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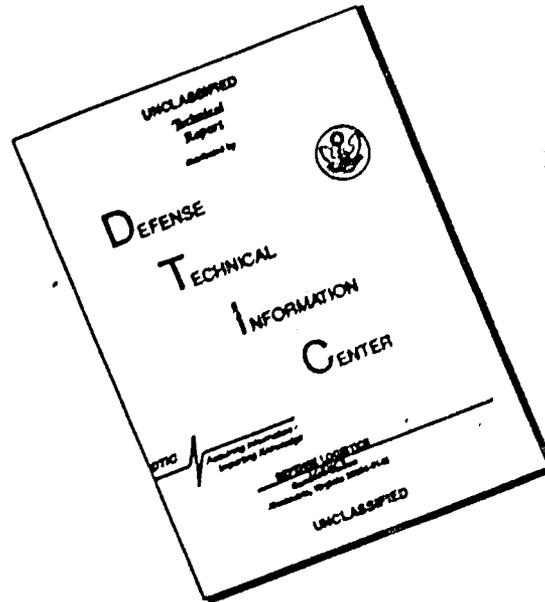
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WASHINGTON, D.C. 20310



IN REPLY REFER TO

AGDA (M) (25 Aug 69) FOR OT UT 692174

9 September 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 864th
Engineer Battalion, Period Ending 30 April 1969

AD 859926

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BY ORDER OF THE SECRETARY OF THE ARMY:


ROBERT E. LYNCH
Colonel, AGC
Acting The Adjutant General

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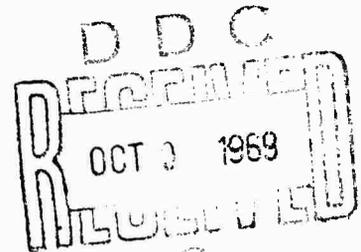
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DEPARTMENT OF THE ARMY
HEADQUARTERS, 864TH ENGINEER BATTALION (CONST)
APO 96240

30 APR 1969

EGACBC-3

SUBJECT: Operational Report of the 864th Engineer Battalion (Construction)
for Period Ending 30 April 1969, RCS CS FOR-65 (R1)

THRU: Commanding Officer
35th Engineer Group (Construction)
APO 96312

Commanding Officer
18th Engineer Brigade
ATTN: AVBC-C
APO 96377

Commanding General
United States Army, Vietnam
ATTN: AVHGC (DST)
APO 96307

Commander in Chief
United States Army, Pacific
ATTN: GPOP-DT
APO 96588

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

1. Section 1, Operations: Significant Activities

a. Battalion Narrative

Changes in the command and staff elements of the 864th Engineer Battalion occurring during the quarter included the Battalion S-3, Battalion S-4, Company Commanders of all three line companies, and the Engineer Equipment Maintenance Officer. MAJ Harrison J. Moot arrived from CONUS on 3 February and assumed the

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duties of Battalion S-3 replacing CPT Ralph M. Danielson who became Pipeline Engineer and Assistant S-3 until his departure to CONUS in early April. CPT Robert J. Wilder, Charlie Company Commander, was appointed Battalion S-4 on 23 January vice 1LT Brian Hirsch who became his assistant. Shortly thereafter, CPT William Lawrence, Delta Company Commander, replaced CPT Wilder, who became Civil Engineer and Assistant S-3 until his departure to CONUS in mid-March. CPT Lawrence was replaced in Company D by CPT William Ledbetter, the previous Civil Engineer and Assistant S-3; and CPT Wilder was replaced in Company C by CPT Joe N. Ballard Jr who arrived from CONUS in late January. On 10 April CPT Ballard was reassigned to HQ, 18th Engineer Brigade. He was replaced by CPT Michael D. Kent, who had been the Commanding Officer of Company B. CPT Lucien R. Avon, Assistant S-3, succeeded CPT Kent as Bravo Company Commander.

The Battalion engaged in thirteen company half-days of training during the reporting period. This training included Command Information Topics, Character Guidance, Safety, and Individual and Crew-Served Firing for Familiarization and Qualification in assigned weapons. The Battalion continued its replacement training program. One hundred thirty-nine replacements received instruction in Viet Cong Tactics, Interior Guard, Convoy Procedures, Ambush and Counterambush Measures, Immediate Action, PW and Detainee Handling, Familiarization and Zero Firing of Individual Weapons and a Gas Chamber Exercise.

