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SUBJECT: Operational Report - Lessons Learned, Headquarters, 39th Engineer Battalion, Period Ending 31 January 1970 (U)

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2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

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Major General, USA
The Adjutant General

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39th Engineer Battalion
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DEPARTMENT OF THE ARMY
Headquarters, 39th Engineer Battalion (Combat)
APO San Francisco 96576

SUBJ=T:
Operational Report of 39th Engineer Battalion (Combat)
for Period ending 31 January '70, JCS OSFOR 65 (RI)

THRU: Commanding Officer
45th Engineer Group
ATTN: S-3
APO 96309

THRU: Commanding General
17th Engineer Brigade
ATTN: AV/CG-6
APO 96377

THRU: Commanding General
United States Army, Vietnam
ATTN: AV/CG-DST
APO 96375

THRU: Commander in Chief
United States Army, Pacific
ATTN: G10-F13
APO 96550

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

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DOWNGRADED AT 3 YEAR INTERVALS;
DECLASSIFIED AFTER 12 YEARS.
DOD Directive 5200.20
During the report period, the 39th Engineer Battalion (Combat) consisted of headquarters and headquarters company and four lettered line companies. The 51st Engineer Company (Panel Bridge) and the 17th Engineer Company (Light Equipment) remained attached to the battalion throughout the report period. The 39th Engineer Battalion Provisional Land Clearing Platoon remained attached to Headquarters and Headquarters Company and under the operational control of the 9th Fleet Marine Force Engineer Battalion.

2. (U) Command:

The 39th Engineer Battalion (Combat) remained under the control of the Commanding Officer, 39th Engineer Group (Construction). The battalion remained in support of the Marine Division throughout the report period, with Headquarters and Headquarters Company located within the CHU LAAI Base (5253660). Incumbent commanders at the close of the report period were as follows:

- Lt. Col. Hugh O. Robinson
- Capt. Terrence A. Shell
- Capt. Robert J. Reilly
- Capt. Harry B. Warren
- Capt. Harry F. Hensley
- Capt. Harry E. Steen
- Capt. Robert J. Reilly
- Capt. Harry F. Hensley
- Capt. Robert J. Reilly
- Capt. Robert J. Reilly
- Capt. Robert J. Reilly
- Capt. Robert J. Reilly
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- Capt. Robert J. Reilly
- Capt. Robert J. Reilly
land clearing operations were joint Army-Marine Corps operations as the platoon remained OIFOUTH to the 9th RIF Engineer Battalion.

c. The 27th Surgical Hospital revetments were completed on 3 January 1970. The project included placing 1,100 linear feet of KPA2 revetments, filling them with sand, and placing a sand-cement cap on them.

d. A considerable portion of the construction effort during the entire report period was devoted to revetting vital areas of "0" and keeping the road open to traffic between 3rd INF. Div. (73803922) and the 1st Inf. Div. Tactical Zone Border (73804449), a distance of 182.3 kilometers. This involved installing new culverts, replacing culvert headwalls and wingwalls, placing of blast rock on shoulders, recovering shoulders, installing and maintaining bypasses, and other steps to reduce and control water damage.

e. A total of eight culverts, with 14 CHP tubes were installed on "0" between 3rd INF. Div. and 4th Inf. Div. (73849736) to replace destroyed and damaged culverts. The project included culvert placement, headwall construction, backfill and connection, and embankment pitching. The project was completed on 15 January 1970.

f. On 3 January 1970, work began on a 6 span, 120 foot timber pile bent bridge and a 650 foot causeway at TAN "0.00". To date the 520 foot west causeway, the west segment for the bridge, one bent, and one span have been completed. The project is 37 per cent complete.

g. On 5 January 1970, work began to prefabricate 27 reinforced concrete bridging deck slabs for the "0" GO 100m bridge. Concrete for the first slab was placed on 25 January 1970. At the end of the report period six slabs had been placed.

4. (C) Activities of Head-Quarters Company:

Throughout the report period, Head-Quarters Company, 39th Engineer Battalion was located at GUN LAI (7524936). Head-Quarters Company continued its mission of supporting the line companies and accomplishing the line company's support tasks for the America Division within the GUN LAI Base area. Head-Quarters Company supported Company D for messing throughout the report period.

Throughout the period, the heavy equipment platoon was employed assisting the line companies as needed. Conviction equipment was utilized OIFOUTH to Company C for construction of new culvert sites and around culvert headwalls. Orders were employed within GUN LAI Base for road maintenance and OIFOUTH to Company B for road maintenance and repair. The platoon also undertook preparations to place the stabilization plant into operation.

At the beginning of the report period the Land Clearing Platoon was clearing the coastal area north of GUN POG (7907372) under the operational control of the 9th RIF Engineer Battalion. The operation was concluded on 24 November 1969 and the platoon returned to GUN LAI by sea. A
total of 3693 acres were cleared during this operation. After a fifteen day maintenance stand down, another ambitious landmine was made along the coastal area just south of Da Nang (77609755). This operation was concluded on 31 December 1969 after 5200 acres had been cleared. After a short maintenance stand down at CHU LAI, the platoon moved by sea again to Da Nang and began clearing another area south of Da Nang on 9 January 1970. In this report period, the Land Clearing Platoon cleared a total of 6400 acres at the three different locations. Over 700 meters of tunnels and trenches and 437 bunkers were destroyed. The platoon found and destroyed 79 artillery rounds, mortar rounds, and mines, and captured 5 individual weapons. The platoon had 2 personal wounded in action.

During the report period, extensive work was completed to improve the defenses of the battalion base camp area. A secondary wire and AA fighting positions were constructed by Headquarters Company personnel.

