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

AGDA-A (M) (5 May 71) FOR OT UT 704243 28 May 1971

SUBJECT: Operational Report - Lessons Learned, Headquarters, 589th Engineer Battalion, Period Ending 31 October 1970

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2. The information contained in this report is provided to insure that lessons learned during current operations are used to the benefit of future operations and may be adapted for use in developing training material.

3. Information of actions initiated as a result of your evaluation should be forwarded to the Assistant Chief of Staff for Force Development, ATTN: FOR OT UT within 90 days of receipt of this letter.

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VERNE L. BOWERS
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 589TH ENGINEER BATTALION (CONSTRUCTION)
APO San Francisco 96321

EGACBF-CO 10 November 1970

SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending 31 October 1970, RCS CSFOR-65 (R2)

THRU: Commanding Officer
35th Engineer Group (Construction)
ATTN: EGA-3
APO SF 96312

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

Commanding General
United States Army, Vietnam
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Commander In Chief
United States Army, Pacific
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TO: Assistant Chief of Staff for Force Development
Department of the Army (ACSFOR-DA)
Washington, D.C. 20310

FOR OT UT
704243
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EGACBF-CO 10 November 1970

SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending, 31 October 1970, RCS CSFOR-65 (R2)

1. SECTION 1, OPERATIONS: Significant Activities

a. Headquarters and Headquarters Company (HHC)

(1) HHC performed the normal function of providing the battalion support. Training was confined to the master training scheduled and though at times the work load hampered training, special emphasis was placed on the weekly one hour Command Information topics.

(2) Special emphasis was placed upon motor maintenance by both operators and motor pool personnel in preparation for CMMI inspections.

(3) The utilities section has recently completed the preparation of a building for use as the Battalion Dental Clinic. Other carpenders were sent to Bravo Company to provide support of their facilities at Vinh Hoa.

(4) The water points at Song Pha produced 88,000 gallons of water in support of Company C, 589th Engr Bn (Const). While the Song Mao water point, 89,280 gallons were produced in support of 2/1st Cav, MACV, and 5/22nd Arty.

b. Company A

(1) During this reporting period A Company continued to work on its assigned missions of producing rock and asphalt and providing Direct Support Maintenance for the Battalion. All of the period was devoted to operations. The company remained located on Phan Rang Air Base, RVN.

There were several changes of key personnel during this period. On 9 Aug 70 CPT Terence C. Holland assumed command from 1LT Larry W. Owen, who became Platoon Leader of the Asphalt Platoon. On 4 Sep 70 1SG Harry W. Long arrived to replace 1SG Keown who returned to CONUS on 7 Sep 70. 21 Sep 70 saw the arrival of 1LT Ruszczyk who took over the Asphalt Platoon from 1LT Owen. 1LT Owen was transferred to B Company on 21 Sep 70. On 3 Oct 70 1LT Riley was loaned to A Company from HHC to run the ASL Section upon the departure of CW2 Brannon. CW2 Brannon left on 6 Oct 70 to go to B Company. The last additinn to the company was SFC Franco who arrived on 18 Oct 70 to become platoon sergeant of the Quarry and Equipment Platoon. On 13 Oct 70 1LT Lee Man Kyou, Corps of Engr, ROKA, and six enlisted men joined A Company for training on engineer equipment.

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An extra platoon was organized during this reporting period. This platoon, the Asphalt Platoon, contains the asphalt plant, stabilization plant, and the paving train. Although not authorized by the TO&E, this platoon has proven to be useful to provide control over the elements which constitute it. The only major problems created is that the TO&E, by not allowing for the necessary personnel, requires that the personnel making up this platoon be charged against the strengths of other sections. This disadvantage is out weighed by the added control the platoon gives to the company commander.

(2) The Quarry - Equipment Platoon continued to provide crushed rock and equipment support to the battalion. During the reporting period the following quantities of rock were crushed:

2½" minus	63,662 cyds
1½" minus	10,715 cyds
1" minus	7,519 cyds
½" minus	2,267 cyds

During late August the 300 Unit at the crusher site became operational and was put into production to support the stabilization plant. Because of numerous maintenance problems the decision was made by 35th Group and 18th Brigade to take the 300 Unit out of production and the main crusher chain was adjusted to produce 1½" minus. Production during this period was lower than anticipated. One problem area was the rolls on the 54 Unit. Two separate down periods were required to correct the roll problems. Upon completion of the welding, production of 1½" minus was approximately 600 cyds per shift. Finally due to high moisture content of the rock being crushed, too high to run stabilized base, the crusher was readjusted to produce 2½" minus until the rainy season ends.

During this period oil bath air filters were installed on all engines on the crusher chain. To date, this seems to have extended engine life. The Equipment Section functioned without major problems during this period.

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(3) The Asphalt Platoon produced the following quantities during this reporting period:

(a) Asphalt: 15,521 tons used to pave 14.29 KM of double lane paving.

(b) Stabilized base: 8,855 tons.

Late in the reporting period the Inter Service Support Agreement with the Air Force for repair parts supply for the asphalt plant became an effective tool. Although intended to go into effect 1 Jul 70, administrative problems caused the long delay. The Asphalt Platoon Leader is setting up a listing of parts to maintain on hand at the plant. These are being ordered thru both Air Force and Army Supply channels. As of this date no operator or parts manuals have been received although they are on order thru several sources.

Although the plant has not been down excessively in the NORS category, repair parts are a continuing problem. Further acquistions of non-standard items should include purchase of operators and parts manuals and the establishedment of a PLL by the authority which directs acquistion of the equipment.

During the entire period, especially after the 300 Unit was taken out of service, the supply of rock for the plant was never greater than for a one or two day operation. During the latter part of the period, high moisture content of the crushed rock (1½" minus) has prevented operation of the plant.

(4) During the reporting period the Third Shop processed 505 job orders in support of the battalion and attached units. Throughout the period the platoon has been short one of the three authorized officers. There have also been some enlisted personnel shortages. Especially critical have been wheel vehicle repairman (63B MOS) since there are two attached dump truck companies. During the latter part of the period the earthmoving capability of the battalion was enhanced by the attachment of 5 earthmoving platoons from other 18th Bde units. (No additional maintenance personnel were received to offset this gain in equipment.) The ASL section ended the period with 4550 lines authorized. Of these approximately 37% were at zero balance at the end of the period. There were 3826 fringe lines on hand, a decrease from the last reporting period.