Continuing the shift of Battalion operations to QL-21, three companies relocated to positions along that highway. Company D relocated to and constructed a base camp in the vicinity of Khanh Duong. The 610th Engineer Company (Construction Support) also relocated to Khanh Duong and established an asphalt plant and rock crusher complex to provide required mineral products for the rehabilitation of QL-21. Company C moved to a self-constructed cantonment area at Buon Ea Thi. Alpha Company, minus the Quarry and 3rd Shop elements, moved into the base camp north of Ninh Hoa vacated by Charlie Company. Bravo Company moved from Suoi Dau to the camp vacated by Company D at Sip Ja Sung.

The Battalion had two changes in its attachments during the reporting period; the 610th Engineer Company (Construction Support) came under full control of the Battalion in February. Effective mid-January, the unit had been attached for operational control only. The 23rd, 40th, and 588th Well Drilling Detachments were released from Battalion control during the quarter.

The relief provided from personnel shortages by the influx of 11B's was ended when over fifty of these personnel were levied in April. They had been well-integrated into the Battalion and their loss caused some personnel turbulence. During the quarter, the Battalion experienced 346 losses which were offset by only 157 gains. There remains a gap in junior non-commissioned officers in that only 20 of 32 authorized E-6 and E-7 Construction Supervisors (51R40) were assigned, and only 13 of 20 authorized E-5, E-6 and E-7 Earthmoving Supervisors (62N40) were assigned at the end of the quarter. The Battalion was assigned a Career Counsellor (OOE40) on a full time basis resulting in a marked improvement in the reenlistment rate.

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Hiring of Vietnamese civilian workers under the Engineer Force Structure Program continued until 28 March when DA imposed a freeze on hiring new workers. Prior to this, the number of employees had risen from 205 to 223 of an authorized 306. Several mechanics had been hired but only three equipment operators.

The major construction effort of the Battalion continues to be LOC rehabilitation in Khanh Hoa Province. Following the redeployment of units to QL-21, work commenced on upgrading the road from Khanh Duong to Ninh Hoa. During the reporting period, QL-21 was paved from Ninh Hoa to a point 25.2 kilometers west of the junction of QL-21 and QL-1. The erection of three cantonment areas for deployed companies plus the construction of a 10,000 SF headquarters building for IFFV Artillery and the establishment of the asphalt plant/rock crusher complex constituted the major additional construction efforts during the period.

Enemy action has not caused serious delay in the Battalion's construction program. The Battalion experienced one ambush between Bridge #7 and Bridge #8 on QL-21 in which two members of Charlie Company were killed in action. Numerous instances of sniper fire occurred, however, no personnel injuries or equipment damage resulted.

Weather had little effect on operations and construction progress. Only six inches of rain were experienced, and only one washout requiring replacement (Bridge #15 Bypass).

The Battalion compiled an impressive record during the quarter as attested by the following statistics:

Crushed Rock Produced	86,913 cu yds
Asphalt Produced	2,960 tons
Unsuitable Fill Removed	43,040 cu yds
Fill Hauled	290,133 cu yds
Base Course Spread	1,580 cu yds
Highway Completed to MACV Std	28.85 km
Subbase Prepared	5.20 km
Subgrade Prepared	1.30 km
Maintenance of Roads	204 km
Concrete Placed w/o Reinfor.	None
Concrete Placed w/ Reinfor.	1,302 cu yds

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Wood Frame Building Const	9,800 sf
Wood Hutments Const	49,016 sf
Open Storage Stabilization	None

Support of the Civic Action Program continued in many areas. Several truckloads of scrap lumber and tin; broken bags of cement, and excess food were donated to local orphanages - principally the one at Mau Tam. Overwhelming support was given the Khanh Hoa Province Scholarship Fund's "Dollars for Scholars Program". The Battalion contributed \$834.11; over one third of the total collected in the entire Nha Trang area. Excavation and earthwork to improve drainage was done at the villages of Cai Cai and Khanh Duong.

Attached as inclosure number one is a listing of organic and attached units of the Battalion.

b. Headquarters and Headquarters Company Narrative

Headquarters and Headquarters Company continued to support the Battalion administratively, and conducted thirteen half-days of training.

The S-1 Section and the Personnel Section continued to execute their functions efficiently and effectively. During the period they processed 157 replacements, 346 departees, and handled the administration of 336 Vietnamese civilian employees.