5. (G) activities of Company A:

At the beginning of the report period, Company A Headquarters and First Platoon were located at CHU LAI (77609746). The Second and Third Platoons were at LZ 213 (77547572) under the operational control of Company C and the 137th Engineer Company (LE) respectively. Assumed missions included mineclearance from CHU LAI to LZ OY28 (77502836) and from INFO PTO (77502836) to I/II Corps Order (18002449), support of the 5th Infantry Company (F) with dump trucks and security for road and embankment, security for the 137th Engineer Company (LE) road upgrades, and repair of enemy damaged culverts from DUC PHO to HD DUC (39740929).

On 10 November a portion of Company A Headquarters and the First Platoon relocated to LZ ROYCO (77613935). The Second Platoon was released from OPCON by Company C and also relocated to LZ ROYCO. Company A assumed responsibility for mineclearance and water damaged culverts and mineclearance of LZ from LZ ROYCO to the LZ2 Access road (18002449). Heavy rains fell during the last report period and during this report period caused much effort to be expended solely to keep the road open. While at LZ ROYCO, Company A constructed a total of 5 new culverts on LZ consisting of 13 OFP culvert tubes and instilled timber handwells on another 5 culverts.

Completion of this mission required construction and placement of 650 feet of culvert as well as excavation, backfilling, and compacting approximately 700 cubic yards of fill.

On 19 November, the north span and pylon of the 47 foot, class 50, timber pile bridge at 35°15'53" were destroyed by enemy activity. The span was immediately opened to traffic and work started on repair of the bridge. Seven piles were driven, with walls reconstructed for the pylon, eighteen stringers were placed and complete deck, roadway, curb, and handwells were replaced for the destroyed span. The company also constructed a defensive position at the bridge site. On 6 December the bridge was completed and opened to traffic.
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On 1 January Company A relocated to CHU LAI with the mission of reconstructing the Second Platoon which relocated to LZ MAX and was assigned 0001 to the 31st Engineer Company (LE). The Second Platoon continued to provide a nine-man team for the 11th Infantry Brigade daily tactical road clearing operation of L-1 from LZ P2PVBO to the III Corps border and security for L-1 penning and paving operations.

Company A assumed the mission of reconstructing the long concrete bridge (25691665) on 2 January. This project included the prefabrication of 22 reinforced concrete deck slabs, removal of a 70 foot temporary timber bridge, construction of a new reinforced concrete abutment, removal of two dress up supports, placing 15 steel stringers and the deck slabs, and repair of a section damaged by an artillery round. A concrete slab precasting site was prepared at CHU LAI in the company area by the First and Third Platoons. Ten slab sites were leveled and formed. Concrete for the first slab was placed on 26 January and five additional slabs were slacked during the report period. The Second Platoon also prepared a base course area at LZ SUGPO (25-700607) from which the platoon will operate for on-site bridge construction scheduled to begin early in the next report period. On 29 January, the Second Platoon relocated from LZ MAX to CHU LAI to assist in prefabrication of the reinforced concrete slabs.

Company A provided dump trucks, under the operational control of the 11th Engineer Company (LE), for rock and asphalt haul from CHU LAI to the work site on LZ-1 throughout the report period. Security for the rock and asphalt haul was also provided in the form of vehicle mounted .50 caliber.

Army activity was relatively light during the report period. On 7 December 1969, the minesweeper team detected a 100 pound M60 of TAT followed by a bamboo firing device at 25795405. The circuit was subsequently destroyed. On 12 November 1969, the minesweeper team supporting the 11th Infantry Brigade road opening operation was attached at P590P13. The minesweeper team received approximately 1000 rounds of automatic and semi-automatic weapons fire, 12 RPG rounds, and 4 hand grenades but suffered no casualties or damage. The infantry security element, however, suffered 1 FIA, 7 FIA, and destruction of one APC and one 1/4 ton vehicle.

During the report period, Company A relocated from CHU LAI to LZ P2PVBO and LZ MAX and back to CHU LAI. The north span and abutment of the bridge at 25615359 was repaired. The Company installed, removed, and worked on culverts, headwalls, and berm walls from LZ P2PVBO to the LZ MAX access road on LZ-1. The Company also initiated the procurement of reinforced concrete slabs for the SUGPO CO and continued to haul rock and asphalt for LZ-1 penning and paving operations.

6. (c) activities of Company B

At the start of the report period, Company B was located at LZ DTTES (25621556) with the mission to maintain and operate the bridges, fire bases, structures and Forward of L-1 from PH-1 CON (25615722) to the north bank of the SUGPO River (25691665), approximately 20 kilometers. In addition,
Company D conducted a daily nine-hour operation of CL-1 from LZ DOTTIE to the LZ DUG access road (PS737530), via NO DUG (PS67164523), a distance of approximately 34 kilometers. The Second Platoon relocated to LZ NORTH BUSILISH (PS768034) on 3 January 1970. At the start of the report period, major emphasis was placed on the repair of enemy damage and maintenance and improvement of CL-1 to keep the highway open during the monsoon season.

Projects under construction at the start of the report period were as follows: the hydroseeding and vegetation of the banks and shoulders of CL-1 from DUG to NO DUG, approximately 29 kilometers; the repair of all damaged culverts between DUG DUG and DUG NO DUG; the improvement of all drainage structures from DUG NO DUG to NO DUG; the filling of a ditch and road hole from NO DUG to the hydropower site via DUG MAX (PS654127); and the construction of new living/cutting huts at LZ DOTTIE.

Projects under construction at the start of the report period were as follows: the hydroseeding and vegetation of the banks and shoulders of CL-1 from DUG NO DUG to NO DUG which started during the last report period was completed on 9 November 1969. Of the original 29 kilometers, 3 kilometers were completed during this report period. The surface treatment prevented the erosion of the banks and shoulders of CL-1 and kept the road from washing out at several critical locations during the heavy monsoon rains.

The repair of all damaged culverts between DUG DUG to DUG MAX, which also began during the last report period, was an extensive project which included the removal of damaged culverts at 7 locations, the replacement of 16 culverts 50 feet in length, the construction of timber handrails, and the paving of CL-1 at each site. All work was completed on 15 January 1970. In addition, 370 cubic yards of material and base rock were hauled to backfill the culvert sites.

