons of the 553rd Engr. Co. attached to the 509th Engr. Co. did not have a valid 8 month requisition at DA, which was required to be submitted, prior to departure from CONUS.

(6) The 19th Engr. Bn, 509th Engr. Co. and the two platoons of the 553rd Engr. Co. have had a total of 174 ETS losses during the period 1 January 1966 thru 30 April 1966.

(2) Intransit Personnel: Difficulty is being experienced in determining status of intransit personnel. Average elapsed time between an individual's initial entry on the morning report and reporting date is 21 days. In the event the individual does not report by estimated time of arrival a reply to tracer action takes from 14 to 20 days.

(3) Incomplete Records: Finance records in nearly all cases are incomplete. Primarily the following documents are missing:

(a) DA Form 1341 - Start and Stop of Allotments

(b) Suspense Documents from losing F&AO

(c) Partial Pay Vouchers including those paid by finance officer enroute when individual has pay records in his possession.

(d) Indication that TR was or was not issued: (Should be indicated on DA Form 14-118).

b. Intelligence:

(1) During the reporting period the battalion reconnaissance team completed six major missions:

(a) Deliberate road and bridge reconnaissance of Route 1 from Phu Cat (BR 907486) to Bong Son (BR 869953) a distance of thirty four (34) miles, including fifty four (54) bridges.

(b) Deliberate road and bridge reconnaissance of Route 6 from the junction of Route 1 and Route 6 (CR 002263) to Van Canh (BR 838065), a distance of fifteen (15) miles including fifteen (15) bridges.

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(c) Cross country reconnaissance of approximately eighty nine (89) kilometers of the Con River and its tributaries (BR 666480 to CR 090370) to determine the feasibility of utilizing floating bridges to support future operations in that area.

(d) Reconnaissance of the Bong Son Bridge (BR 869953) and the surrounding area. This information was required in order to prepare plans for the repair or bypass of the bridge in the event it should be damaged or destroyed during operations in that area.

(e) Railroad reconnaissance from the Port of Qui Nhon to Phu Cat (BR 912440) a distance of eighteen (18) miles to determine the present condition of the railroad and the time and materials required to restore it to a usable condition.

(f) Deliberate road and bridge reconnaissance of Route 442 from its junction with Route 1 (CR 001283) to Kim Dong (CR 065372), a distance of eight (8) miles and including nine (9) bridges.

(2) The battalion receives its intelligence reports from two sources. The daily situation report from Binh Dinh Sector Headquarters, which is received through S-2, 937th Engr. Gp., and the daily intelligence summary distributed by G-2, ROK Capitol Infantry Division.

(3) The section photographer has the responsibility of all reconnaissance photographs, project photos and PIO photos for the battalion. A photography lab has been completed which greatly aids the accomplishment of this mission.

c. Operations:

(1) This organization has been engaged in construction missions for the period beginning 1 January and ending 30 April 1966.

(2) Projects underway or completed during the reporting period:

(a) Project BDE-65-4DC-937: (Completed 11 Feb 66)
Construction consisted of widening of eleven (11) miles of existing road to class "Y" specifications, replacement and/or reinforcement of six (6) existing bridges to class 25 (one-way) structures and the construction of 8.5 miles of cantonment access road. Completion was delayed by inclement weather, lack of equipment, lack of culvert materials, and outcropping of stone which required blasting.

AcO (b) Project BDE-65-10DC-937: (Completed 14 Feb 66)
Construction of a fifty (50) pad heliport with a single penetration
In addition, all facilities required to accommodate

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and service two Helicopter Aviation Companies with their organic equipment, one (1) mile of class "Y" access road, and a class "25" (one-way) bridge were constructed.

CO (c) Project 937-46C: (Completed 11 Feb 66) Construction consisted of a temporary POL Storage Facility to include eight (8) acres of hardstand, two (2) 20' x 50' concrete pads and construction of a class "Y" access road into the facility.

(d) Project BDE-65-32DC-937: Construction consists of a heliport with single penetration macadam surface to accommodate twenty-five (25) rotary winged aircraft and the construction of a class "Y" access road with a large culvert. This project was started 20 January 1966 and has been delayed considerably by the lack of earthmoving equipment and crushed rock.

CO (e) Project BDE-65-69DC-937: The original project directive specified construction of a 50,000 barrel POL Storage Facility under 937-46. Since then, the project has increased in scope and now includes a 100,000 barrel POL Storage Facility, one (1) mile of 2 ea 8 inch pipeline and two (2) miles of 2 ea. 6 inch pipelines, plus a twelve (12) point truck fill stand. Construction on this project started 7 Sept 65 and has been delayed by shortages of tank components, pipe fittings and a cutting and grooving machine.

