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AUTHORITY

ago, d/a ltr, 29 apr 1980

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IN REPLY REFER TO

AGDA (M) (30 Jul 69) FOR OT UT 692330

7 August 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, 46th Engineer Battalion, Period Ending 30 April 1969

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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.

BY ORDER OF THE SECRETARY OF THE ARMY:

Kenneth G. Wickham

KENNETH G. WICKHAM
Major General, USA
The Adjutant General

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 46TH ENGINEER BATTALION
APO 96491

EOBB-CO

10 May 1969

SUBJECT: Operational Report - Lessons Learned (RCS CSFOR-65) for Quarterly
Period Ending 30 April 1969

THRU: Commanding Officer, 159th Engineer Group, ATTN: EGB-3, APO 96491
Commanding General, 20th Engineer Brigade, ATTN: AVBI-OPN, APO 96491
Commanding General, United States Army, Vietnam, ATTN: AVHGC (DST),
APO 96375
Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,
APO 96588

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

1. Section 1, Operations: Significant Activities:

a. Command: LTC John E. Gray commanded the battalion during the reporting period.

b. Projects Completed During Reporting Period:

(1) Operational Support:

(a) During this quarter, the Carpenter Shop, HHC, 46th Engr Bn, prefabricated the following items in accordance with Operational Support Directives:

- 1 30 Dahlia Bunkers
- 2 13 Columbine Bunkers
- 3 30 Begonia Bunkers
- 4 10 Rose Bunkers

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- 5 25 Showers
- 6 31 Latrines
- 7 146 20' Trusses
- 8 80 12' Wall Panels

(b) OSD 159-68-197, AVLB Bypass Repair, A Company and C Company, 46th Engineer Battalion: 135 cubic yards of laterite was stockpiled for use on Bypass repairs. The project was started 31 January 1969 and was completed 15 February 1969.

(c) OS 207-5405-0-20, Fill for 3rd Bde, 1st Cav Div, A Company and D Company, 46th Engineer Battalion: 170 cubic yards of laterite was hauled to fill existing revetments around the 3rd Bde TOC. Positioned six (6) sixty five foot telephone poles for a communications net. The project was started 21 February 1969 and was completed 24 February 1969.

(d) OS 243-5384-0-20, Sanford Control Tower, A Company and C Company, 46th Engineer Battalion: Supplied one (1) each combat entrencher to dig fighting positions around the Sanford Heliport airstrip. Filled sandbags for bunkers built by D Company. A front loader was also provided for site preparation for tower and fighting bunkers. The project was started 26 February 1969 and was completed 5 March 1969.

(e) OS 243-5410-0-20, Support of PDO, A Company, 46th Engineer Battalion: Supplied one (1) each D7E Dozer for extending the existing perimeter and clearing scrap metal from and near the berms. The project was started 12 March 1969 and was completed 14 March 1969.

(f) OS 243-5467-0-20, Tunnel Detection, Long Binh, A Company, 46th Engineer Battalion: Supplied one (1) each Combat Entrencher for the purpose of digging a six (6) foot trench one (1) kilometer long near the Long Binh Ammo Depot. The purpose was to detect any existing enemy tunnels and to prevent any future tunneling into the depot. The project was started 22 March 1969 and was completed 23 April 1969.

(g) OS 243-5491-0-20, Laterite Haul to IIFV, A Company, 46th Engineer Battalion: Hauled 100 cubic yards of laterite for use in filling sandbags. The project was started 10 April 1969 and was completed 22 April 1969.

(h) OSD 243-5337-0-20, Fighting Trenches, A Company, 46th Engineer Battalion: Supplied one (1) Combat Entrencher to dig a five (5) foot deep trench 800 foot long for use as a fighting position for the IIFV Arty. The project was started 16 February 1969 and was completed 18 February 1969.

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(i) OSD 159-69-0-20, Expedient Mine Roller, A Company, 46th Engineer Battalion: An expedient mine roller, consisting of two (2) four wheel sections pinned together and mounted in front of a 5 ton dump truck, was designed, fabricated and tested by A Company. The project was started 15 January 1969 and was completed 4 April 1969.

(j) OS 159-68-111, Nha Be Bridge Defense, B Company, 46th Engineer Battalion: Floating pier protection systems were installed around the five (5) piers of this bridge. Chain-link fence and concertina wire were installed to protect against mines and swimmers. The project included installation of a 10 KW generator and power distribution system. The project was started 3 December 1968 and was completed 1 March 1969.

(k) OSD 159-68-192, Tower Construction, B Company, 46th Engineer Battalion: Poor foundation conditions required the construction of an 18" thick, 20' square concrete bearing slab to support a 60' steel observation tower near the Binh Loi Bridge. One (1) 20' section of the tower was prefabricated and lifted into place with the aid of a 20 ton crane. The remaining 40' of the tower was hand assembled. The project was started 26 November 1968 and was completed 15 February 1969.