The S-2/3 Section continued its normal operations during the reporting period. Its major effort was expended in coordinating and expediting the movement of the three companies to QL-21, monitoring the development of the new cantonment areas, and coordinating the widespread paving operations. The Engineering Section completed designs and bills of material for the headwall at the Khanh Duong rock crusher site, the retaining wall for the asphalt plant, five MACV advisory facilities, four culvert-bridges on QL-21 and two major bridges on QL-21.

The S-4 Section continued its mission of arranging the acquisition and delivery of supplies. During the quarter, moves by three units to points on QL-21 as distant as 70 miles from Battalion Headquarters, greatly elongated the Battalion Main Supply Route and vastly increased supply-resupply requirements for these units. Prime areas of importance included: POL, rations, construction materials, asphalt, and barrier materials. In the areas of POL, asphalt and some construction materials the organic transportation capability was inadequate, thus we turned to TCID and requested that Transportation Command, Cam Ranh Bay Depot deliver those items on-site. Typical tonnages included hardware, 272, lumber 452, and cement 196 tons. Outside transportation resources were strongly in the forefront in another area during the reporting period. The requirement to move base course and fill far exceeded the number of trucks available. The S-4 Section enhanced operations by arranging a civilian contract for both a

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truck and railway haul. In the months ahead, TCMD will become increasingly more important in fulfilling supply requirements as our units continue to expand outward in our area of responsibility.

The Battalion Medical Section experienced a routine quarter with the exception of a higher incidence of skin disorders; primarily fungus and heat ailments. The venereal disease rate has remained high with no abatement forecast for the future; despite constant emphasis by commanders and the provision of additional recreational facilities within the Battalion area.

c. Alpha Company Narrative

The Alpha Company Rock Quarry at Than Tan Thuy exceeded the weekly quota (35th Engr Gp) of 3500 cubic yards of rock on the first week of this reporting period. The output for that week was 3970 cubic yards. Rock production has not fallen below quota since that time. During the week ending 5 April, output reached a peak of 7335 cubic yards or more than 200% of the assigned quota. Weekly output since this achievement continues to exceed 200%. Total production as of this date for the quarry is 80,000 cubic yards. (68,000 cubic yards this quarter).

On 7 April 1969, one primary crusher was removed from TTT and transferred to the 610th Engineer Company (CS) at Khanh Duong. Some four days later, one secondary crusher was also transferred to the 610th Engineer Company (CS). Alpha Company personnel installed a new roll box assembly, conveyors, work platform and positioned the units into the existing rock crushing complex.

Plans are now complete to move the Company A Quarry Section to Khanh Duong where it will produce base course for western portion of QL-21. This move will take place in the next few weeks.

The "Old Pacemaker Paving Machine" was transferred to the 589th Engr Bn and, after completing a dust control program, the Asphalt Section again began to lay-down with a machine acquired from the 610th Engr Co (CS). After completing the C7A Ramp and the Artillery Headquarters parking lot in Nha Trang, they moved to Ninh Hoa and completed the intersection of QL-1 and QL-21. The Section then jumped out on QL-21 near Bridge #6 and have continued lay-down of approximately 15 Km's of single lane asphalt. Operations are continuing on into the pass above Bridge #7.

The DSU has done a commendable job throughout the quarter despite the severe shortage of mechanics. The Battalion deadline rate has been kept to a minimum through many late hours, swing shifts, and mechanical ingenuity. The undermanned ordnance section was augmented with four Vietnamese mechanics and continues to handle 100% of vehicle direct support. Very few jobs are awaiting parts at the DSU due to proper utilization of ASL, Can-Point, and Red Ball.

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Key positions have not been adequately filled since CW2 Weldon departed on 10 February 1969. No replacement has been received. CW2 Cox arrived on 6 February 1969 and assumed duties of Ordnance Technician. 1LT Dunn replaced 1LT Blankinship as Maintenance Platoon Leader on 10 February 1969. MSG Cook replaced MSG Landis on 5 April 1969. The vacant key positions are the Engineer Equipment Technician (WO) and Repair Parts Supervisor (E-6) in the DSU.

Personnel shortages in the Equipment Platoon: Quarry Supervisor (E-7), Construction Machine Supervisor (E-6), and Supply Sergeant (E-6).