In order to upgrade all of the drainage structures from DUG NO DUG to NO DUG, all of the culvert handrails had to be backfilled and recentered, handrails had to be reconstructed at culvert sites at PS668066, PS666447, and PS67702. Also, the win wells at the bridge located at PS668066 had to be rebuilt and the bridge approach had to be upgraded. All work was completed on 14 November 1969. Ninety-five and twenty cubic yards of basalt and base rock were hauled to complete this task.

Company D trucks hauled 570 tons of asphalt and 1,425 cubic yards of base rock in support of the battalion's repair operations and CL-1 upgrade, via LZ DUG. The project which started on 16 October 1969 was completed on 29 November 1969 when all trucks returned to LZ DOTTIE to support company operations.

At LZ DOTTIE, four living/cutting huts were constructed; six footbridges were installed over drainage ditches, one shoe was built; two more huts were reconstructed; and a 75-foot by 100-foot hollered was constructed. All work was completed by 6 January 1970.

On 10 November, work began to upgrade all of the wire at LZ DOTTIE to meet 13th Engineer Brigade standards. Two rows of triple concertina, two
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at LZ HA from the beginning of the report period until 9 November 1969 for support of minefields, security, and culvert repair. Projects in progress at the beginning of the report period included minefields in AOR; repair of enemy damage and water damage control on "L" from "CS744-95" to "CS804-92"; repair of damaged culverts on "L-1" from NO 01C ("L-740525") to NO 01C ("L-757470"); security for 17th Engineer Company (LE) and parties on "L-1"; essential facilities at engineer base camps; and civic actions in the AOR.

During the report period construction of a bunker at LZ 206 (206/25533) for the 4th Regimental advisory team was initiated.

Company C was responsible for mine-clearance operations on "L-1" from NO 01C to NO 01C, a distance of 16 kilometers, with the completion of paving north of LZ HA. Company C continued its mine-clearance north to the 206th US Division (206H/74). Then the 1st Platoon of Company C moved from LZ 2020 to LZ 2010 on 26 January 1970. Company C provided the mine-clearance for the 7th regiment's daily road-opening operation of "L-1" to the YTT police border (206S/256). Heavy rainfall in the previous report period and throughout this period made it necessary for Company C to expand nearly all of its efforts on keeping "L-1" open to traffic and minimizing water damage. The most urgent projects included placing 7 "L-1" inch OP culverts at 578644 where the base course and subbase had been washed out and placing 7 "L-1" inch culverts at 578644 after culverts previously planted had been damaged by enemy activity and subsequently washed out. Pylons were first constructed at each site, then the culverts were placed, tiles for handballs driven, and handballs constructed. A total of 1168 cubic yards of fill and 263 cubic yards of roof to the latter.

During the report period Company C placed 6 other culverts on "L-1" at 5770445, 2574427, 8573449, 5774751, and 8577444. Handwalls were constructed at all these sites and required at 6 other sites. A total of 2'10 feet of culvert was assembled and placed. Eighty-nine piles were driven for new handwalls and a total of 2529 board feet of 3x12's and 2304 board feet of 4x8's were placed on winawalls and handwalls. A total of 1304 cubic yards of fill and 1450 cubic yards of rock were hauled and placed at these culvert sites. Throughout the report period culvert construction continued to be hampered by the heavy rains.

Since bad weather prevented much work on "L-1", considerable effort was spent by Company C on the upkeep and maintenance of the defensive perimeter and living/fighting bunkers at LZ HA. Additional protective wire was installed and all guard positions and towers were reinforced.

Company C continued to provide security for the mine-clearance, being performed by the 17th Engineer Company (LE) along "L-1".

In late January when the weather improved, Company C began removing temporary handwalls constructed during the previous season and cleared fill and debris from culverts. A total of 700 cubic yards of fill was removed from
bypasses and hauled to TAN HAI (C5770445) as a civic action project to build a market place for the local Vietnamese population.

On 26 January, Company C began construction of a 36 foot by 12 foot bunker at LZ DONWEN for the MKC-4th Regimental Advisory Team. The site was first leveled, footers installed, and a plywood floor placed. At the end of the report period two exterior walls had been constructed.

Army activity was relatively light during the report period. On 2 November the minefield was reached with 417 rounds of small arms sniper fire at B5796552, but the group continued. On 5 November, the culvert at B5724571 was destroyed and five booby trapped hand grenades were detected at the site. While repairing this culvert on 14 November, the work force from Company C received 10-12 rounds of small arms sniper fire. Booby trapped mines, grenades and artillery rounds were discovered on 7 other occasions during the report period. The reduced mining incidents along GL-1 in the Company C mine sweep sector can be attributed to the company's active Voluntary Informant Program. Over 5724 hand grenades were destroyed and five booby trapped hand grenades via detection.

At the end of the report period, Company C had installed 9900 feet of culvert, used 17,853 board feet of lumber, driven 6-inch piles and allowed 5666 cubic yards of fill. In addition to providing security for the movement operations on GL-1, Company C mined swept 56 kilometers of GL-1 daily, extensive upgrades of drainage, and defensive facilities at LZ X2 was also completed.

8. (C) Activities of Company D:

Throughout the reporting period Company D was located at GIV LAI (T-534036). The assigned missions of the company included daily mine sweeps from GIV LAI to LZ DONWEN (C5770365), continuation of rock and asphalt hauls for the upgrading and paving of GL-1, construction of revetments, construction of armored cavalry squadron base camp, construction of a rock crusher, helicopter and other crusher facilities, operation of a stabilization plant for subsequent stabilization operations, and bunker construction at LZ DONWEN (C5732933) and LZ DESERT (T-69900):

From the start of the report until 23 January, Company D constructed 8584 linear feet of revetments around the 27th Surgical Hospital at GIV LAI. Of the 1400 linear feet required, 3256 linear feet were constructed during this period. The revetments were filled with sand and covered with a sand-cement mix.

