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~~TOP SECRET~~
VII-113F

39th Engr Bn

EGA-3 (24 May 66) 1st Ind
SUBJECT: Operational Report on Lessons Learned for the Period 1 January thru 30 April 1966. (RCS CSGPO-28 (RI))

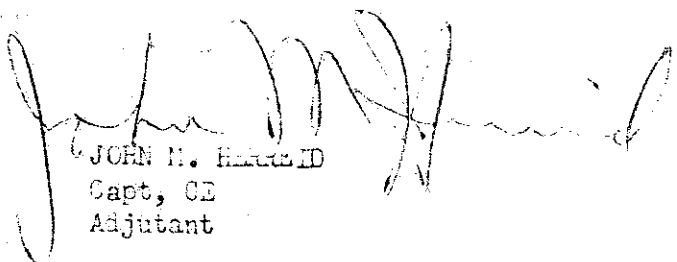
HEADQUARTERS, 35th Engineer Group (Construction), APO U. S. Forces 96312
24 May 1966

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

1. In accordance with Department of the Army Regulation 525-24, dated 29 October 1959 and USARV Circular 870-1, dated 11 November 1965, with Change 1 dated 1 April 1966, Subject: Operational Report on Lessons Learned (RCS CSGPO-28 (RI)), the subject report is forwarded for the 39th Engineer Battalion (C)(A).

2. Concur in Commanders Observations.

FOR THE COMMANDER:



JOHN N. HERCEID
Capt, CE
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OPS-05-009

naissance of existing and proposed roads in the vicinity of Tuy Hoa, Viet Nam. The purpose of the mission was to determine the effort required to construct a road net in the area that would support both tactical and logistically the combat units securing the Rice Rich Valley in the Tuy Hoa area.

(2) The reconnaissance team consisted of a platoon from Company A reinforced with the Battalion recon section. The team was airlifted from Cam Ranh Bay to Tuy Hoa on 23 March 1966. Security elements from the 1st Brigade, 101st Airborne Division, 1st ROK Marine Brigade and 47th ARVN regiment were provided. The major portion of the roads to be reconned were through VC infested areas. 80% of the roads were reconned on the ground while the remaining roads under VC control were reconned by air with the assistance of the 10th Aviation Battalion.

(3) On 31 March the team completed its assigned mission which included the reconnaissance of 65 miles of road, numerous bridges, and fords. On 5 April 1966 a detailed report of the reconnaissance was provided to Field Forces Viet Nam to provide them with the necessary information in assigning responsibility for the construction of the desired road net.

(4) Vung Ro Bay, Viet Nam: On 27 and 28 April 1966 reconnaissance parties from the 39th Engineer Battalion conducted a two phase reconnaissance in the area South West of Tuy Hoa. Security for the operation was provided by elements of the 2d Battalion, 327th Infantry (ASH) and the 2d ROK Marine Brigade, with heliborne operations being supported by the 11th AVN Gp.

(5) On 27 April 1966 an eight man reconnaissance team from the 39th Engineer Battalion was heli-lifted along with security elements from the 2d Battalion 327th Infantry to the vicinity of Dai Lanh where they conducted a thorough reconnaissance of both a highway bridge and a railroad bridge which through the use of explosives had been rendered useless by the Viet Cong. When this was completed the reconnaissance party loaded aboard the Vietnamese Junk Fleet along with their security force and sailed several miles north to their second objective of the day, a beach to be possibly used as an LST Landing Site. Here the reconnaissance party was joined by representatives of the 497th Port Construction Company who were present to make soundings along the shore. While these soundings were being taken, the reconnaissance party surveyed the area; shot a road in connecting the beach with the railroad; recorded valuable data on the soil, tides, waves and currents; and then climbed a rugged mountain trail in search of a possible way to build a road connecting the beach with Highway 1, several hundred yards up the mountain side. Upon completion of the reconnaissance of this area the party made a short survey of a second beach and then returned to Tuy Hoa South for the night.

(5) Parking Apron: Constructed an M-8 PSP aircraft parking apron using salvaged M-8 PSP on top of an asphalt and burlap dust palliation treatment.

(6) Pipeline: Construction of 3,000 LF of four (4)" pipeline to provide water to the 35th Engineer Group Headquarters.

(7) Storage Areas: Levelled and laterited a 90,000 SF storage area for the 53d Engineer Company Storage Area at Cam Ranh Bay, Viet Nam.