Company A displaced from Nha Trang to Minh Hoa on 26 April 1969. The DSU remains in Nha Trang. Attached are 22 dump trucks from Company C, Company D, and the 610th Engr Co (CS) in support of paving on QL-21. The move was made in a timely manner without incident. During the period, the unit was involved in 13 half-days of training. No time was lost due to enemy activity.

d. Bravo Company Narrative

During this quarter, Company B was heavily committed to major vertical construction projects and continuing the upgrade of Highway QL-1. Rehabilitation and maintenance of National Highway QL-1 from Suoi Vinh (BP995375) to Dien Khanh (BP938558) dominated Bravo Company's earthwork for this quarter. The company completed 4,400 meters of subbase reconstruction. There was no base course or asphalt laid on QL-1 during this period. Subgrade construction on QL-1 for the period involved the excavation and hauling of 218,610 cubic yards of fill material, 3,800 cubic yards of blast rock and 4,000 cubic yards of sand. Three 36" culverts were installed at BP913507 in place of Bridge #154 and five 48" culverts were installed at the bypass constructed around Bridge #156. One concrete box culvert at BP929533 was extended. During this period RMC-BRJ completed Bridge #158 and 80% of Bridge #155 and Bridge #156. The combined efforts of the First Construction Platoon and the Earthmoving Platoon completed the repair of the C7A Ramp located at Nha Trang Air Base. The existing matting had failed due to poor drainage and resultant pumping of the subbase to such an extent that C7A's could not use the ramp. Repairs of the ramp consisted of the removal of the existing M8A1 matting, hauling in 360 cubic yards of base course, grading the entire area to allow for proper drainage to include installing a catch basin and then compacting and paving the area with a 3" lift of asphalt, utilizing some 1220 tons. Five hundred meters of access road were constructed by the Earthmoving Platoon for the ROKA Forces west of Dien Khanh (BP868576). The project involved the hauling and compacting of 2600 cubic yards of fill. Ten acres of land were cleared and revetments filled around the communications building at Non Tre Island for the 228th Signal Company. The clearing involved the removal of all brush, trees and large boulders around the unit's perimeter.

Two each 12' x 24' prefabricated shelters were constructed and delivered to FSA Khanh Hoa Province. Four more of these shelters were prefabricated and stock piled for emergency use. Bridge #1 on HL-1, a timber trestle bridge, was

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repaired when a FMK-BRJ Euclid crashed through the side of the bridge. The repair consisted of the replacement of 40 feet of decking, treadway and hand rail. The company was also tasked to assist the 610th Engr Co (CS) in the construction of their base camp at Khanh Duong which included nine bunkers, one maintenance building, six SEA huts and other miscellaneous vertical construction around their base camp. The Counter Mortar Radar Site in Nha Trang was constructed during this period. Construction consisted of hauling in 2500 cubic yards of sand and constructing two live-in fighting bunkers, and one concrete pad for radar equipment. Seven Ammunition Berms were raised to a height of 3 meters for the 551st ARVN Adv Ammo Co, Nha Trang. A combination of the First Construction Platoon and Earthmoving Platoon repaired the sea wall at the TOC in Nha Trang where it had washed out. Repairs involved constructing one 20' x 160' asphalt pad and a chain link fence around the pad. During this period two 20' x 56' quonsets were constructed at Camp McDermott in Nha Trang. Also one 1,440 square foot troop billet (tropical) and two 13 hole latrines (tropical) were constructed at the same location. The most outstanding project during this period was the 1PFV Artillery Headquarters, Nha Trang. This administrative building is without a doubt one of the most well designed and constructed buildings in the Nha Trang area. This building was constructed by the combined efforts of Vietnamese Permanent Hire personnel (day shift) and the First Construction Platoon (night shift). It is a 9800 square foot administrative building complete with tile ceiling, flush toilets, glass windows, air conditioning, paneled interior, a secure room for the commo section, concrete walkways, a parking lot and asbestos roofing.

Projects that have started at the end of this quarter or will start in the very near future are a base course and paving operation on QL-1 from BP908496 to BP931537, three upgrades of MACV Advisor Facilities and another land clearing operation at Hon Tre Island.

e. Charlie Company Narrative

The major portion of the effort expended by this unit during the reporting period has been the upgrading and paving of National Highway QL-21 from Ninh Hoa to Ban Me Thout.

Previously, the majority of supplies brought into Ban Me Thout were transported by aircraft. Due to the increased tactical importance of the area, the need for continued all-weather ground transport routes has increased. The increase in the size and frequency of convoys travelling QL-21 to Ban Me Thout reflects the importance of this main supply route. It follows that, as the importance of these convoys increases, the job of the engineers to insure maximum traffic flow by providing a hard surface, dust-free, well-drained highway increases proportionately.