Beginning on 10 November and continuing throughout the report period, Company D conducted a daily mine sweep of GL-1 from GIV LAI to LZ DONWEN before initiating rock or asphalt convey. The company also continued to haul rock and asphalt for GL-1 upgrading and paving. During the report period, Company D hauled 3944 cubic yards of rock and 750 tons of asphalt. Throughout the report period company D provided security and control vehicles.
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OF CON to the 51st Engineer Company (EN) for rock and neboliitl conveys.

On 20 November, the company began erecting the 37th engineer battalion base camp defensive wire at CUU Lai to meet 7th Engineer Brigade criteria. A total of 16,459 meters of barbed wire and 334 rolls of concertina were installed in double-strand and zigzag fence. Work was completed on 29 December.

On 1 January, the company received the mission to construct a permanent base camp for the First Squadron, First armored Cavary at CUU Lai. The construction area included construction of 50 35° huts, three 250 men mess halls, 3 showers, and 8 burnout latrines. By the end of the report period, 27 25° huts had been constructed.

During the report period work was also begun to create a site for a rock crusher to be erected by the 37th Engineer Company (EN). An existing headwall on the site had to be replaced because of deteriorated piles and timbers and a new headwall built. A reinforced concrete wall, 10 feet by 11 feet, was placed for the secondary crusher, a 365 but was constructed for a crusher office building, a demolitions store, and was constructed at the company area, access roads to the headwall and around the crusher were constructed, and protective revetments at the crusher site were built.

On 16 January, the Third Platoon relocated to L? EST and L? CENTER to construct living bunkers for the infantry at these two isolated locations. The project was temporally delayed because all construction materials had to be air lifted to the construction sites. Nevertheless, by the end of the report period, 9 bunkers had been constructed at L? EST and 12 at L? CENTER.

Company D also constructed two wooden platforms for stockpiling cement at the battalion stabilization plant and a retaining wall for stockpiling sand at the plant.

Many activity was extremely light during the report period. The minesweeper team discovered only one mine. However, a 10-ton tractor and 25-ton trailer were destroyed by a command detonated mine while returning to CUU Lai from Da Nang (67009755) in a convoy.

During the report period, Company D constructed 6 bunkers, built a base area, constructed protective revetments for a hospital, erected a site for rock crushing operations, and hauled rock and neboliitl for "L" unloading and paving.

9. (C) Activities of the 37th Engineer Company (Light Equipment):

Throughout the report period the 37th Engineer Company (Light Equipment) was located at L? CENTER (67534752). The company's mission was located at CUU Lai (67534756) with the mission of constructing the minesweeper for the 37th Engineer Battalion and preparing to erect the company's 71-ton, at the beginning of the report period the mission of the company was the continued unloading and paving at "L" from NO WIC (6740528).

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The primary mission of the 37th Engineer Company (LE) was the unwinding and paving of "L" from NO DIC to DIC PHO to CWXXL Class 2 standards. Throughout the report period this area received 24.60 inches of rain causing considerable water damage and erosion of the base course, subbase, and shoulders. Asphalts were placed on only seventeen days in the report period because of adverse weather. Nevertheless, base course sheeting was complete on 26 January and final grade and compaction of all base course was complete on 29 January.

Upgrade of the LZ LIZ access road began on 17 January to a simple in-core asphaltic pavement surface with a new roller struck a 40 pound mine. The operator was not injured but the 220M was destroyed.

During the period the 137th Engineer Company (LE) completed repair of the subbase of "L" which had been washed out between NO DIC and DIC PHO, graded and compacted 14,964 cubic yards of base rock and placed 6000 tons of asphalt to complete 12.06 lane kilometers of paving. At the end of the report period only 2.74 lane kilometers remained to be paved of the 32.0 lane kilometers between NO DIC and DIC PHO. A total of 21,000 gallons of HC-250 had been used for base course grading of "L".

10. (C) Activities of 31st Engineer Company (Panel Ridge):

Throughout the report period the 31st Engineer Company (Panel Ridge) was located at GUL LI (7735036) with the mission of supporting the 39th Engineer Battalion. During this period the 31st Engineer Company (31st) continued its missions of operating and supervising road and asphalting forces from GUL LI to the work sites on "L" between NO DIC (7720523) and DIC PHO (7507379), providing organizational maintenance support to all FPWV vehicles, and providing security and control vehicles for road and rock conveyors.

During the quarter, the 31st Engineer Company (31st) hauled 10,000 cubic yards of blast rock, 12,624 cubic yards of base rock, and 660 tons of asphalt for "L" grading and paving operations.

During the months of December and January the company was tasked to haul 1632 tons from LZ DUG (7572330) to a secondary road unwinding project vicinity of NO DIC whenever there was no rock available for haul for "L" unwinding, or adverse weather prevented asphalt from being placed. A total of 7700 cubic yards of laterite was hauled for this project. The project was completed on 23 January 1970.
Throughout the period when its vehicles could not haul rock or sand, the 51st Engineer Company (F) also hauled and placed 2,140 cubic yards of sand to construct a secondary berm for the battalion's defensive perimeter at GII LAI.

During this report period the 51st Engineer Company (F) was involved in only one enemy initiated incident. On 30 January, one truck received enemy fire at 85261704 while returning to GII LAI.

In accomplishing its primary mission of rock and sand haul, vehicles of the 51st Engineer Company (F) drove over 140,000 miles.

3. (C) RECONNAISSANCE:

1. (C) Reconnaissance:

A battalion representative flew a daily helicopter reconnaissance of "L" in the battalion's AO, checking for enemy and water dangers. Ground reconnaissances were made on an as needed basis to evaluate and assess damage to bridges and culverts caused by the enemy and weather. During the period, 11 air reconnaissances and 15 ground reconnaissances were made in the battalion AO along "L". Included in the ground reconnaissance missions were 12 monthly updates and three monthly updates of bridge and culvert locations. On 29 January 1970, a preliminary ground reconnaissance was made from DCM (1) (75257300) to HCM DA (2) (75276901) to include the river data on the BHC (2) (25276902) Nang Lai crossing site (75255404) to 76100013).