R19-B60 (f) Project 7-937/V-66: Construction of a Maintenance Facility and Cantonment area including 72 acres of hardstand, a standard 2 cantonment for 1000 men, and erection of necessary supply and administration buildings. This project was started on 5 February 1966 and initially progressed slowly due to the lack of earthmoving equipment. The project is proceeding satisfactorily at present.

CO (g) Song Cau Airfield Project 12-937/V-66 (19-26 March 1966) Extension of an existing airfield runway, at Song Cau. Construction included the extension of the runway by 750' and turnaround pads, 100' x 100', at each end, thus enabling the airfield to accept loaded C-123 aircraft.

CO (h) 22nd ARVN Division Headquarters Airstrip (7 - 17 April 1966) Project included construction of an 1800' airstrip to accommodate Caribou Aircraft and a perimeter road completely encircling the Airstrip

(i) Project 23-937/V-66: Phu Tai Valley Swimming Facility (13 - 25 April 1966). Project included the dredging of an area approximately 150' x 150' in the Song Ha Thanh River to an average depth of 5'. A parking area and access road were also constructed.

HWY 19 CO (j) This battalion received a 75 ton/hr rock crusher on 30 March 1966. Installation of the primary unit has been delayed because the apparent electric motors were not received in the shipment. The motors were installed at the 299th Engr. Bn. rock quarry to replace their decelerated motors.

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(k) This organization has a panel bridge company and two float bridge platoons attached. The panel bridge company is utilized as a dump truck company to support projects assigned to the battalion. Float bridge trucks are used for transporting project materials from the depot to the project sites or battalion area.

(m) The 19th Engineer Battalion has responsibility for coordinating the defense of all units located in Valley "A". These units include a Medical Battalion, a Military Police Battalion, and elements of another Engineer Battalion. Each of these units has its own higher headquarters so that no direct command is possible. However, the units in Valley "A" have cooperated in every way and no difficulties have been encountered.

d. Communications:

(1) The TOE for this battalion authorizes thirteen (13) AN/VRC 10's and four (4) AN/VRC 18's as the only means of vehicle mounted FM capability. This allows one (1) AN/VRC 10 for each line platoon leader and company commander. In addition the company communications section is authorized one (1) AN/VRC 10 for each line platoon section and one (1) AN/VRC 18. The remaining AN/VRC 18 and AN/VRC 10 are allocated to the Battalion Communications Section. The TOE of this battalion does not authorize an FM radio for the Battalion Commander, Executive Officer or Battalion S-3. These radios have been found to be necessary to eliminate time loss due to administrative and command problems. Radios for these purposes have been drawn from the line companies thus impairing company operations to some extent.

(2) The climate in this locale has created a distinct maintenance problem. Connections and wiring corrode very quickly because of the high humidity and temperatures. Tube life has also been shortened considerably. Some relief has been obtained by providing for good circulation of air in order to minimize the overheating of radio sets.

e. Logistics:

(1) During this period, supply activities have been concerned within the following areas:

- (a) Project Materials (MCA)
- (b) Improvement of troop living conditions (OMA)
- (c) Procurement of supplies and equipment required for maintenance of equipment, sustenance of troops and improvement of units combat readiness.

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2. Project materials (MCA Funded Projects): Problem areas still exist, resulting from shortages of many items at the depot.

(a) Requisitions processed through the Engineer Depot are either filled or zeroed out if the item is not available at the time requested, thus resulting in resubmission of requisitions.

(b) In some instances the items were available in the depot but sets were widely scattered throughout the depot requiring a complete search in order to find all component parts of buildings, tanks, etc.

3. Improvement of Troop Living Conditions: A continuous effort is being made to improve troop living conditions. Cement has been made available in sufficient quantities to place concrete floors in tents. Showers and latrines have been constructed in the battalion area thus providing better sanitary conditions. An EM club is nearly completed.

4. Procurement of Supplies and Equipment:

(a) Special problems exist in securing TA 50 901 items authorized this organization, ie, Canvas cots, Pneumatic mattresses, Sleeping bags. Although this organization arrived with a complete issue of TA 50-901, shortages occur due to replacements arriving with no field equipment, and fair wear and tear accounts for other shortages. Requisitions have been submitted, but items have not been issued. The explanation received from stock control is that items are on hand but this unit's priority is not high enough. Listed below are the outstanding requisitions:

6008-0002	MATTRESS, Pneumatic	8464-719-9181	75 ea.
6060-0102	COVER, Cot Canvas	7105-160-0372	25 ea.
6061-0002	COVER, Bag Sleeping	8465-237-8719	25 ea.
6061-0003	BAG, Sleeping	8465-242-7855	25 ea.

(b) An additional problem exists in that there are no laundry facilities available to clean sleeping bags.