The portion of QL-21 from Ninh Hoa west to Bridge #7 required no earth work as the existing double bituminous surface treatment remained in relatively good condition. However, it was overlaid with asphalt to provide a long lasting wear surface. The paving operation started on 24 Feb 69 at the railroad

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crossing in Ninh Hoa (BP966817) and to date approximately 25 km of double lane pavement has been put down to a point west of Bridge #7 (BP753078). During this period, approximately 21,680 tons of asphalt have been placed, while 16,635 gallons of MC-70 and 800 gallons of diesel fuel were used in applying a prime coat to the existing roadway. To date, 41,332 USMH, 2530 VNMH and 22,927 Equipment Hours have been expended on the paving operation.

The first 20 km of pavement was paved by members of the 610th Engr Co (CS), attached to the 864th Engineer Battalion, while the remainder was paved by members of Alpha Company of the 864th.

Between Bridge #7 and Bridge #10, QL-21 had deteriorated. There are many pot holes in the pavement, and many portions have been washed or worn away. The initial step in the upgrading of QL-21 during this reporting period was the removal of elephant grass and other vegetation from the shoulders of the road from Bridge #7 to Bridge #10. This greatly improved drainage and the visibility for all units traveling the road which in turn enhanced traffic safety and security. The next step was filling areas where the road was marked with pot holes. About 2500 cubic yards of fill and 300 cubic yards of base course were used to repair these areas. Dozers and graders were used to maintain proper drainage on all sections of road being repaired. Approximately one mile of badly deteriorated hard surface road was ripped with a D7E Dozer equipped with rippers. It was then graded and compacted, followed by a second grading and compaction operation. After a final light grading, this section was primed with MC-70 in preparation for paving. Another project adding to the upgrading of QL-21 was the construction of a bypass at Bridge #10 and the repair of a bypass at Bridge #8. During the upgrading of QL-21, 650 USMH, 350 VNMH and 1100 Equipment Hours were expended.

Another major effort by this unit was the construction of the new base camp at Buon Ea Thi (BP677922). The tasks accomplished thus far in the new area include twelve 20' x 40' living-fighting bunkers; one 20' x 80' mess hall; one 20' x 50' bunker to serve as combination supply room, mail room and aid station; one 20' x 40' bunker to serve as combination orderly room and operations section; one 16' x 64' maintenance parts room; one 20' x 80' x 8" pad for the maintenance section; two latrines and two showers; and two apron fences and one triple concertina fence around the 3050 foot perimeter.

Along with the vertical construction effort, a great deal of earth work was necessary to rearrange the existing terrain into a suitable company area. A total of 43,118 cubic yards were moved to provide for a protective berm, internal road network and a drainage system within the base camp.

The company relocated on 28 April and is presently continuing to improve perimeter defenses. To date, 30,874 USMH, 8079 VNMH and 11,898 Equipment Hours have been expended on the construction of the new area.

This unit also accomplished upgrading and paving on National Highway QL-1 in the Ninh Hoa area. The work done was beneficial not only to the military but also

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the civilian population. The upgrading of QL-1 involved the main street through Ninh Hoa from the traffic circle to Bridge #203 and a portion of QL-1 from the Ninh Hoa Bypass (BP971799) to the traffic circle (BP968813). A total of 15,360 cubic yards of fill and 800 cubic yards of base course were used in this operation. The road was primed with 1000 gallons of MC-70. A total of 2298 meters of double lane pavement was put down to cover the portions of QL-1 mentioned above. The market place in Ninh Hoa was also paved as a civic action project. An M4T6 (60' span) was removed from the bypass at Bridge #197 by direction of the S-3 and placed in emergency stock. A total of 3823 USMH, 432 VNMH and 2253 Equipment Hours was expended on the upgrading and paving of QL-1 during this period.

f. Delta Company Narrative

At the beginning of the quarter, the bulk of Company D was at Sip Ja Sung. An advance party of one reinforced platoon was at Khanh Duong building a new cantonment area for the shift of operations to QL-21. On 3 February, the remainder of the company closed into Khanh Duong and joined the base camp construction effort by finishing double apron and triple concertina fences around the perimeter. The Earthmoving Platoon leveled the cantonment area and built up a four foot protective berm around the perimeter. The Construction Platoons erected 20 live-in fighting bunkers, 17' x 32' in size.

The company's next mission was to build the 610th Construction Support Company's base camp, two miles to the west on QL-21. Again the Earthmoving Platoon leveled the area and prepared a berm. The vertical platoons started the live-in/fighting bunkers and emplaced double apron and triple concertina fences around the perimeter. The First Construction Platoon also built a 24' x 100' headwall for the 610th rock crusher complex.