In addition to reconnaissance missions, site and area studies were initiated on Route 51, Route 56, Route 59, Route 62, Route 68, Route 86, DCN (2) (75256908) and the DCN (25256902) airfields.

2. (C) Enemy Activity:

Enemy activity was moderate during this report period. Incidents were limited mainly to mines and booby traps encountered by the lead Clearance Platoon and by the daily mine sweeps. Only occasional incidents of sniper fire were reported and none resulted in any sustained contacts. On 30 January 1970, a 5-ton dump truck in route from LZ SHINO (75270015) to GII LAI (75259704), was ambushed at 75262749 on "L", resulting in one WIA and minor damage to the 5-ton. There was a reported increase of NVA infiltration into the battalion AO, during the report period but this increase in overall enemy strength has not been felt by the battalion.

On 11 January 1970, Company C's mine sweep team received a Chinese Pao who was immediately evacuated to GII LAI and interrogated. He was then turned over to the Americal Division.

On Christmas Day, Company C found VC propaganda leaflets written in English which told the American fighting men to come home.
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a. Mines: During the report period 13 mines were encountered in the battalion area. The mines ranged in size from 4 pounds to 90 pounds, with bamboo type firing devices, electrical blasting caps, and batteries. A total of four mines were detonated resulting in one member of the battalion being wounded in action. The following is a breakdown of mines detected:

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<th>DESTROYED</th>
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<td>6</td>
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<td>December</td>
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<tr>
<td>January</td>
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<td>3</td>
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</table>

b. Booby traps: During the report period the battalion encountered 20 booby traps. These booby traps resulted in 7 US WIA, all of whom were members of the Land Clearing Platoon. The following is a breakdown of booby traps by month:

<table>
<thead>
<tr>
<th>MONTH</th>
<th>DETECTED</th>
<th>DESTROYED</th>
<th>TOTAL</th>
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<tr>
<td>January</td>
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c. Other enemy initiated activities during the report period were as follows:

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<td>Ambushes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Bridges blown</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Culverts blown</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Land obstacles</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Sniper attacks</td>
<td>3</td>
<td>7</td>
<td>1</td>
<td>11</td>
</tr>
</tbody>
</table>

3. (U) Weather data:

<table>
<thead>
<tr>
<th>MONTH</th>
<th>RAINFALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>November</td>
<td>9.96</td>
</tr>
<tr>
<td>December</td>
<td>12.37</td>
</tr>
<tr>
<td>January</td>
<td>6.30</td>
</tr>
<tr>
<td>Total</td>
<td>30.03</td>
</tr>
</tbody>
</table>
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C. (C) Casualties:
During the report period, the battalion suffered the following casualties:

<table>
<thead>
<tr>
<th>COMPANY</th>
<th>KIA</th>
<th>WIA</th>
<th>KNH</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHC</td>
<td>0</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Co A</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Co B</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Co C</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Co D</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>137th (Le)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>51st (Pu)</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>0</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

D. (U) Operations and Training:

1. (U) Operations:
The battalion operated on a seven day work week with Sunday afternoons used for maintenance, training and recreation when possible.

a. The combat and operational support missions were conducted in coordination with divisional Division, providing support in Southern I Corps Tactical Zone. This consisted chiefly of maintenance and minor construction of defensive structures, and accounted for approximately 45% of the engineer effort expended.

b. The LOC upgrading projects were originally assigned by USAREUR and are part of the overall LOC-LOC program, approximately 10% of the engineer effort of the battalion was devoted to the LOC program.

c. The land clearing mission was coordinated through the III Marine Expeditionary Force. The Provisional Land Clearing Company consisted of the 9th Engineer Battalion (USMC) and the 9th Engineer Battalion (U.S.) cleared land in support of the II Corps Division and 1st Marine Division tactical operations. This accounted for less than 4% of the engineer effort expended throughout the period.

2. (U) Training:

Aside from the regularly scheduled weekly training during the period, special training for the monsoon season continued from the last period. In accordance with 1st Task Force Marines Order, each company was to prepare 15 days of training to be given on days that projects could not be worked due to weather. This Consolidation Month Training offers the means for more adequately instructing the troops in the field without reducing the commitment to the projects. With the rain, however, came a considerable amount of water due to which kept most units ineffectively employed. At the end of the period, approximately 60% of the training had been conducted.
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2. (U) ADJUSTMENTS:

1. (U) Company moves:

   a. 4 November 1969, Company A (-) relocated from CHU L1 (Y7534036) to
      LZ KHONCO (108'53'3).  
   b. 1 January 1970, Company A (-) relocated from LZ KHONCO (108'53'3) to
      CHU L1 (Y7534036).

2. (U) Platoon moves:

   a. 9 November 1969, 2/4/39 relocated from LZ MAX (Y8763472) to LZ
      KHONCO (108'53'3).
   b. 16 November 1969, 1/4/39 relocated from LZ MAX (Y8763472) to LZ
      KHONCO (108'53'3).
   c. 12 December 1969, 3/4/39 relocated from CHU L1 (Y7534036) to LZ
      KHONCO (108'53'3).
   d. 1 January 1970, 2/4/39 relocated from LZ KHONCO (108'53'3) to CHU
      L1 (Y7534036).

   . 3 January 1970, 3/4/39 relocated from LZ DOTTIE (Y854054A) to LZ
      KHONCO (108'53'3).
   f. 14 January 1970, 511th advance party returned from CHU L1 (Y7534036)
      to CHU L1 (Y7534036).
   g. 20 January 1970, 2/4/39 relocated from LZ MAX (Y8763472) to CHU L1
      (Y7534036).