5. Due to the type mission assigned this battalion the S-4 Section was unable to operate with the assigned personnel. An additional enlisted man was detailed to assist in the requisitioning and drawing of construction materials.

f. Maintenance

(1) Equipment

a. The condition of the Battalion equipment continues to deteriorate due to the extensive use it is receiving. During this reporting period three of three graders, two of three front loaders and three of four

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cranes went to support maintenance for repairs. One 1.5 KW and one 3 KW generator were declared uneconomically repairable and replacements requisitioned but not yet received. This includes equipment of attached units.

b. Critical shortages of dozers was alleviated the first of April with the arrival of eight HD 16M's to replace TD 18's. This Battalion was augmented with a 75-Ton rock crusher and a 40-Ton crane.

(2) Maintenance

a. Repair parts continue to be the prime factor in delaying repairs. As of this date, (30 Apr 66) 8 major pieces of Engineer Equipment and 9 pieces of Ordnance Equipment are in Support Maintenance awaiting parts. This includes one (1) 10KW generator that was deadlined for faulty stator windings and diodes. This is a component of the water purification set.

b. Of the better than 5400 repair parts requisitions submitted, only 30% have been filled by the end of this reporting period. The Red Ball Express System which was started the end of the last quarter has alleviated the problem to some extent. As a result of 123 items placed on "Red Ball", 32 end items have been brought off deadline. However, within the last forty-five days only one (1) Red Ball requisition has been filled.

(3) Support Maintenance

a. Until the middle of this reporting period this unit had one man from an Engineer Field Maintenance Detachment attached to the Battalion, which enabled our own shop to accomplish 3rd echelon repairs on Engineer equipment. The loss of this man necessitated our relying on the Direct Support Unit in this area for 3rd and 4th echelon repairs to our Engineer equipment. As a result of the heavy demand placed on that unit they are unable to react as rapidly as the detachment did, thus creating a longer lag time between breakdown and repair.

(4) Tools

a. Replacement of tools is becoming a problem. Self Service Supply Center is unable to supply replacements for tools that become damaged or worn.

2. (C) Section II. Commanders Recommendations

a. Administration

Strengths: Action should be taken at appropriate command levels to obtain enlisted personnel to bring all units to full strength

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Necessary inventory rosters and requisitions have been submitted by this organization in accordance with existing regulations.

(2) Diversion of Personnel: Diversion of incoming personnel from an organization should occur only when an overstrength is indicated by inventory report.

(3) Intransit Personnel: Current regulations (AR 330-12), regarding procedures for determining EDCSA's should be revised to provide that EDCSA's for assignment to Vietnam are the same as arrival date at the port of debarkation plus an additional 7 days to allow travel time to ultimate unit of assignment.

(4) Incomplete Records: That a directive be published to units providing replacements to Vietnam reemphasizing that records are to be complete in all respects. Personnel with missing financial documents should be delayed at the home station until such time as financial records are complete.

b. Intelligence

(1) The intelligence section is greatly handicapped by the lack of a typist and typewriter; however, implementation of E-Series TOE will alleviate this problem.

c. Operations:

(1) Augmentation of personnel to operations section: Through experience, it has become apparent that the present TOE does not provide sufficient technicians for this section to accomplish its present construction mission. A certain amount of additional design capability has been available by using the design ability of some of the line company officers. It is recommended that TOE authorizations include an additional draftsman (MOS 81B20) and two (2) additional construction surveyors (MOS 82B20). This problem will not be alleviated upon implementation of the E-Series TOE.

d. Communications:

(1) Prior to the date of this report the battalion not control station obtained power from two (2) 5 KW generators which were being utilized to operate a Signal Corps relay station in the battalion area. The lending unit has moved the relay station; therefore the battalion's communications section must rely on either a 1.5 KW generator or a 3/4 ton truck for power. An EML has been submitted requesting that two (2) ea 5 KW DC generators with rectifiers be issued to this unit. At present the 24 hour operation maintained by this battalion's NCS puts a distinct strain on its organic power equipment.

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(2) It is further recommended that battalions of this type should be authorized an additional three (3) AN/VRC 10 radios or similar equipment for use by the Battalion Commander, Battalion Executive Officer and Operations Officer.

e. Logistics:

(1) It is recommended when a submitted requisition cannot be filled that the Engineer Supply Point issue a due out.

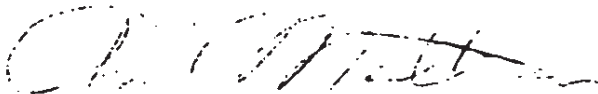
(2) It has been found necessary to augment the S-4 Section with an additional man in order to cope with the huge amount of paper-work involved in requisitioning and disposing Engineer Construction materials. Implementation of the E-Series TOE does not provide any relief for this problem and, in fact, provides a reduction in rank from Sergeant E-6 to Sergeant E-5 for the Engineer Supply Sergeant. Furthermore, TOE 5-35E eliminates the entire ration breakdown thus placing an enormous work load on the remaining portion of the S-4 Section.