(5) During the period 287 red ball requests have been received. Of these 190 are due out, 94 were filled and 3 were cancelled. The major activity in the ASL during this period has been the reorganization of the storage area and warehouse. An integral part of this reorganization has been the turn in of all excess items and all fringe items not meeting retention criteria. The Project Scurb program has been of great help to this unit in this turn in activity. Criteria for retaining lines on the fringe and ASL have changed during this reporting period. It is expected that the entire inventory will be purged of unauthorized items by 1 Dec 70.

c. Company B

(1) During this reporting period, the unit had a tremendous change in personnel strength with the arrival of one earthmoving platoon from B Company, 577th Engineer Battalion on 10 September 1970, and two earthmoving platoons from B and C Company of the 84th Engineer Battalion in the 937th Engineer Group. The platoon from B Company, 84th Engineer Battalion arrived on 15 September 1970 and C Company, 84th Engineer Battalion arrived on 24 September 1970. The unit was also augmented with one platoon from the 513th Dump Truck Company on 6 August 1970. The addition of the three earth moving platoons greatly affected the production and operations of the unit. The additional dump truck platoon increased the units hauling capability and enabled considerably more work to be done in finishing the road.

(2) In this time, the unit had considerable officer changes. Major Byrnes was assigned to this location on 17 September 1970, the 589th Engineer Battalion Executive Officer, to be a Task Force Commander of the different elements located at Vinh Hoa. Cpt Thiessen was reassigned to the 35th Engineer Group Staff, 1LT Hultgren and 1LT Strub were assigned to the 585th Dump Truch Company. 1LT Payant, 1LT Owen, 1LT Jackson and 1LT Twitty were the officer gains for the unit. 1LT Ashmore was moved from 2nd Platoon Leader to Construction Officer. The unit has its full compliment of officers with the exception of the two vertical construction platoons.

(3) LOC Construction, QL-1, between 1 August and 31 October 1970: B Company, 589th Engineer Battalion and attached units placed 164,040 cubic yards of fill and 51,921 cubic yards of base course material on QL-1 during this period. With this, the unit has 15.6 KM of subgrade completed and 7.3 KM of base course.

The length of road primed with MC-70 is 7.0 KM and the length paved is 2.9 KM. Two triple barrel 48 inch culverts, one double barrel 48 inch culvert and one single barrel 48 inch culvert extension were completed in this time.

(4) a. Industrial Area Development: There were two significant changes in the crusher operations. These were (1) going to a day and night shift, and (2) the installation of a 75 TPH primary unit in line with the 75 TPH secondary unit.

b. The addition of night shift operations started on 21 September 1970, and has greatly increased the production. Numerous changes in the physical security and lighting were required and completed in the industrial area. The perimeter wire was extended 200 feet to the west enclose the base course stock pile. Lights were added around the crusher for operation.

Three inches of facing was placed along with a headwall of telephone poles along with a 39 foot by 16 foot concrete pad, constructed for the 75 TPH primary crusher. The 75 TPH primary became operational on 26 October 1970. Its installation along with building up the rolls on the 75 TPH secondary should increase the ability for production of asphalt fines and concrete aggregate. It will also offer a considerable degree of flexability in that there is an alternate method of producing asphalt aggregate.

Another significant addition is the "Scalper" set up on the 250 TPH that separates the material at the primary into 2 inch minus material fed directly into the discharge bin and larger material that is fed to the cone crusher and into the discharge bin or 75 TPH secondary for asphalt aggregate. This eliminated the large amount of soil fed into fines aggregate piles before the scalpers installation.

c. Asphalt Plant: The asphalt plant went into operation on 3 September 1970, materials being produced for test runs. Paving on QL-1 began on 21 September 1970 and issues to the 61st ARVN Engineer Battalion began on 21 September 1970. 4935 tons of asphalt have been produced and 2412 tons of this was issued to the 61st ARVN and 2523 tons to 589th Engineer Battalion.

The significant construction on the asphalt plant is the installation of a sand headwall, feeder and conveyor. The sand is fed through the headwall by a reciprocating feeder onto a conveyor

that carries the sand to the conveyor from the fine aggregate pile to the cold bin feeder.

d. Production Summary:

	August	September	October	Totals
Base Course (cy)	14443	20660	16818	51921
Course (1"(-)(cy)	529	630	1299	2458
Fines (½"(-)(cy)	427	471	1425	2323
Asphalt (tons)	-	2056	2879	4935

(5) Base Camp Development: In this period the unit completed the structural portion of the maintenance building and the parts room, tool room, and offic area. A few small but important items remain on this project such as the electrical work and exterior ramps leading to the doors. The unit also completed structural work on the club and constructed a soils lab adjacent to the supply room. A bunker on the west side of the crusher was removed and its reconstruction is under way in the expansion area that encloses the base course stock pile.

With the arrival of personnel, there were requirements to alter portions of the Mess Hall, add on to the showers and expand the latrine facilities. These projects are underway and all are close to completion. Nine 20' x 40' concrete pads were placed to erect tents upon to house these people.

The asphalt tests strips provided an approach road from QL-1, a helipad, streets and sidewalks and a basketball court within the cantonment area.

(6) Operational Support

a. Song Mao Airfield: Five areas of the airfield at Song Mao were completly rematted. The old matting was removed, the subgrade removed and filled with compacted base course and new matting layed down and welded to the adjacent matting, approximately 89 bundles of M8A1 matting were used on the project.

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b. 5/22 Artillery Fire Base at Song Mao: Assistance was given to the artillery at Song Mao by improving the drainage on the exterior portion of the fire base and the grading of an area used as a helipad.

(7) The following is a summary of the man and equipment hours expended by Company B, 589th Engineer Battalion (Construction) on the following projects:

Project Number		USMH	EH
255-5342-0-11	Cont Repair Song Mao Airfield	3100	270
291-8459-0-11	Base Camp Maintenance	10561	3015
255-5415-0-10	Oper Support Song Mao	50	0
355-8434-0-11	MER Const for B/589 & 73rd	108	10
255-8433-0-11	Bunker Const B/589 & 73rd	110	10
455-0303-1-11	LOC Restoration QL-1 PR to TP	43071	20112
255-8454-0-11	Construction Support Operation	31006	7380
555-0304-1-11	Maint Shop Vinh Hoa, RVN	1435	140

d. Company C

(1) During the reporting period August 1970 through 31 October 1970, Company C, 589th Engr Bn (Const) was engaged in repairing the "Good View Pass" on QL-11, from coordinates BP 482086 - Bridge #30, to coordinates BP 462103 - Bridge #39, and maintaining traffic on RVN Route QL-11 from coordinates BN 619957 - Bridge #16 to BP 462104 - Bridge #39 (31 kilometers of roadway) through maintenance operations. Due to erosion of the shoulders and ditches between Bridge #16 and Bridge #27, a significant amount of effort was applied toward reconstructing the ditches and expanding the existing shoulders to eight feet width. Sections of cracked asphalt were removed and new asphalt was placed in holes between Bridge #16 and Bridge #27. This section of road was turned over to the Nha Trang Highway Department. Recovery of disabled Allied and civilian vehicles in the AOR continued during this period. During the reporting period, Company C was also engaged in the improvement of the base camp and maintenance of perimeter defenses. During the reporting period, the men of Company C were involved in training and operations for a total of 92 days. During the month of August 1970, 216 cubic yards of select material were placed, 196 loads of blast rock used, 3606 cubic yards of base course were placed, graded and compacted, 5000 gallons of water were applied to the shoulders of the road, and 11,000 gallons of permaprine were shot on the shoulders.