(8) PSP Storage Pads: Placed 67,400 SF of M-8 PSP to provide storage areas for intransit materials. Placed 25,000 SF of M-8 PSP to provide an LST beach storage area, tying in with old existing M-8 PSP by welding the pieces together.

(9) Storage Area: A 400,000 SF storage area was brought to grade for exterior depot supplies.

(10) LST Ramp: An attempt was made to construct a blast rock LST ramp on the South China Sea. The ramp extended about 45 feet into the surf and was formed by blast rock choked by smaller rock. The rough condition of the surf caused rapid destruction of the ramp, taking about 25 feet and spreading it out, causing an obstacle to the front of the ramp. Consequently the LST refused to attempt a landing at the site, but landed directly on the beach.

(11) A beach survey by the 497th Engineer Company (PC) recommended that the LST ramp site be located at Vung Ro Bay because of the surf action. Construction of the LST ramp ceased with the decision to leave the deadman anchor system in place to secure those ships that land on the beach.

(12) Quonset Erection in the 1st Logistics Depot Area of Cam Ranh Bay: After construction of twenty-four (24) 20'x40' Steel Arch rib quonsets had started the decision was made to tropicalize those yet to be constructed. This was done by simply extending the corrugated sheet metal siding out at about a 35° angle from the horizon thus increasing the usable space plus greatly increasing the ventilation. The roof corrugated metal was run perpendicular to the long axis of the building which increases the drainage of the roof. The ceiling vent was installed as in a normal roof rather than raised up 6 inches as is sometimes the practice.

(13) Combat Support (Tuy Hoa):

(a) Canal Bridge By-pass: A damaged one lane bridge across a canal approximately 10 feet deep and 43 feet wide was by-passed with a culvert and fill. This operation was done in conjunction with Company A, 326th Engineer Battalion, in order to advance the artillery some 8,000 meters. The operation took two (2) days due to constant VC probes at the site.

(k) Civic actions projects were also conducted to include: two (2) water points, road maintenance, vehicular mechanical work, medical treatment and culvert construction.

(lh) Signal Hill: Construction consisted of: leveling hill tops, building generator shacks, placing a concrete antenna base, and construction of an electronic equipment building. The existing seven (7) mile road to the site was laterited.

c. Current Projects Include:

(1) Road Maintenance: Maintenance of approximately twenty (20) miles of laterite roads.

(2) Road Construction: Construction of seven (7) miles of laterite roads to include internal road nets of local troop contentment areas.

(3) Quarry Operations: Operation of a rock and laterite quarry that has produced, since 1 April 1966, 3730 tons of rock and 20,315 tons of laterite.

(4) Cantonment Area: Construction of a 700 man cantonment area located at three (3) different sites (HQ, A and B Companies of 71 AAA). To date 670 CY of concrete have been placed and 10,016 SF of vertical construction completed out of a projected 34, 632 SF. Self help has been of great assistance in the progress of this project.

(5) Cholon Construction: Construction of twenty-two (22) Cholon prefabricated buildings, 20'x50', with some Cholons placed end to end. The longest building is five (5) Cholons for a total of 250' in length. Case of construction is a definite asset but the manner of design of the building permits excess amounts of sand to blow into the building.

(6) Cantonment Area: Construction of an 800 man cantonment area for the 39th Engineer Battalion and 572d Engineer Company. All construction is standard 2 and designed such that it can be moved from its present temporary location to a permanent location.

(7) Convalescent Center: The construction of an 1100 man Convalescent Center to include an 1140 man capacity mess hall. To date 955 yards of concrete have been placed out of a projected 1786 yards, 41,000 SF of vertical construction completed, and 413,000 yards of earth moved.

(8) Combat Support (Tuy Hoa):

(a) Dust Free Helipads: In order to provide dust free parking areas for Air mobile companies a T-17 membrane pad 200'x 1000' has been designed and emplaced. The design calls for the sand adjacent to the T-17 to be shot with a dust palliative (RC-0). A total of 600,000 SF of T-17 is to be emplaced. A more shallow ditch has been designed for the anchorage system to eliminate excess wrinkling of the membrane.

(d) Reorganization as Infantry to include battle drill, commands and fire and movement.

(2) The inclement weather training is scheduled on a company level to include:

- (a) Tactics
- (b) Minefield operations
- (c) Security
- (d) Construction techniques

(3) Training films are programed so as to utilize the nightly movie schedule.