3. (U) Squad moves:

   a. 16 January 1970, 1/3/5/39 relocated from CHU L1 (Y7534036) to LZ
      KHONCO (108'53'3).
   b. 20 January 1970, 3/3/5/39 relocated from CHU L1 (Y7534036) to LZ
      KHONCO (108'53'3).
   c. 22 January 1970, 2/3/5/39 relocated from CHU L1 (Y7534036) to LZ
      KHONCO (108'53'3).
   d. 7 January 1970, 2/3/5/39 relocated from CHU L1 (Y7534036) to LZ
      Khonco (108'53'3).

4. (U) Moves of the Land Clearing Platoon (Provisional):

   a. 1 December 1969, completed relocation to CHU L1 (Y7534036) from site
      north of LOC PHO (Y8530757F).

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b. 15 December 1969, relocated to site south of Da Nang (VT0275), first night defensive position via TPK1431.

c. 2 January 1970, relocated to CHU LAI (RT834036).

d. 11 January 1970, completed relocation to site south of Da Nang (VT0275), first night defensive position via TPK14671.

F. (C) SUPPLY:

1. (U) General:

During the report period Companies A, B, and D continued to be supplied through CHU LAI (RT834036) and Company C was supplied Class I, II, and IV through WC PHQ (BS07370).

2. (U) Logistics Support:

Logistics support was provided by the following organizations:

a. 93rd Supply and Transportation Battalion, located at CHU LAI (RT834036), organic to the 526th Division.

b. 506th N. Internee Company (DS), located at CHU LAI (RT834036), organic to the 30th General Support Group.

c. 661st Ordnance Company (Cnd), located at CHU LAI (RT834036), and WC PHQ (BS07370), organic to the 30th Ordnance Battalion located in Da Nang (VT0275).

3. (C) Equipment Status:

Several Truck, Utility, 1 Ton and Truck, Tractor, 10 Ton were received during the report period, thus removing these items from the critical shortage item list. The following items still remain critically short:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>AUTH CTY</th>
<th>ON H CTY</th>
<th>SHORTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semi-trailer, 25 ton</td>
<td>13</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Grader, Road, Motorized</td>
<td>13</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Cranes</td>
<td>9</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

4. (C) Combat Losses:

Combat losses during the report period were as follows:

<table>
<thead>
<tr>
<th>FSN</th>
<th>NOSE NCLATURE</th>
<th>USA #</th>
<th>CNTY</th>
<th>DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2300-055-5263</td>
<td>Truck, Dump, 5 Ton</td>
<td>5256563</td>
<td>1</td>
<td>9012</td>
</tr>
<tr>
<td>2300-226-6001</td>
<td>Truck, Tractor, 10 Ton</td>
<td>05400760</td>
<td>1</td>
<td>9004</td>
</tr>
</tbody>
</table>

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5. (C) RVN Modernization and Improvement Program (Switch Four)

During the reporting period a number of end items were laterally transferred to the 205th RVN Heavy Equipment Company. The following items were included:

- Truck, Dump, 5 Ton: 4 each
- Truck, Utility, 1 Ton: 1 each
- Grader, Motorized: 2 each
- Loader, Scoop: 2 each
- Truck, Cargo, 2 1/2 Ton: 3 each

6. (U) Water Supply:

During the reporting period the Battalion operated water points at four (4) different locations: L7: Hax (75763472), L7: Dottie (25672956), Head-quarters Company, 205th Engineer Battalion (C), GIU Lai (PT534034) and Special Forces Detachment R-11, GIU Lai (PT534034). Presently the four (4) water points are producing 50,000 gallons of water a day.

G. (C) Non-REINFORCE:

1. (C) General:

The maintenance program has shown increased effectiveness; however, the deadline rate has remained at the same level throughout the reporting period due to an increased program of early detection and a full awareness on the part of operators. The more stringent criteria resulted in equipment on deadline which under previous criteria would have been allowed to operate.

The 100% fill of maintenance personnel has increased from a low of 74% at the beginning of the period to a high of 96% at the close. The majority of the new personnel are recent graduates of IT schools.

There is still a critical shortage of parts for 40 ton tractors, 80 ton (4) or (5), 100 mixers, and road graders. Graders and graders will be critical because of the large amount of bridging and road work scheduled for this battalion.

2. (U) Support:

A U.S. Light Maintenance Company provided direct support during the reporting period. A total of 47 job orders were completed during this period; every order was filled in 2 to 3 days for each item of equipment. Thirty-two orders were processed through the Engineer Section and 12 job orders were processed through the Automotive Section.

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3. (U) Prescribed Lead List (PLL) and Remain Parts Summary:

The zero balance of remain parts in this battalion is 70%. This figure reflects the improved support from our Direct Support Unit. The zero balance for last period was 78%.

H. (C) Medical:

During the report period, skin infections, upper respiratory infections, and cold symptoms within the unit assigned to this battalion showed an increase over previous months, especially among troops living on the LMs. The number of cases increased greatly in the latter part of this period. It is believed the wet weather of the monsoon season caused this increase. A large number of these cases did not respond to local treatment by medical suction and were referred to the Battalion Surgeon. A few of these cases were hospitalized, while others were given quarters for an extended period of time. By removing these infected personnel from the LMs to a cleaner atmosphere where closer supervision of personal hygiene could be maintained, the response to treatment was much better and the recovery time decreased.

I. (C) CIVIC ACTION:

1. (U) Civic Action:

During this period, MEDCOP teams recommenced the mine sweep on the dikes, mix sweeps of LMs. They treated the local Vietnamese and coordinated MEDCOPs when necessary. In addition, 322 cubic yards of laterite were hauled to a Vietnamese village in the vicinity of 5776445 for upgrade of the market place.