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During the month of September 1970, 2322 cubic yards of select material were placed, 50 loads of blast rock were used, 1363 cubic yards of base course were placed, graded and compacted, 23,000 gallons of water were applied to the shoulders of the road, 20,000 gallons of penaprime were shot on the shoulders, 164 cubic yards of asphalt were used for patch work and 28 pounds of dynamite were used for blasting rocks.

During the month of October 1970, (through 20 October) 2285 cubic yards of unsuitable material were removed, 496 cubic yards of base course were placed, graded and compacted, 8,000 gallons of penaprime were shot on the shoulders, 55 cubic yards of asphalt were used for patch work, 100 lbs of dynamite, 37 lbs of C-4 and 200 lbs of shaped charges were used for blasting rocks. In summary the total amount of select material placed and compacted from 1 August to October 20, was 2,538 cubic yards, the total amount of unsuitable material removed was 2285 cubic yards, 248 loads of blast rock were used, 5465 cubic yards of base course were placed, graded and compacted, 28,000 gallons of water were applied to the shoulders of the road, 39,000 gallons of penaprime were shot on the shoulders, 219 cubic yards of asphalt were used for patch work, and 128 lbs of dynamite, 16 lbs of C-4, and 200 lbs of shaped charges were used to blast rocks and widen the pass.

(2) The recorded rainfall for the month of August was 6.5 inches, for September 17.25 inches and through 20 October was 22.15 inches. The total rainfall from 1 August through 20 October was 45.90 inches.

(3) The vertical construction platoons constructed a total of 2 culvert bridges during the reporting period. The following list shows culverts completed during this period.

CULVERT SIZE	NO OF BARRELS	LENGTH (FT)
30	1	40
30	1	40

(4) The majority of the culvert construction was done by the Second Vertical Platoon, with the aid of Vietnamese permanent hire, 17,363 cubic feet of stone masonary retaining wall were constructed in the "Good View Pass" during this reporting period.

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The First Vertical Construction Platoon went TDY to Dong Ba Tinh. While there, they constructed bunkers for MACV. Upon returning from TDY, construction continued in the cantonment area.

(5) The nonsoons left its mark on the "Good View Pass". A continuous effort by the Earthmoving Platoon helped keep the road passable and the ditchline open. A considerable amount of blasting was done to slope the vertical banks and remove overhanging trees which were endangering passing traffic. A total of 365 lbs of explosives were used.

(6) Cantonment Area: Work in the cantonment area consisted of cleaning of high grass and brush from around the perimeter, placing additional claymore mines, repair and replacement of perimeter wire, the construction of a PLL storage shed and two guard towers.

(7) Maintenance of QL-11: A continued maintenance program is being employed to insure that QL-11, between Bridge #39 and Bridge #16 is kept open to facilitate a continuing flow of traffic. This maintenance program consists of repairing culverts and headwalls damaged by heavy rains, cleaning of ditches and removing fallen trees in "Good View Pass", and retriving disabled Allied and civilian vehicles. The decking on Bridge #16 continued to be a maintenance problem, during the reporting period, 68 holes in the bridge decking had to be repaired.

(8) Upgrading of shoulders on QL-11: The upgrading of shoulders and ditches on QL-11 between Bridge #16 and Bridge #27 involved extending the shoulder width to eight feet and placing compacting base course along the shoulders from Bridge #16 to Bridge #27. The shoulders were sealed with 39,000 gallons of penaprime to prevent erosion.

(9) Upgrading of QL-11: The upgrading of QL-11 in "Good View Pass" has been a combined effort of the Earthmoving Platoon and the two Vertical Construction Platoons. During the period 1 August to 20 October 1970, 2 culverts were constructed and placed, and 17,363 cubic feet of retaining wall built.

e. Company D

(1) During this reporting period 1 August 1970 through 20 October 1970, D Company, 589th Engineer Battalion (Construction), placed primary effort on LOC upgrading of QL-1 and culvert

construction on QL-1. The work on QL-1 has been progressing at an accelerated rate due to the addition of 4 Earthmoving Platoons to the D Company horizontal effort. Presently attached to this company are Earthmoving Platoon, C Company, 589th Engr Bn (Const), and all Earthmoving Platoons from the 577th Engr Bn.

(2) Significant construction activities during this reporting period has been a continuation of upgrading QL-1. Work has progressed faster as a result of relocating borrow pits and completing the strip of road through an extremely swampy area.

(3) D and C Company, Earthmoving, 589th Engr Bn, placed and compacted 119,814 cubic yards of select material, and excavated 63,555 cubic yards of waste material in opening new pits. A total of 19,619 cubic yards of base course was placed on the road. A total of 378,100 gallons of water was used on the road.

(4) The 577th Earthmoving Platoons placed and compacted 125,520 cubic yards of select fill, excavated 13,630 cubic yards of waste material, and used 254,900 gallons of water on the road.

(5) The Vertical Construction effort on QL-1 consisted of the construction of 10 culvert sites. These were a 5 barrel 48" culvert, a 3 barrel 48" culvert, two 2 barrel 36" culverts, a 2 barrel 48" culvert, a 2 barrel 60" culvert, a 2 barrel 36" culvert, and two 2 barrel 60" culverts, 1 barrel 48" culvert. A total of 1,380 feet of culvert have been placed during this period.

f. 513th Engineer Co (DT)

(1) The primary mission of the 513th Engineer Company (DT) has been the support of the 589th Engineer Battalion (Const) with dump trucks. The Company Headquarters and the First Platoon have been stationed at Phan Rang Air Force Base. One Squad of the First Platoon was stationed at Vinh Hoa where they supported B Company, 589th Engr Bn (Const). The Second Platoon was attached to A Company, 577th Engineer Battalion (Const) and was stationed at the top of the "Good View Pass".

(2) Captain Francis J. Lowe was the Company Commander from the start of this period until 23 August when 1LT Michael T. Heidt assumed command. 1LT Heidt was the Company Commander until 21 October when 1LT Robert N. Burnham took over the company. On 29 September 1970 the company received a CMMI which it passed with

an overall satisfactory score.