Company D was augmented by one platoon from Charlie Company, which was later relieved by a platoon from Company B. These units built a mess hall, a 6' x 1' x 100' concrete retaining wall for the asphalt plant (Company C), additional live-in fighting bunkers (B, C, and D Companies), a maintenance facility (B and C Company), six SEA huts, three portable showers, three portable latrines and four tool rooms (C and D Company).

In the Delta Company area, the Second Construction Platoon built command bunkers, an operations bunker, an orderly room, a maintenance facility and a 40' x 100' mess hall - dayroom complex. Just outside the perimeter, the First Construction Platoon erected four 10,000 gallon POL storage tanks to serve as a central fuel point for all units in the Khanh Duong area.

Earthmoving's 10 Ton Tractor operators logged over 54,000 accident free miles during this period; thirty acres and 16,800 cubic yards of earth were dozed and graded; 290's hauled 3,860 cubic yards of sand for cement and sand bags plus fines for the 610th asphalt plant and 32,740 cubic yards of fill for roads, the berm and the crusher headwall; dozers cut slots for the bunkers and leveled

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areas for all cement pads. A total of 8 kilometers of QL-21 was ripped and graded and two thousand feet of double lane asphalt was placed. Six hundred cubic yards of base course were placed on the road.

At the close of the reporting period, Company D was prepared to continue base course operations on QL-21 and construct a new advisory facility for the Khanh Duong MACV Team.

g. 610th Engineer Company (Construction Support) Narrative

The 610th Engineer Company (Construction Support) came under full operational control of the 864th Engineer Battalion in February. At that time, plans were already underway for the unit's relocation from Cam Ranh Bay to Khanh Duong.

A small advance party co-located with A Company, 70th Engineer Battalion began the development of the Khanh Duong quarry. Large quantities of overburden were stripped and drilling operations begun. When the main body arrived one month later, there was ample blast rock on hand. At the end of the quarter, there were three well developed benches in the quarry.

The main body closed into Khanh Duong on 2 March. Work was commenced on improvements to the cantonment area and maintenance of equipment. As elements of Charlie and Delta Company completed the asphalt retainer wall and crusher headwall, the 610th commenced work on the assembly and installation of the asphalt plant and rock crushers.

The asphalt plant was assembled rapidly and was ready to produce in mid-April. Until additional crushers were relocated from Thon Tan Thuy quarry, sufficient rock to run the plant could not be produced. This relocation was accomplished expeditiously by Alpha Company and the plant produced successful test loads on 14 April. Paving commenced shortly thereafter, with a total of 2960 tons of asphalt produced in April.

During the initial break-in period of the plant, considerable work was done on the crushers and a small stockpile of rock was obtained. Pending arrival of a 250 ton per hour civilian crusher, those currently on hand will be required to work at maximum capacity to sustain the plant.

The unit move also involved the transport of several items of heavy equipment, not one piece of which was damaged despite size, and the torturous curves and grades encountered. The maintenance section relocated an ASL of over 2000 lines, many of which were very large. Transportation support was provided by the 864th Engr Bn (Const) and the 553rd Float Bridge Company. The 610th Company vehicles logged over 80,000 miles during the move.

Company paving operations were highly successful. Over 25 kilometers of National Highway QL-21 plus the streets and market place of Ninh Hoa were paved with 610th equipment. The two paving machines ran steadily throughout the quarter with minimal down-time.

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Having relocated to a more highly efficient base camp than the old widely scattered one at Cam Ranh Bay, the 610th is certain to provide the sustained production of mineral products and equipment support required during the coming quarter.

2. Section 2, Lessons Learned: Commander's Observations, Evaluations, and Recommendations.

a. Personnel

(1) Civilian Personnel

(a) OBSERVATIONS: Four mechanics were hired in an attempt to aid the DSU in the performance of 3rd Echelon maintenance.

(b) EVALUATION: These mechanics worked very well on ordnance equipment but only two seemed to be able to grasp the mechanics of certain items of engineer equipment.

(c) RECOMMENDATIONS: Continued emphasis be placed on the procurement of qualified mechanics from any source, especially trained engineer mechanics. Training will continue in an attempt to locate gifted mechanics for cross-training.

(2) Indigenous Paving Crews

(a) OBSERVATIONS: The use of indigenous personnel to support the paving operation is beneficial.

(b) EVALUATION: During a paving operation there is a considerable amount of hand work with asphalt shovels and rakes to be done.