5. S-4: Devising and operation of supply procedures:

a. Allocation of critical items-controlled by Cam Ranh Bay Depot and 35th Engineer Group (Construction), S-4.

b. Automatic Supply-no comment

c. Supply by status report and other supply reports: This unit has not received any reply in regard to the various reports sent forward. In particular, the periodic Logistics report has not been answered.

d. Supply by requisition: This unit has submitted 2346 requisitions during the report period, and has received 1443 (approx 51%). Of these requisitions submitted, 1303 were for construction supplies.

e. Operational Development Projects: This unit has one potable water supply point in operation and has produced 1,075,895 gallons during the report period.

f. Other special and emergency supply operations: None.

g. Exchange of Supply Information: This unit has made and received several visits to and from engineer units located in this area in regards to supply activities and problems. This has proved to be quite helpful.

6. Maintenance and equipment:

a. Repair Parts: ✓

(1) A total of 2,134 requisitions were submitted through normal supply channels, of these only 179 were filled, and the remaining

(a) The current strength is 536 assigned out of an authorized 619.

(b) Item: Morale ✓

1 Discussion: The matter of maintaining troop morale in the Viet Nam Theater revolves primarily around several specific areas: First an adequate information program; secondly, close supervision of basic services, e.g. mail, food, post exchanges, laundry; etc., and finally, a well organized special services program.

2 The first item centers around the fact that personnel will take more interest in their work if they can justify their purpose in being in Viet Nam. Detailed indoctrination as to overall United States objectives and more specific details as to the operations of the particular unit and the individual within the unit, help considerably to relate personnel to their role in the overall picture. These facts should be stressed and this battalion is currently conducting a program of regularly scheduled in-briefings for newly arrived personnel to acquaint them with the unit, its traditions and its operations and also to familiarize them with the area in which they will be living and working.

3 The second item, although important in CONUS assignments, takes on added importance during the twelve (12) months a man is stationed in Viet Nam. The fact that so little else is available makes the smooth function of normally routine services highly desirable. Efficient mail service for example is one of the foremost morale factors in this battalion and the adverse effect of inconsistent service is readily observable. Additionally, another area which takes on magnified importance is the availability of items normally readily obtainable in CONUS. Such things as candy, sundry items, jewelry and cameras provide a considerable morale boost. In recognition of this fact the battalion is operating a unit post exchange in addition to making the base exchanges more accessible through adequate transportation. The operation of a local unit exchange is particularly important in organizations which are essentially isolated from main supply areas.

4 Third, and perhaps most important is the establishment of a special services program. Relieving boredom and breaking routine, while providing an outlet for all personnel in their off duty hours, is a major contributing factor to the maintainance of high morale. At the present time an officer is responsible for the coordination and implementation of a special services program which includes a battalion movie theater, canteen, athletics, and recreation schedule, tournaments of pinochle, horse shoes, checkers, and bingo, and a supervised swimming program.

5 Finally, the special services program is effectively supported by an R&R schedule which allows the majority of personnel who desire to do so, to leave the area for periods of five to seven days. R&R quotas have varied from 15 in February to 57 in May and the variety of locations available have allowed most individuals at least their first or second preference.

(2) An additional fact that continues to pose a problem is the diversion of assigned personnel prior to arrival at the unit. This not only makes it difficult to plan future requests but also hinders programed assignment of these individuals, since these individuals were in many cases requested far in advance and their arrival planned to complete TOE strength.

(3) Observations: It is recommended that personnel with less than at least 90 days remaining to ETS not be considered eligible for overseas deployment and also that personnel ordered to a specific unit from another theater not be diverted upon arrival in-country unless the individuals MOS is required in a combat unit.

d. Operations:

(1) An engineer combat battalion has some difficulty operating under an extensive construction program. Even with the transfer of the S-2 Officer to the Engineer slot, additional personnel are still required in the area of construction drafting, estimating, and construction supervision.

(2) Delays in project completion are encountered due to non-availability of construction supplies.

e. Supply:

(1) Movement and handling supplies:

(a) This unit during the report period, has been responsible for drawing and moving approximately 95% of the supplies received from the depot area to the cantonment or project site. This has been accomplished with the organic equipment available, e.g. 20Ton truck mounted cranes, 5Ton dump trucks, and 25Ton semi-trailers. This method has been time consuming, as the cranes are slow, and difficulty is encountered in mobility of the crane, due to the sand.