(3) During this reporting period there were 111 available days: 95 days were spent on operations, 8 days of training, and 8 days of stand down time. No major difficulties were encountered during this period.

g. 585th Engineer Company (DT)

(1) During the period of 1 August to 31 October 1970 the 585th Engineer Company (DT) supported the 589th Engineer Battalion (Const) and the 19th Engineer Battalion (Cbt) in Lines of Communication construction projects.

(2) During the period 1 August to 5 October 1970 while supporting the 19th Engineer Battalion (Cbt) at Khanh Doung the 2nd Platoon hauled stabilized soil, blast rock, sand, asphalt, base course and engineer supplies. On 5 October 1970 the 2nd Platoon returned to Phan Rang AFB uniting the company in support of the 589th Engineer Battalion (Const) after a five day stand down to make much needed repairs.

(3) The 1st Platoon supported the 589th Engineer Battalion (Const) for the entire period. All types of materials, fill, base course, black base, asphalt, and sand, were hauled to all the Battalion's companies located at distances of up to 40 kilometers from Phan Rang. The 2nd Platoon joined this effort on the 10th of October after their maintenance stand down.

(4) During the period the number of five-ton dump trucks varied from the full authorization of 48 to a minimum of 41. The number of personnel varied from 108 to 103 remaining below the 113 authorized through out the reporting period.

h. Personnel

(1) During the period 1 Aug 70 to 31 Oct 70, the Battalion increased from 96.8% of authorized strength to 97.3%. The personnel gains are attributed to the increase of replacement personnel received from 35th Group.

(2) The following critical shortages exist within the Battalion:

MOS	AUTH	ASG	60 DAY LOSSES
51H40	32	25	3
62J20	46	32	4
62L20	45	13	3
64A10	28	15	4
64B20	194	143	35
76Y40	9	7	1

(3) The projected losses for the next 90 days (Nov, Dec, and Jan) are 6 officers and 302 enlisted personnel:

a. Officers:

30 DAY LOSSES	60 DAY LOSSES	90 DAY LOSSES
2	2	2

b. Enlisted:

30 DAY LOSSES	60 DAY LOSSES	90 DAY LOSSES
109	50	143

c. 35th Group has been appraised of the projected losses reported on the Personnel Inventory Report submitted to the 35th Group on the 1st of each month.

(4) The strength of the Battalion will be drastically reduced in the next 90 days in view of the loss of 302 personnel. Incoming replacements are arriving, however, though some of the MOS's are not the authorized shortage MOS of the unit.

(5) A cross-training program is being utilized. However, if incoming personnel would have MOS that is compatable with authorized shortages, more utilization of personnel in accomplishment of the mission would be realized.

i. Religious Activities

(1) The total number of men in attendance at religious service has increased by 10% during this reporting period. This increase is due to the additional services conducted by the Chaplain and a change in the time of services from evening to early morning.

The Chaplain spends one day and night at each of the three outlying units each week.

(2) Catholic coverage has improved due to the fact that the 5/27 Artillery Battalion now has a Catholic Chaplain and he is giving our units excellent coverage. The Catholic coverage in our Headquarters area is provided by the Air Force Catholoc Chaplains from the Base Chaplain.

(3) Lessons Learned: We found that the chapel attendance was much better at the three outlying companies when we changed the time of service from 1930 to 0630 .

j. Intelligence and Security

(1) On 3 Aug 70, at BN 744744, D Company received 3 rounds of 82 mm landing near their club. Two personnel were wounded in the attack. D Company returned fire to the wood line and MACV called in artillery. There were negative results.

(2) On the night of 4 Aug 70, Culvert #6, a 72" barrel culvert was damaged by enemy explosives. One culvert suffered 100% damage. The other culvert was strained, but supports were still holding up. The east headwall suffered 100% damage while the west wall was cracked. The road surface sunk about a ½ foot, and the east side shoulder has a hole which was failing.

(3) On the morning of 6 Aug 70, Phan Rang Air Base received 1 round of 107 mm rocket impacting at BN 778878. There was negative damage or casualties to base personnel.

(4) On 15 Aug 70, at BN 599985 the CPO vehicle, while stopped on QL-11 for cattle that were blocking the road, received one round of 60 mm mortor round near the side of the road. Negative casulaties or damage were reported.

(5) On 16 Aug 70, at BN 527443 Bridge #32, a 4.9 meter, concrete span bridge was rigged with three enemy electrical charges. One charge went off, the other two were removed by B Company, 589th. Results left one lane passable, no casualties were reported.

(6) On 16 Aug 70, at BN 659534, B Company, 589th reported finding 3 craters blocking the road 100 yards north of Bridge #50. One crater was found right on the bridge. B Company repaired the road in a 3 hr period with the use of a dozer.

(7) On 18 Aug 70 at Bn 606086, the 585th (DT) Company while returning from C Co, 589th, received one round to the right of the lead vehicle, and 4 to 6 round towards the gun truck. The incident took place 1½ miles northwest of Bridge #16. Results were one hit to the gun truck, but no casulaties were reported.

(8) On 18 Aug 70 at BN 624522, B Company, 589th, reported finding 5 trenches on Bridge #48 by-pass. Three trenches were 3'x4'x6' in size while the other two were 5'x3'x8'. B Company swept the area with negative results. B Company then filled in the trenches so traffic could flow.

(9) On the morning of 22 Aug 70, Phan Rang Air Base received 1 round of 107 mm impacting at BN 765966, 150 ft north of building 1565 on the dirt road leading to the Concrete Plant. Negative casualties or damage.

(10) On the morning of 31 Aug 70 at BN 599992, vehicles from C Company on route to PRAB spotted several vehicles along the road. The civilians would not go through the area. The US vehicles stopped and approached with caution. A VC flag booby trapped with a 60 mm round was laying under the flag in the road. The non-commissioned Officer in charge gave the order to stay clear but one EM ignored the order and reached for the flag. He detonated the booby trap and took full impact. As the Medivac came in the pressure from the blades set off another nine on the shoulder of the road. MACV security and EOD teams were dispatched. Results were 1 EM killed and no equipment damaged.

(11) On 1 Sep 70, at BN 598988, a convoy on route from C Company to PRAB received small arms and automatic weapons fire from both sides of road on QL-11. The lead gun truck received approximately 30 rounds with 3 confirmed hits, the second vehicle a 3/4 ton, received approximately 15 rounds automatic weapons fire, and the front tires were blown. The lead gun truck then fired 1 ea 79 round into the area and all firing stopped. Negative casulties were reported. Damage to 3/4 ton was light.