3. (C) Section III: Lessons Learned

Item: Dust Control

Discussion: In this particular locale, the general soil type is a noncohesive, silty material with excessive fines. The lack of precipitation during certain periods of the year and the drainage characteristics of this particular locale create a distinct dust problem. The condition is magnified by the fact that the greater percentage of roads are of the expedient type and have not yet been surfaced.

Observation: This unit has had considerable success in road surface stabilization utilizing a 1000 gallon asphalt distributor to spray the roadway with 1) cheap grade of fuel oil, commonly burned in ocean going vessels and 2) common OE 10. Both of these products have served to minimize the dust problem to some extent.



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HEADQUARTERS
U.S. Army, 19TH ENGINEER BATTALION (COMBAT) (ARMY)
APO US FORCES 96238

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13 March 1966

Subject: Section III, Lessons Learned RCS CSCFO-28 (R1)

THRU: CO, 937th Engr Gp (C)
CG, 18th Engr Bde
CG, USARV
CG, CINCSARPAC

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

Radio and Wire Equipment

Item: Radio parts deteriorate rapidly in tropical climate.

Discussion: High humidity which characterizes the local climate causes an unusual amount of damage to radio and wire equipment. Exposed copper surfaces corrode and exposed steel surfaces rust thus causing a higher than average deadline rate.

Observation: Proper storage techniques must be practiced. Equipment in use must be carefully checked daily and scheduled periodic inspection by signal maintenance should be arranged.

Radio Control of Job Sites

Item: Radio communication increases the effectiveness of units with wide spread job sites.

Discussion: Prior to receiving assigned frequencies from higher headquarters, it was very difficult to control widely separated projects. In the event of equipment breakdown a vehicle had to be dispatched from the job site to the battalion area for maintenance support, and instructions from battalion headquarters could not be obtained without returning to the battalion area.

After receiving radio frequencies and establishing a remote station in the S-3 Section, control was established over the projects without loss of time. Questions can be answered and maintenance support obtained without someone physically leaving the project site.

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13 March 1966

Observations: The FM radios organic to the combat engineer battalion provide an effective means of flexible control over widely separated construction sites.

Maintenance and Equipment Consolidation

Items: Consolidation of all heavy equipment operators and engineer mechanics into the headquarters company.

Discussion: This unit has consolidated all heavy equipment operators and engineer mechanics into the equipment platoon in order to provide centralized control of equipment and maintenance support for the battalion. Because of priorities assigned to various projects, a majority of the battalion's equipment is often required to work on one project. Centralization has eliminated the problem of coordinating the use of one company's equipment and operators on another company's project and provides a pool from which equipment may be allocated for support of all construction projects.

The repair of equipment has also benefited by this arrangement in that the mechanics are pooled in a quantity large enough to establish a twenty four hour repair schedule. Equipment is repaired and returned to the project more quickly thus increasing the battalion's capability.

Observations: This consolidation of equipment and mechanics has increased the construction capability of the battalion by providing flexible support under centralized control.

Vietnamese Labor

Items: Vietnamese labor for construction projects.

Discussion: Vietnamese laborers are very satisfactory when assigned to the same task for the duration of the project or when skilled labor is hired. The problem involved in hiring Vietnamese laborers can be minimized if an interpreter is available to exercise control over personnel hired. A work card or pass should be issued to insure that the same laborers are worked for the duration of the project. Vietnamese are very adept at reproducing work cards so care must be taken in the selection of work cards and they must be changed periodically.

Observations: Personnel who plan to utilize Vietnamese labor should be aware that work cards are needed of a type which cannot be easily reproduced by the laborers, and that the service of an interpreter is also needed.

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13 March 1966

Subject: Section III, Lessons Learned RCG CSGP-28 (21)

Headwalls

Item: Field expedient headwalls for culverts.

Discussion: Because of their quick deterioration in this climate sandbags make poor headwalls.

Observation: An acceptable headwall can be built by using river-mud rock and mortar. An economical mortar can be mixed using one volume of cement and six volumes of sand. This type construction is very suitable for Vietnamese laborers because of their prior experience in this type of work.

Culverts

Item: Field expedient culverts.

Discussion: Frequently due to the lack of culvert material the battalion has had to rely on expedient culverts made of welded 55 gallon drums or napalm bomb containers.

Observation: When installing culverts composed of 55 gallon drums a welder is necessary at the job site. The napalm bomb containers require no welding and can be assembled at the job site by using the "C" clamp which is part of the container. The bomb containers are very thinly walled and require a deep, well tamped backfill.



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