2. (C) Voluntary Incentive Program:

During the report period turnovers under the Voluntary Incentive Program amounted to a total of 127,450 $VN. The following is a breakdown of turnovers:

<table>
<thead>
<tr>
<th>TYPE</th>
<th>NOVEMBER</th>
<th>DECEMBER</th>
<th>JANUARY</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grenades</td>
<td>117</td>
<td>20</td>
<td>26</td>
<td>163</td>
</tr>
<tr>
<td>60mm Rounds</td>
<td>7</td>
<td>17</td>
<td>27</td>
<td>58</td>
</tr>
<tr>
<td>120mm Rounds</td>
<td>17</td>
<td>51</td>
<td>2</td>
<td>70</td>
</tr>
<tr>
<td>4.2 Rounds</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>105mm Rounds</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>105mm Rounds</td>
<td>71</td>
<td>8</td>
<td>1</td>
<td>30</td>
</tr>
<tr>
<td>155mm Rounds</td>
<td>15</td>
<td>4</td>
<td>15</td>
<td>34</td>
</tr>
<tr>
<td>305mm Rounds</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Mine</td>
<td>25</td>
<td>2</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>Miners paid</td>
<td>51,200</td>
<td>30,000</td>
<td>30,400</td>
<td>171,600</td>
</tr>
</tbody>
</table>

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(U) **SECTION II** Lessons Learned: Commander's Observations, Evaluations and Recommendations

1. **PERSONNEL:** None.

2. **OPERATIONS:**
   1. **Culvert Headwall Construction:**
      a. **OBSERVATION:** A great amount of time is expended in the construction of conventional timber and cable headwalls.
      b. **EVALUATION:** Much time and effort could be saved if the headwalls were placed at the same time fill is placed on the culverts.
      c. **RECOMMENDATION:** That a single cable be strung between opposite piles on opposite sides of the roadway. By placing the cable in the trench as the fill is added and compacted above the tubes, time is saved and all that remains to be done is to tie the cable to the piles.

2. **Culvert Installation:**
   a. **OBSERVATION:** During the repair of installation of culverts on the road, it is important that the road be kept open to traffic at all times. It is difficult and time consuming to construct half a culvert at a time while keeping the other lane open to traffic.
   b. **EVALUATION:** Much time could be saved with a method that would allow the whole culvert to be placed while keeping the road open.
   c. **RECOMMENDATION:** That if a bypass cannot be economically constructed, an AVLB be utilized to keep traffic moving while replacing a culvert. By using a dozer to excavate a trench perpendicular to the road and only as wide as necessary and then placing an AVLB over the trench while installing the culvert, traffic can pass normally. The culvert can be installed and fill compacted around the tubes prior to removal of the AVLB.

3. **Trench Construction:**
   a. **OBSERVATION:** Cracks in timber headwalls allow the compacted backfill to pass through the headwall when the fill becomes saturated by heavy non-saturating rains.
   b. **EVALUATION:** Once backfilling and compacting fill behind headwalls, material should be placed behind the headwalls to fill the cracks.
   c. **RECOMMENDATION:** That sandbags, tarps, or a soil-cement grout be placed in the cracks to keep the fill from seeping through the cracks.

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4. (U) Backwall Construction:

a. OBSERVATION: The piles used in timber backwall sometimes fail under the increased pressure exerted by fill which becomes saturated during heavy monsoon rains.

b. EVALUATION: One decision for each pile decreased the probability of such a failure.

c. RECOMMENDATION: That each pile used in a timber backwall be supported with:

5. (U) Preparation of Culvert and Bridge Sites for Paving:

a. OBSERVATION: Because of the uncertain weather during the monsoon season, several days or weeks may elapse between the time bridges and culverts are prepared for paving and when they are paved.

b. EVALUATION: Unless the culvert sites are paved immediately upon being prepared, normal traffic will cut ruts into the roadway and allow water to soak into the base course.

c. RECOMMENDATION: That a sand-cement mix be placed on the prepared sites. By using this procedure, traffic cannot cause ruts that allow water to soak into the base course, the drainage is improved, and it is unnecessary to rework the same site several times in preparation for paving.

6. (U) Clashshell Transportation:

a. OBSERVATION: Considerable time is wasted in connecting and disconnecting the clashshell from the R/T crane everytime the crane has to move from one job site to the next.

b. EVALUATION: Valuable time can be saved by placing the clashshell, still connected to the crane boom, in the bed of a 5-ton dump truck and allowing the crane to follow the 5-ton to the next jobsite.

c. RECOMMENDATION: That the clashshell, still connected to the crane boom, be placed in the bed of a 5-ton dump truck and the crane follow the 5-ton short distances to the next jobsite.

7. (U) Choice of Roof Design for Standard SE A Huts:

a. OBSERVATION: High peaked roof designs on standard SE A huts are actually unnecessary and wasteful consumption.

b. EVALUATION: Since there is no snow in tropical climates there is actually no need for high peaked roof design. Current designs utilize an excess of lumber and corrugated metal.

c. RECOMMENDATION: That 16x32 SE A huts utilize an off-center peak which
results in one long slope and one short slope, producing a savings of 20% in corrugated metal. Our tests, conducted on a site slightly sloping terrain with no perks, which saves nearly 50% in corrugated metal roofing.

8. (U) Construction of Revetments:

a. **RECOMMENDATION:** When constructing revetments of 1944 or earlier designs, specify intermediate bricks of 2" or 1" every 8 1/2 feet.

b. **RECOMMENDATION:** Once the revetments are filled with sand, the bricks serve no purpose. However, building the revetments without the bricks is extremely slow.

c. **RECOMMENDATION:** That the construction bricks be removed when the revetments are partially filled. One set of bricks can then be used as construction bricks on all the revetments. Construction time is decreased and 1'6' of board feet of 2" material is saved for every 8 1/2 feet of revetment erected.