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(12) On the morning of 13 Sep 70 at BN 526458, a convoy enroute to B Company, 589th from PRAB spotted a 90 mm round wire detonated in the road. A visual inspection showed that the wires had been disconnected from the round. The area was swept and the round was blown in place.

(13) On the morning of 15 Sep 70 at BN 607524, a civilian car was struck by a command detonated mine on QL-1. Two Vietnamese suspects in the area were held for questioning by Vinh Hoa police. Back and leg injuries were suffered by the man and woman in the car.

(14) On 17 Sep 70, a 10 ton tractor trailer pulling a 5000 gal water tanker ran over a 81 mm pressure mine. Damage was reported as heavy damage and there were several holes in the water tanker. Negative casualties to US personnel were reported.

(15) On 21 Sep 70 at BN 632942, C Company, 589th reported a portion of tracks between Phan Rang and Song Pha had been blown by enemy explosives. Incident happened the night of 20 Sep or early morning of the 21 Sep 70.

(16) On the morning of 25 Sep 70, at BN 543505 an earthmoving platoon of the 577th, attached to B Company, 589th was traveling north to job site when an 830 bobtail hit either a 105 or 155 electric or pressure detonated mine. The left front tire of the bobtail was damaged.

(17) On 27 Sep 70, at BN 655533 B Company, 589th reported finding five trenches dug in the Bridge #50 area. Four trenches approximately 18" wide, 4' long and 3' deep were at Bridge #50 and one trench approximately the same size was dug across QL-1, ½ mile north of Bridge #50. B Company swept area with negative results and filled in trenches.

(18) On the morning of 29 Sep 70 at BN 523610, B Company reported that a 81 mm command electric detonated shell was fired and hit the rear tire on an 830 scraper. There was light damage to scraper and no casualties were reported.

(19) On the morning of 30 Sep 70 at BN 634534, the soils people from B Company, 589th were out on QL-1 when they received six rounds of automatic weapon fire. Area was checked out with negative casualties reported.

(20) On the night of 4 Oct 70 or early morning on the 5 Oct 70 the enemy blew a 6 meter steel railroad bridge at BN 585984. The bridge was 100% damaged and two days work were required to rebuild. The next day when the work crew, Vietnamese civilian type, went to remove the wreckage one man was killed and another wounded when they set off a booby trap which was in the ruins.

(21) On the night of 6 Oct 70 at BN 470 098 the VC blew a 36" culvert in the "Good View Pass", C Company's area of Operation. The culvert suffered heavy damage and the road was closed while C Company filled in the holes so traffic could resume.

(22) On 12 Oct 70 at BN 586518, B Company reported the road was blocked by several mounds of dirt containing rock markers and metallic items such as beer cans. B Company swept area with negative results and the road was re-opened.

(23) On the morning of 15 Oct 70 at BN 539471, a 5 ton dump truck from the 513th (DT) Company while working at B Company's sand pit area ran over a 155 round pressure detonated. Damage to the truck was heavy resulting in the left rear tandum blown off. Negative casualties reported.

(24) On the morning of 26 Oct 70 at BP 563046, C Company reported 13 mounds of dirt were found on the road of QL-11 by an ARVN patrol returning from a night position. MACV pulled security while C Company swept mounds. They found 1 ea 50 lb shape charge buried in the road surface, and 8, 1 to 5 lb surface charges. All charges were blown and light damage resulted to the road.

(25) On the morning of 27 Oct 70 at BN 571514, a Vietnamese male reported to a B Company work crew party in the area that he had just spotted three VC armed with weapons north of the road from where the work party was working. B Company, 589th notified the MACV people in their area but MACV took no action.

k. Operations and Training

(1) The Battalion effort was concentrated on the LOC program expanding 237,726 manhours. A total of 70,459 manhours were diverted to: Combat Support of construction and operational support. Another 120,571 manhours were diverted to: Base Security, Training, Scheduled maintenance, routine duties, Commander's Time, Weather, Enemy, and Convoy Security. 680,727 cubic yards of fill were hauled and placed on QL-1 during this period. The amount of base course placed and compacted was 41,106 cubic yards, extending a distance of 13.32 KM. Paving during this period extended 12.25 KM utilizing 12,512 tons of asphalt concrete.

(2) Additions to the industrial complexes at A and B Companies have been completed so that the total effort is now concentrated on maximum production output. The section of QL-1 to be constructed by B Company is approximately 38% complete, while the section constructed by D Company is approximately 66% completed. Continued repair and patch work on "Good View Pass" is being accomplished by C Company.

(3) Training of ARVN Engineer Soldiers has continued during the period. On-the-job- training was given to 27 men of the 64th ARVN Engineer Battalion starting on 14 July 1970 and terminating on 3 October 1970. On 24 October 1970, a graduation ceremony was held at the 64th ARVN Engineer Battalion (Const) presented certificates to the trainees who satisfactorily completed the course. Presently, 20 enlisted men and 1 Officer are participating in a 12 week training course which began on 12 October 1970. Trainees are receiving instruction on the operation of D7E dozers, graders, front loaders, generators, cranes, air compressors, 165 mixers, and in mechanic's skills.

(4) Training within the Battalion continues to be carried out by the Companies on a regular scheduled coordinated by S-3. The only exception occurs when a Company requests that special additional training be conducted in addition to that required. Cross-training is considered to be a valuable continuing training method utilized by the Companies. Training in weapons safety, safe driving, and operating techniques has continued to receive special emphasis.

1. 589th Engineer Equipment Maintenance Office

(1) During this last reporting period, the Engineer Equipment Maintenance Office continued to fight against an increase in the deadline rate for TO&E and MAC equipment. Factors influencing the deadline rate were shortage of repair parts, extended waiting period for requisition to be filled, wear and tear on equipment through long operation hours, accidents, and the unexpected failure of new components. The ironing out of bugs in new equipment contributed to the increase of deadline rate and was followed by the visit of many experts to discuss EIR'S and suggest solutions.

(2) The visit of a MECON representative led to the development of a modification on the 830 tractor. This modification consists of a new brace to hold a critical hydraulic elbow. A representative from Quinton-Budlong pointed out that we should use Lad #2 oil in the hot oil heaters of our asphalt plants because it has a higher flash point than the OE30 oil which we were presently using. We have complied with this suggestion and have thus increased the safety at our plants. We are presently in the process of setting up a maintenance float. It is felt that this float will aid units in this battalion by keeping operational pieces of critical equipment in reserve to be used when the need arises.

m. Medical Activities

(1) The medical section supports HHC, A, B, C, and D Companies of the 589th Engineer Battalion (Const), as well as the 513th and 585th Dump Truck Companies. Area support for Signal Corps, PA&E, Dynelectron, etc, are provided by this facility. Five hundred patients are seen on an average each month, with about fifty patients each month requiring hospitalization. The average strength of the Battalion is slightly over 1000 men, but a much larger population is actually being cared for at the present time.