(c) RECOMMENDATIONS: Whenever possible use indigenous personnel to do this hand work thereby freeing troops to provide security for the paving site.

b. Operations

(1) Paving Operation Traffic Control

(a) OBSERVATION: When conducting a paving operation, especially through a village, traffic control is a major problem.

(b) EVALUATION: When a paving operation is being conducted, a single lane is usually being paved while the adjacent lane is open for traffic.

(c) RECOMMENDATIONS: Two radios should be used at the paving site with one at either end of the lane being paved. Thus, traffic control can be maintained. Road guards should also be spaced along the lane being paved to keep traffic off the freshly placed asphalt.

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(2) Dumping into Paving Machine

(a) OBSERVATION: When 5 ton trucks dump their loads of asphalt into the paving machine, a certain amount of asphalt will spill onto the top of the paving machine.

(b) EVALUATION: This asphalt will eventually work its way down into the "V" belt drive assembly adjacent to the hydraulic pump causing undue wear on the "V" belts and also causing the "V" belts to jump off their pulleys.

(c) RECOMMENDATIONS: To remedy this situation a deflecting wall consisting of three 2" x 6" x 9'5" planks running across the top of the loading hopper and setting directly in front of the engine of the finishing machine should be used.

(3) Road Fill Material - Laterite

(a) OBSERVATION: Laterite can be graded and compacted into a good road base but rain quickly turns it into a slick, muddy, dangerous surface and dry weather traffic turns it into a dust bowl that also makes dangerous driving conditions.

(b) EVALUATION: RC-3 or MC-70 makes a good primer that seals the road and forms an expedient, lasting road surface.

(c) RECOMMENDATIONS: That laterite road surfaces be primed as soon as possible after grading and compaction.

(4) Tightening of Wire Rope

(a) OBSERVATION: Headwall construction was curtailed due to lack of turnbuckles for tightening of anchor cables.

(b) EVALUATION: It was found that a come-along can tighten anchor cable sufficiently.

(c) RECOMMENDATIONS: That come-alongs be used for tightening of cables when turnbuckles are not available.

(5) Construction Expedient Sheathing

(a) OBSERVATION: Bunker progress came to a halt due to lack of wooden sheathing materials.

(b) EVALUATION: It was found that corrugated sheet metal is an excellent if not better substitute for sheathing.

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(c) RECOMMENDATIONS: Corrugated sheet metal be used when sheathing material is not available.

c. Training

(1) Quarry Section

(a) OBSERVATION: All equipment operators assigned to the quarry section have been cross-trained to operate all quarry equipment.

(b) EVALUATION: Personnel are much more interested in the outcome of the mission if they can appreciate each other's problems. The cross-training provides an insight to these problems and provides the flexibility of a well-rounded team. A man will also work a better day if he can look forward with interest to the next day's challenges. Production definitely is affected, although a sharp eye must be kept on operator maintenance.

(c) RECOMMENDATIONS: Compatible cross-training be conducted to aid production in any area that lends itself to this program.

d. Intelligence: None

e. Logistics:

(1) Repair Parts

(a) OBSERVATION: Repair parts are in better supply than last quarter.

(b) EVALUATION: This is due to the new "machine" at Cam Ranh Bay Depot coupled with a better use of Red Ball and PDO Yard. Many parts are available at the PDO Yard and are in excellent to fair condition.

(c) RECOMMENDATIONS: Continue use of Red Ball and PDO Yards to supplement normal fill of requisitions.

(2) Repair Parts

(a) OBSERVATION: Repair parts are often hard to obtain and interchangeability is a key to success.

(b) EVALUATION: A change to the pump mounting unit on a five ton truck tractor power steering pump adapts it for use on a ten ton truck tractor. Also, a change to the front spacer on a D7E generator allows it to be used on a 290 M tractor.

(c) RECOMMENDATIONS: Maximum effort be made to consider use of interchangeable parts to remove items from deadline when specific parts required are not available.

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30 April 1969

SUBJECT: Operational Report of the 864th Engineer Battalion (Construction)
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(3) Shipment of Asphalt Plants

(a) OBSERVATION: Barber-Greene asphalt plants are shipped on ocean going vessels with many nuts and bolts installed. This subjects them to severe rusting and corrosion.

(b) EVALUATION: When assembling the new plant at Khanh Duong, despite soaking, several bolts were broken and others consumed excessive man-hours in their removal.