9. (U) Concrete Test Cylinder:

a. **RECOMMENDATION:** To insure proper quality control of the concrete being used in the construction of pre-cast deck slabs for a concrete bridge, concrete sample cylinders must be prepared.

b. **RECOMMENDATION:** The standard 150mm concrete sample cylinders are not available, as they are in short supply in Vietnam.

c. **RECOMMENDATION:** That 150mm cylinders be used as concrete cylinder molds, as they are the correct diameter and can be used as concrete cylinder molds. An 8 1/2 inch section can be cut from the middle of a cylinder and then the section with cut hearthside. The halves can be held together with 6 inch rubber bands while placing the concrete in the cylinder.

10. (U) Handling Heavy Equipment Tires:

a. **RECOMMENDATION:** Without the proper equipment, many problems arise during the handling of heavy equipment tires.

b. **RECOMMENDATION:** A satisfactory and safe method should be developed to expedite the handling of heavy equipment tires.

c. **RECOMMENDATION:** That the following methods be used in the absence of proper tire handling equipment. Use a chain with two load binders to form a walking load binder to circle the tire and draw it up. This will seal the tubeless tire during inflation. The block of a M2 dozer can be used to seal the tire rim to prevent the safety rim from coming off and injuring personnel.
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11. (U) AVL3 Utilization:

a. OBSERVATION: When using an AVL3 to keep "L-1" open to traffic, small vehicles sometimes fall through the center of the AVL3.

b. VALUATION: It would be advantageous from the standpoint of traffic flow and maintenance to cover the center of the AVL3 between the roadway for protection of the hydraulic lines.

c. CONCLUSION: That next setting be placed on the center of the AVL3 to offer protection for the hydraulic hoses and other critical parts nested in the center of the AVL3. The setting can also be used as an extension of end ramps which is especially useful for LAVs.

C. (U) TRAINING: None.

D. (U) INTELLIGENCE: None.

E. (U) LOGISTICS: None.

F. (U) ORGANIZATION: None.

Hugh G. Robinson
LTC, CE
Commenting
Subject: Operational Report of the 39th Engineer Battalion (Combat) for the Period ending 31 January 1970 (RCS CSFOR-65)

To: Commanding General, 18th Engineer Brigade, ATTN: AVBC-G, APO 96377

1. The Operational Report - Lessons Learned of the 39th Engineer Battalion (Combat) has been reviewed by this headquarters and is considered to be an excellent account of the 39th Engineer Battalion's activities during the reporting period ending 31 January 1970.

2. Comments follow:

   a. Reference item concerning clamshell transportation, section 2, para 6; nonconcur. This practice would be a definite violation of safety standards, and will not be allowed.

   b. Concur with the remainder of the observations and recommendations of the Battalion Commander.

   WILLIAM R. WAY
   COL, GE
   Commanding
CONCERN

AVACD-OP (31 Jan 70) 2nd Ind

SUBJECT: Operational Report - Lessons Learned, 39th Engineer Battalion (Combat), Period Ending 31 January 1970, RCS CSFOR-65 (R2)

TO: HEADQUARTERS, 18TH ENGINEER BRIGADE, APO 96377

TC: Commanding General, U. S. Army Vietnam, ATTN: AVACD-EST, APO 96375

1. This Headquarters has reviewed the Operational Report - Lessons Learned of the 39th Engineer Battalion (Combat), as endorsed by the 45th 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, with the following comments added:

   a. Reference Section II, item 31. Concur. However, weep holes should be used to relieve hydrostatic pressure on the headwall. This can be accomplished with 3" diameter pipe spaced 4' - 0" O.C.C. The area surrounding the entrance end of each drain pipe should be backfilled with 3"(-) rock to prevent loss of backfill material through the pipe.

   b. Reference Section II, item 34. Concur in principle. However, the number and spacing of drain holes required for a headwall is determined by analysis of the overturning moment due to soil pressure loading. The effect of hydrostatic loading can be largely eliminated through the use of weep holes as described in item a above.

   c. Reference Section II, item 37. Non-concur. The minimum allowable slope for corrugated metal roofing is 3 inches on 12 inches (TL 5-809-8). The existing SHM hut design incorporates an acceptable slope of 4 inches on 12 inches. The recommended reduction in roof slope will allow water to blow under the laps, resulting in leakage. Units should adhere to the standard SHM hut roof design.

   J. W. Keesig
   Brigadier General, USA
   Commanding

CP:
1 - G-4, 45th Engr Gr
1 - G-4, 39th Engr Bn
AVHGC-DST (31 Jan 70) 3rd Ind
SUBJECT: Operational Report of 39th Engineer Battalion (Combat)
         for Period Ending 31 January 1970, RCS CSFOR-65 (RI)

Headquarters, United States Army, Vietnam, APO San Francisco 96375

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 January 1970 from Headquarters, 39th
   Engineer Battalion (Combat) and concurs with the comments of indorsing
   headquarters.

FOR THE COMMANDER:

[Signature]
CPT, AOC
Assistant Adjutant General

Cpt For:
18th Engineer Brigade
39th Engineer Battalion (Combat)
COP-DT (31 Jan 70) 4th Ind (U)
SUBJECT: Operational Report of HQ, 39th Engineer Battalion (Combat)
for Period Ending 31 January 1970, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558  7 APR 70

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

This headquarters concurs in subject report as endorsed.

FOR THE COMMANDER IN CHIEF:

L.W. OZAKI
CPT, AGC
Asst AG
CONFIDENTIAL

ORGANIZATION

39TH ENGINEER BATTALION (C)(A)

31 JANUARY 1970

INCL. 1

CONFIDENTIAL
**Operational Report - Lessons Learned, HQ, 39th Engineer Battalion**

Experiences of unit engaged in counterinsurgency operations, 1 Nov 69 to 31 Jan 70.

**CO, 39th Engineer Battalion**

<table>
<thead>
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<th>REPORT DATE</th>
<th>TOTAL NO. OF PAGES</th>
<th>NO. OF REFS</th>
</tr>
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<tr>
<td>31 January 1970</td>
<td>30</td>
<td></td>
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</tbody>
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