(b) Recommend the HE equipment be augmented to parallel the TOE of units engaged in construction. This would greatly increase the operating efficiency of the battalion.

(2) Transportation: Air and Water

(a) Air transportation:

1 Air movement by this unit has been attempted on numerous occasions to support combat operations in the Tuy Hoa area. This movement is coordinated and controlled by the Area Transportation Office, Cam Ranh Bay. To date this has been totally unsatisfactory, as it required from 5 to 25 days to receive the scheduled transportation, as such engineering effort has been wasted during the delays.

2 This unit has requested that a bi-weekly, scheduled CV-2 flight from Cam Ranh Bay to Tuy Hoa and return be provided. This request has been submitted to the Area Transportation

(n) Administration of Supply (supply control): supply control is accomplished with applicable regulations and no significant problems have been noted, except for slow delivery of items not in stock.

(3) Communications: This unit has the old family of radios V-C-10 and VRC-34. Not only are they old and worn out with parts being difficult to obtain, but they do not net satisfactorily with the new family of radios. On numerous combat support operations the effectiveness of the operation was hampered by poor communications, both to the battalion and to supporting infantry and artillery units.

(4) Unit Capability:

(a) Outstanding accomplishments have been achieved in the following areas:

1 Company C 39th Engineer Battalion moved through 50 kilometers of enemy territory to construct a 600 M runway extension while conducting an extensive program of civic works in the town of Cung Son.

2 Company B 39th Engineer Battalion conducted extensive combat support missions in Tuy Hoa, Viet Nam, during the period 15 January 1966 through 16 March 1966. Through ingenuity, incentive, aggressive leadership, and hard work, accomplishments were made that ranged from laying PSP, to construction of causeway, to mine-sweeping operators.

3 Company A 39th Engineer Battalion not only constructed the longest tactical bridge in Viet Nam (MLTQ) at Cam Thanh Bay, they also conducted the extensive road reconnaissance of 65 miles of roads in the Tuy Hoa area.

(b) The 39th Engineer Battalion, with 572d Engineer Company (LB) attached, has averaged a monthly construction effort of 105,000 man hours. The 39th Engineer Battalion has a total capacity of 115,000 MH/battalion month but, when deductions are made for overhead, physical security, and absences, this capacity is reduced to 85,000 MH/battalion month. Actual capacity of the battalion averages about 78,000 MH/battalion month.

(5) Recommendations:

(a) It is recommended that the 39th Engineer Battalion be reorganized under TOCS 5-35M. Under that TOCS the Battalion would be better equipped to accomplish missions and would have another line company. This recommendation has been presented in several letters

g. Mine Sweeping:

(1) Discussion: During all combat support operations involving road movement of vehicles, minesweeping teams were required to search for mines emplaced by the VC. The majority of mines found were homemade and of a non-standard design.

(2) Observation: Due to their nature, the located mines were blown in place rather than attempting to lift. The damage done to the road is highly uncessirable, but one attempt by another engineer unit to lift a mine resulted in personnel injury.

h. M-3 PSP:

(1) Discussion: In the placing of over 300,000 of M-3 PSP several factors concerning the use of M-3 PSP should be noted:

a) The M-3 PSP was produced by three (3) manufacturers causing a great deal of difficulty in the locking of the PSP in place.

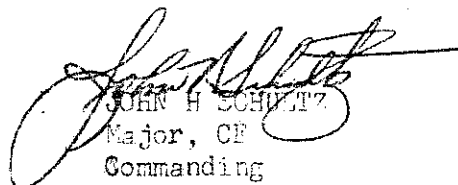
(b) Attempts to lay PSP across an airfield crown resulted in difficulty of locking the pieces together.

(2) Observations: Coordination should be made to provide standardized PSP of the same design. The close tolerance of the locking lugs does not allow for any irregularity of fit.

i. Water Distributors:

(1) Discussion: The large amount of laterite road maintenance combined with the dry climate requires a great deal of water to keep the dust free roads.

(2) Observations: In order to supplement the one water distributor authorized, Navy cubes (10'x10' steel tanks) have been salvaged from the My Koa area. By mounting a Navy cube on the back of a M2 tractor the water haul capability can be varied from road watering to providing water for concrete work. Currently a system of four (4) cubes on a Union semi-trailer is being field tested. This will allow the use of less personnel to operate the water trucks while increasing the amount of water applied to the roads.


JOHN H. SCHMITZ
Major, CE
Commanding

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