(2) At the present time the staff responsible for this care consists of a medical officer, one SP/5 clinical specialist, one SP/5 acting NCOIC, one SP/5 senior company aidman, as well as fifteen SP/4 aidmen. This Aid Station itself has eight of the fifteen aidmen on it's permanent roster. The line companies maintain their own aid stations which are equipped for minor surgery and immediate supportive care.

(3) As of 11 November 1970, the Aid Station will be capable of Supplying complete unit level medical, dental, and optometric care. Dental facilities are now in full operation, headed by Captain Ronald Tracy. Captain Gerald DeLucia is visiting the Aid Station each Wednesday and Thursday for visual acuity testing and eye prescription matters.

n. Communications

(1) Trained Operators and Mechanics: The operators and mechanics, which have been school trained, have done an excellent job. Cross-training and on-the-job-training have been used to alleviate problems of men not being used in their MOS.

(2) Repair Parts: With the addition of our PLL, since September 15, we except better efficiency in the area of receiving repair parts. We have also sent a man to the PLL School in Long Binh.

(3) Considering weather and terrain factors, we have had very little difficulty in communicating with our line companies.

(4) Direct Support Maintenance: The maintenance support from Cam Ranh Bay Depot has been excellent. Our turn-ins are usually back in the hands of our line companies in one week.

(5) Crypto Facility: Early in the summer, many problems occurred in getting the RTT operational. With the help of the Air Force and personnel from the 128th Signal Bn, the RTT has been operational since mid-July. Work on the landline teletype has been needed from time to time, but it is operational now and we expect little or no trouble.

o. Logistics:

(1) For this reporting period, the 589th Engineer Battalion (Const), S-4 Section was mainly involved in the support of the Battalion's five line companies. The procurement of construction materials for support of the industrial site operated by Company A at Phan Rang and the continuing construction of the industrial site located at Vinh Hoa, operated by Company B were the two most active areas of support. The attached units from the 84th and 577th Engineer Battalion (Const), and the 61st ARVN Engineer Battalion (Const) were also given close support.

(2) There has been a critical shortage of the following items of equipment during this reporting period.

NOMENCLATURE	FSN	AUTHORIZED	ON HAND
Semi-trailer, 25 ton	2330-317-6448	24	19
Welding Shop trl, mtd 300A	3431-287-5404	6	1

NOMENCLATURE	FSN	AUTHORIZED	ON HAND
Tank & Pump Units	4930-078-4939	9	5
Generator Set, DSL, ENG 100 KW	6115-933-3498	2	4
Charger, Battery	6130-940-7866	3	0

(3) There has been a critical shortage of the following construction materials during this reporting period.

NOMENCLATURE	FSN	QTY O/H	QYT ON ORDER
Culvert, 48"	4710-273-1038	8 ea	1,778 ea
Lumber, 4x4xRL	5510-220-6226	0	20,141 BF
Steel Angle 3x3x3/8x25	9520-954-5646	0	389 ea

(4) Many problems were encountered during the ARVN equipment transfer. No one individual had overall responsibility to TI and accept property from the individual units. This resulted in poor coordination and the loss of several small items of equipment. It was decided that in future transfer to insure good coordination that all items of equipment meet or exceed ARVN Criteria for Transfer.

(5) The free turn-in period in affect at present is an excellent way of disposing of excess supplies and then returning them to the supply system where they can be reissued. There should be a permanent free turn-in system established to prevent stockpiling of unnecessary supplies and equipment. This system would greatly benefit the entire supply system.

SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending, 31 October 1970, RCS CSFOR-65 (R2)

2. SECTION 2, LESSONS LEARNED: Commander's Observations, Evaluations and Recommendations

a. Personnel:

(1) Cross Training of Equipment Operators:

(a) OBSERVATION: When several items of engineer equipment are deadlined waiting parts, there is an excess of equipment operators.

(b) EVALUATION: The frequency of equipment deadlined for lack of parts continously creates an over abundance of operators.

(c) RECOMMENDATION: The excess operators should OJT with another operator on a different type of engine equipment.

b. Intelligence: None

c. Operations:

(1) Feeder Apron Improvement:

(a) OBSERVATION: The factory installed clutch system for driving the feeder apron on the Pioneer 225 TPH Primary Crusher was in constant need of adjustment and was generally unreliable.

(b) EVALUATION: The complex linkages and inherent adjustments problems with a disc clutch drive will cause excessive downtime unless replaced by a better system. A Dodge TD-15 gear reducer fits directly on the gear shaft of the feeder apron after the large sprocket has been removed. A 15 HP electric motor hooked up to the gear reducer by V-belts (at least two of "B" width) supplies enough power and provides instant reaction with almost no breakdowns.

(c) RECOMMENDATION: Replace feeder apron clutch drive system with an electric system.

(2) Buildup of Crusher Rolls:

(a) OBSERVATION: The rolls on the Pioneer 225 TPH Crusher must be maintained constantly by building up with the Stoody

Automatic Welder. Improper welding procedures will yield to decreased production and further problems.

(b) EVALUATION: The rolls, when built up, must retain their design shape, and design depth and spacing of corrugations. Circumferential welding before attempting to replace corrugations gives good results and takes the least amount of time.

(c) RECOMMENDATION: When welding corrugated rolls on the rock crusher, start with circumferential welds and come back with transverse welds to finish. Take extreme care to preserve the shape of the rolls.

(3) Belt Adjustment on Crusher Engines:

(a) OBSERVATION: The take up belts on the engine frame require a great deal of time to move the engine a short distance which is required to tighten the drive belts.

(b) EVALUATION: The slow, cumbersome task of sliding the engine in order to tighten the drive belts can be replaced with a faster method by welding two flanges to the unit. One is welded to the engine frame and the other to the mount on which it sits. A porta-power is used between them and allows the rapid moving of the engine leaving only the tightening of the hold down bolts remaining to complete the job.

(c) RECOMMENDATION: All rock crusher engines be modified to accept adjustment of position by the use of a porta-power.

(4) Cleaning of Masonary Rock:

(a) OBSERVATION: A considerable amount of rock available for masonary walls has a coating of soil on it.

(b) EVALUATION: The soil coating the rock does not bind well with the mortar and the wall will be weakened.

(c) RECOMMENDATIONS: Before any rock is used in a masonry wall it should be inspected and washed if necessary.

(5) Keeping sand out of water pumps at purification points:

(a) OBSERVATION: A water purification point's water pumps are frequently getting clogged.

(b) EVALUATION: The water pumps are clogging with sand because of its sandy location and its inability to filter out this excess material.