(c) RECOMMENDATIONS: Bolts be shipped in separate containers, with maximum protection from weather.

f. Organization: None

g. Other: None.

1 Incl
as

Arthur Daoulas
ARTHUR DAOULAS
LTC, CE
Commanding

EGA-CO (30 April 69) 1st Ind

SUBJECT: Operational Report of 864th Engineer Battalion (Const) for Period
Ending 30 April 1969, BCS CSFOR-65 (R1)

DA, Headquarters, 35th Engineer Group (Const), APO 96312, 22 May 1969

TO: Commanding General, 18th Engineer Brigade, APO 96377

1. This headquarters has reviewed the Operational Report-Lessons Learned for the 864th Engineer Battalion (Const) for the quarterly period ending 30 April 1969. The report is an excellent summary of the battalion's activities for the reporting period.
2. This headquarters concurs with the remarks of the Battalion Commander.



WILLIAM L. BARNES
Colonel, CE
Commanding

AVBC-BC (30 Apr 69) 2nd Ind
SUBJECT: Operational Report of the 864th Engineer Battalion (Construction)
for the Period Ending 30 April 1969, RCS CSFOR - 65 (R1)

DA, Headquarters, 18th Engineer Brigade, APO 96377 6 JUN 1969

TO: Commanding General, U.S. Army Vietnam, ATTN: AVHGC-DST, APO 96375

1. This headquarters has reviewed the Operational Report - Lessons Learned for the 864th Engineer Battalion (Construction) as indorsed by the 35th Engineer Group (Construction). The report is considered to be an excellent account of the Battalion's activities for the reporting period.
2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders.


J. M. MORRIS
Colonel, CE
Commanding

CF:
CO, 35th Engr Gp
CO, 864th Engr Bn

AVHGC-DST (30 April 1969) 3d Ind
SUBJECT: Operational Report of the 864th Engineer Battalion (Construction)
for Period Ending 30 April 1969, RCS CS FOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 22 JUL 1969

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

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1969 from Headquarters, 864th Engineer Battalion (Const).

2. Comments follow:

a. Reference item concerning "Civilian Personnel," section II, page 11, paragraph 2a(1); concur. The Central Training Institute (CTI), Office of the Civilian Personnel Director includes Engineer Equipment Mechanic courses as a part of its standard curriculum. Students are trained at Long Binh or if the need is sufficient CTI instructors are sent to outlying areas to conduct training. As of 16 July 1969, 31 employees have graduated from this course and have been assigned to engineer or heavy maintenance-type organizations. To improve the proficiency of the civilian workforce the unit is advised to screen their workforce to identify persons eligible for such training and to make their requirements known in accordance with paragraph 5, USARV Regulation 690-10.

b. Reference item concerning "Repair Parts," section II, page 13, paragraph 2e(2); concur. The Army supply system provides many substitutes for repair parts. Commanders should insure that their subordinates are aware of these substitutes and that they are used when designated parts are not available. No further action required by this or higher headquarters.

c. Reference item concerning "Shipment of Asphalt Plants," section II, page 14, paragraph 2e(3); concur. The present practice of "combat ready" ocean shipments means that material is shipped with the minimum amount of preservation. Correction of the situation cited in the ORLL requires USAMC to notify shipping depots of this problem and provide instructions to prevent a recurrence. Further action is required at the Department of the Army level.

FOR THE COMMANDER:

Cy furn:
864th Engr Bn
18th Engr Bde

J. B. Guenther Cpt
for A. K. GUENTHER
CPT. AGC
ASST. ADJUTANT GENERAL

GPOP-DT (30 Apr 69) 4th Ind
SUBJECT: Operational Report of HQ, 864th Engineer
Battalion (Construction) for Period Ending 30
April 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 6 AUG 69

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

This headquarters has evaluated subject report and forward-
ing indorsements and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



D. A. TUCKER
CPT. AGC
ASST AG

EGACEC-3

30 April 1969

SUBJECT: Operational Report of the 864th Engineer Battalion (Construction)
for Period Ending 30 April 1969, RCS CS FOR-65 (R1)

ORGANIC UNITS

Headquarters and Headquarters Company, 864th Engr Bn (Const)

Company A, 864th Engr Bn (Const)

Company B, 864th Engr Bn (Const)

Company C, 864th Engr Bn (Const)

Company D, 864th Engr Bn (Const)

ATTACHED UNITS

569th Engineer Company (TOPO) (CORPS), Administration Only

610th Engineer Company (Construction Support)

Incl #1

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(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

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