(c) RECOMMENDATION: Bolt together half sections of 12" culvert to make a trough. Place it upstream in some tall grass where there is less sand. The grass will act as a filter keeping sand from reaching the hose. A small screen placed in the water pump's hose will also do in filtering out the sand.

d. Organization:

(1) Unsuitability of TO&E

(a) OBSERVATION: This unit is operating several major items of equipment which are not on the TO&E. These include an asphalt plant and a stabilization plant.

(b) EVALUATION: In order to operate excess equipment, personnel are drawn from TO&E slots. This reduces the efficiency of existing sections they are shifted to, while providing personnel who may not be properly trained to operate this equipment.

(c) RECOMMENDATION: A more quickly reacting system should be developed to allow for modifications and additions to the TO&E. This modification would allow existing equipment sections less opportunity of being understrength.

(2) Organization of Crews for Two Shift Crushing Operations:

(a) OBSERVATION: The previous system of running a day shift crusher crew and a night shift maintenance crew was inefficient and provided each crew with a scapegoat for equipment failure.

(b) EVALUATION: The optimum production can be accomplished by requiring both crews to crush during their shift as well as pull maintenance immediately prior to an eight hour production. This system would give the best results from the stand-point of high quality maintenance and operator attentiveness. Maintenance

at the beginning of the shift is done with more zeal, since the men are fresh and ready to go to work, rather than at the end of the shift when they have spent the whole day in the dust and dirt and are generally fatigued.

(c) RECOMMENDATION: When running a two shift crushing operation, maintenance should be pulled at the beginning of this shift rather than at the end.

e. Training:

(1) Operator Training on MCA-LOC Equipment:

(a) OBSERVATION: Often the operator on MCA-LOC equipment does not get adequate training on maintenance as well as operation of the equipment.

(b) EVALUATION: Due to the general lack of Army Manuals and lax civilian licensing procedures, operators do not know proper maintenance techniques. This unit uses contract services personnel to conduct classes for operators in conjunction with scheduled work on the equipment.

(c) RECOMMENDATION: Utilize contracter personnel to both service equipment and to to instruct formally on maintenance procedures.

(2) Operator Training on Asphalt and Stabilization Plant:

(a) OBSERVATION: This unit has had problems getting and training operators for non-standard equipment.

(b) EVALUATION: Since this equipment is non-standard, replacement personnel are not familiar with its operation. Manuals are not readily available to train either personnel or supervisors.

(c) RECOMMENDATION: When setting up non-standard items of equipment insure that operators manuals are available. Set up comprehensive OJT programs for replacement personnel.

f. Logistics:

(1) Repair Parts Shortage:

(a) OBSERVATION: Many end items of equipment are consistantly in the NORS category:

(b) EVALUATION: The ten most critical repair part items are listed below;

FSN	NOMENCLATURE	
2815-910-8218	Engine	10 ton
2815-010-5169	Engine	2½ ton
2520-971-5016	Transmission	5 ton
2520-678-1808	Transmission	¼ ton
2805-678-1820	Engine	¼ ton
2815-974-7407	Engine (Mack)	5 ton
2805-649-8548	Engine	3/4 ton
2815-071-7904	Engine	440 Grader
2815-105-0174	Engine	Scoop Loader
2520-678-3123	Differential	¼ ton
2610-262-8653	Tire 1100 x 20	5 ton
2610-544-6250	Tire 1400 x 24	10 ton

(c) RECOMMENDATION: Quantities of these items in supply channels should be increased:

(2) Faulty Rebuilt Items:

(a) OBSERVATION: Rebuilt engines are often received in an unserviceable condition.

(b) EVALUATION: This unit received 50 LDS - 465 - 1A engines rebuilt at the Mobile, Alabama, Continental Plant. Of these, 3 had faulty starter motors, 3 had defective fuel injector pumps and ten (10) had leaking rear main oil seals.

(c) RECOMMENDATION: Provide for a better inspection of these items before shipment.

EGACBF-CO

10 November 1970

SUBJECT: Operation Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending, 31 October 1970, RCS CSFOR-65 (R2)

(3) Repair Parts for Pioneer 225 TPH Crusher:

(a) OBSERVATION: Repair parts for the Pioneer 225 TPH Crusher set are extremely difficult to obtain.

(b) EVALUATION: There is no existing TM for the crusher, as a result there is no source for FSN's for repair parts. Orders for most parts must be made using exception data procedures which has resulted in many cancellations.

(c) RECOMMENDATION: Publish a TM of the Pioneer 225 TPH crusher or improve the methods for dealing with non-standard parts requests.

h. Material: None

i. Other: None

Donald M. O'Shei

DONALD M. O'SHEI
LTC, CE
Commanding

1 Incl
as

EGACBF-CO 10 November 1970

SUBJECT: Operation Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending, 31 October 1970, RCS CSFOR-65 (R2)

ORGANIZATION

The following units were either assigned or attached as indicated to the 589th Engineer Battalion (Const) during the report period.

a. Headquarters and Headquarters Company

b. Company A

c. Company B

d. Company C

e. Company D

f. * 513th Engineer Company (Dump Truck) (One platoon detached for temporary duty to the 577th Engineer Battalion (Construction)

g. * Quarry Platoon, 73rd Engineer Company (Construction Support)

h. * 585th Engineer Company (Dump Truck)

i. * Earthmoving Platoon, 577th Engineer Battalion (Construction)

j. * Two Earthmoving Platoons, 84th Engineer Battalion (Construction)

k. * Surveying Team, 35th Engineer Group (Construction)

l. * Well Drilling Team, 35th Engineer Group (Construction)

* These were the only attached units. The rest are assigned units.

EGA-3 (10 November 1970) 1st Ind
SUBJECT: Operational Report-Lessons Learned, 589th Engineer Battalion (Const), Period Ending 31 October 1970, RCS CSFOR-65 (R2)

DA: Headquarters, 35th Engineer Group (Const) APO 96312, 18 December 1970

TO: Commanding General, 18th Engineer Brigade, ATTN: AVBC-OS, APO 96377

1. This headquarters has reviewed the Operational Report-Lessons Learned for the 589th Engineer Battalion (Const). The report is considered to be an accurate account of the Battalion's activities during the reporting period.

2. This headquarters concurs with the observations and recommendations of the Battalion Commanders, with the following comments added:

REF. Section 1, Paragraph E (1)

D/589th has moved their LOC construction farther south out of Phan Rang. Because of this increasing distance to the job site, an equipment park was established at an ARVN compound at an intermediate point in the AO. This greatly facilitated construction with lost time to and from job site eliminated.

REF. Section 1, Paragraph B (1)

Rail haul utilizing the Vietnamese National Railroad has proved satisfactory and extremely valuable in augmentation of haul assets out of the industrial site at Phan Rang.

REF. Section 1, Paragraph O (2)

Logistics: Based upon a recent visit of the Gp S-4 to ICCV, records indicate that only two requisitions for the 25 ton semi-trailers are on valid backorder. The other requisitions were not recorded as ever having been received by ICCV. The unit is resubmitting. All other requisitions are being reconciliated by the ICCV at this Command's request. Upon receipt of this document, a better status will be known.

REF. Section 1, Paragraph O (3):

According to statistics available upon individual line items checked at ICCV, 53% of requisitions submitted to DSU and forwarded to ICCV were never received by the item managers.

REF. Section 1, Paragraph O (4):

The objective of providing equipment that exceeds ARVN standards is commendable but for many items it will be difficult if impossible to achieve.

FOR THE COMMANDER:

Paul M. Robertson

PAUL M. ROBERTSON
CPT, AGC
Adjutant

AVBC-OS (10 Nov 70) 2nd Ind
SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending 31 October 1970, RCS CSFOR-65 (R2).

DA, HEADQUARTERS, 18TH ENGINEER BRIGADE, APO 96377 28 December 1970

TO: Commanding General, USAECV, ATTN: AVCC-MO, APO 96375

1. This headquarters concurs with the observations and recommendations of for the 589th Engineer Battalion (Construction), as indorsed by the 35th Engineer Group (Construction). The report is considered to be an accurate account of the Battalion's activities during the reporting period.

2. This headquarters concurs with the observations and recommendations of the Battalion and Group Commanders.

FOR THE COMMANDER:

MICHAEL R. LEIBBERT
1LT, CE
Acting Assistant Adjutant General

AVCC-MO (10 Nov 70) 3rd Ind
SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending 31 October 1970, RCS CSFOR-65 (R2).

HQ, United States Army Engineer Command Vietnam, APO 96491 12 JAN 1971

TO: Commanding General, United States Army Vietnam, ATTN: AVHDO-DO, APO 96375

1. The significant activities and lessons learned have been reviewed and are an adequate reflection of the unit's operations during this period.

2. Reference item concerning "Logistics", page 20, para 1 o (2) and 1 o (3). Concur. Valid equipment requisitions will be filled to authorized TOE levels when items of equipment are received in-country. Construction material shortages of culvert and lumber are local shortages only. Action is being taken to fill these requirements. Sufficient angle iron is available in-country to meet stated requirements; however, a separate action is required by reporting unit for release of this Command Controlled item. Upon validation of this requirement, angle iron will be released from in-country assets to meet this demand.

3. Reference item concerning "Feeder Apron Improvement", page 22, para 2c(1). Nonconcur. Experience in using an alternate clutch drive system has resulted in increased repair parts difficulties. Proper installation and maintenance of the present clutch system will give satisfactory service.

4. Reference item concerning "Belt Adjustment on Crusher Equipment", page 23, para 2c(3). Nonconcur. Proper adjustment of the drive belts should not require frequent moving of the engine. When movement is required, the actual movement should not be so far as to require the use of a portapower.

5. Reference item concerning "Repair Parts Shortage", page 26, para 2f(1). Concur. Of the items listed, the 10-ton engine, FSN 2815-910-8218, is the only one that has been in critically short supply for extended periods. The other items listed have only been available in quantities to meet deadline requirements. Recommend that DA review supply quantities of these items for possible adjustments of stockage levels.

6. Reference item concerning "Faulty Rebuilt Items", page 26, para 2f(2). Concur. Rebuilt engines that have defective components cause excess delays in repairing and requisitioning replacement components. Recommend that DA improve the quality control of rebuilt engines to insure proper operation before shipment.

AVCC-MO
SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending 31 October 1970, RCS CSFOR-65 (R2). 12 JAN 1971

7. Reference item concerning "Repair Parts for Pioneer 225TPH Crusher", page 27, para 2f(3). Nonconcur. Due to the low density of this equipment, the publication of a TM is not warranted. Ordering parts, using exception data, does not, in itself, result in a large number of cancellations, if the correct data is used. Recommend that DA publish a computer printout cross referencing interchangeable part numbers with Federal Stock Numbers for the Pioneer 225 TPH crusher.

FOR THE COMMANDER:

R. P. SPENCER JR
1LT, CE
Asst Adjutant

CF:
18th Engr Bde
589th Engr Bn (C)

AVHDO-DO (10 Nov 70) 4th Ind
SUBJECT: Operational Report - Lessons Learned, 589th Engineer Battalion (Construction), Period Ending 31 October 1970, RCS CSFOR-65 (R2)

Headquarters, United States Army Vietnam, APO San Francisco 96375 22 FEB 1971

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

1. This Headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 October 1970 from Headquarters, 589th Engineer Battalion (Construction) and comments of indorsing headquarters.

2. Comments follow:

a. Reference item concerning "Unsuitability of TO&E," page 24, paragraph 2d(1): concur. The unit's recommendation has merit. Steps are presently being taken to effect such a system. HQ USARV in coordination with HQ USARPAC is establishing an automated system for TAADS. The proposed target date is 31 March 1971. Processing time on changes to unit documents will be reduced by more than 50 percent. The use of this automated system will make TAADS more responsive to the needs of units in Vietnam. Unit has been so advised.

b. Reference item concerning "Repair Parts Shortage," page 26, paragraph 2f(1) and 3rd Indorsement, paragraph 5: concur with the exception of the following items:

(1) Engine, 3/4 ton - Approximately 200 are on hand at Cam Ranh Bay.

(2) Tire, 1100x20 - Approximately 4000 are on hand at Cam Ranh Bay.

This Headquarters will continue to monitor status of critical shortages and expedite resupply when possible. Unit has been so advised.

c. Reference item concerning "Faulty Rebuilt Items," page 26, paragraph 2f(2) and 3rd Indorsement, paragraph 6: concur. Direct coordination will be made with 589th Engineer Battalion in initiating EIR's on the faulty engines and TACOM will be notified through USARV LAOV to take required action to upgrade quality assurance of engines from Continental Plant. Unit has been so advised.

FOR THE COMMANDER:

JACK P. COOK
CPT, AGC
Assistant Adjutant General

Cy furn:
USAECV
589th Engr Bn

GPOP-DT (10 Nov 70) 5th Ind
SUBJECT: Operational Report Lessons Learned of HQ 589th Engineer Battalion (Const), for Period Ending 31 October 1970, RCS CSFOR-65 (R2)

HQ, US Army, Pacific, APO San Francisco 96558

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

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D. D. CLINE
1LT, AGC
Asst AG