(l) OS 273-5330-0-20, Radar Tower, B Company, 46th Engineer Battalion: Construction of a 60' timber tower in an inaccessible area was accomplished with the aid of a flying crane. First, precast concrete footers were flown in and emplaced. Then the 60' tower was prefabricated in two (2) sections and transported by flying crane to the construction site where it was erected in one (1) day. The project was started 13 February 1969 and was completed 22 February 1969.

(m) OS 159-68-219, Bridge Protective Support, B Company, 46th Engineer Battalion: Haul support for CMAC involved transportation of 250 cubic yards of sand to critical bridges within the Saigon area for use in bunker construction. The project was started 6 February 1969 and was completed 15 February 1969.

(n) OS 159-69-019, Defensive Lighting, B Company, 46th Engineer Battalion: Construction of a temporary lighting system at CMAC headquarters was accomplished using 26 each 500 watt floodlight fixtures mounted on poles and trees. The project was started 21 January 1969 and was completed 11 February 1969.

(o) OS 159-68-286, Guard Tower Support, B Company, 46th Engineer Battalion: Prefabrication, packing and delivery by B Company of eleven (11) each 16' towers simplified self-help construction of the perimeter defense system 3rd Bde, 82nd ABN Div at Tan Son Nhut. Technical assistance by B Company was provided during construction. The project was started 28 January 1969 and was completed 4 February 1969.

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(p) OS 159-68-222, Critical Bridge Support, B Company, 46th Engineer Battalion: Installation of additional lighting to the piers and waterway along with replacement of the existing pier protection system with a semi-permanent pipe and chain-link fence inclosure system improved defenses of the Rach Chiec Bridge. The project was started 1 February 1969 and was completed 25 February 1969.

(q) OS 243-5349-0-20, Dust Palliation, B Company, 46th Engineer Battalion: Repair, recompaction and penoprime application to the bridge approaches of a critical bridge NW of Saigon, reduced the dust and resulting visibility hazard caused by helicopter traffic in the area and preserved the roadway for wheeled vehicles. The project was started 5 March 1969 and was completed 5 March 1969.

(r) OS 207-5342-0-20, Night Defensive Position, B Company, 46th Engineer Battalion: Supply of a D7E dozer and operator to a unit of the 1st Inf Div to complete construction of perimeter defensive firing positions and stabilized area for a new base camp. The project was started 12 February 1969 and was completed 16 February 1969.

(s) OS 159-69-031, Additional Lighting, B Company, 46th Engineer Battalion: Floodlights were installed to effectively illuminate the pier and waterway of the Tham Luong Bridge. The project was started 18 March 1969 and was completed on the same day.

(t) OS 159-68-184, Pier Protection, B Company, 46th Engineer Battalion: Design, construction and installation of a pier protection system subject to high velocity currents and extreme tide variations was necessary for the protection of two (2) critical bridges in the Saigon area. A prefabricated system of pipe and chain-link fence sections was attempted, but later abandoned in favor of driving single pipes and covering them with chain-link fence in the water. The project was started 17 December 1968 and was completed 7 March 1969.

(u) OS 273-5368-0-20, An Loc Bridge Defense, B Company, 46th Engineer Battalion: Defense of this critical bridge was accomplished with the installation of a pipe/chain-link fence pier protection system, a suspended bunker below the bridge and a 15 KW temporary lighting system. The project was started 15 March 1969 and was completed 21 March 1969.

(v) OS 243-5510-0-20, FSB Maria, B Company, 46th Engineer Battalion: Supply of a D7E dozer to construct a new fire support base north of Saigon. The project was started 27 March 1969 and was completed 2 April 1969.

(w) OS 159-68-274, Gun Pads, B Company, 46th Engineer Battalion: A fire support base for a 105 mm howitzer battery was constructed south of Saigon at FSB Sue. Because the fire support base was constructed in a rice paddy, 3000 cubic yards of 6" rock and 6000 cubic yards of laterite had to be hauled from stockpiles 15 miles north of Saigon for its construction. The project was started 31 December 1968 and was completed 4 April 1969.

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(x) OS 273-5486-0-20, Tower Construction, B Company, 46th Engineer Battalion: A 30' timber tower with 15' concrete footers and a concrete block revetment on top of the tower was constructed. The project was started 24 March 1969 and was completed 4 April 1969.

(y) OS 159-69-023, FSB Claudette, B Company, 46th Engineer Battalion: Construction of a fire support base in the rice paddy region west of Saigon was accomplished by using 5 ton dump trucks to deliver 1200 cubic yards of fill a distance of 20 miles to the worksite. The project was started 19 March 1969 and was completed 2 April 1969.

(z) OS 159-69-009, Earth Filled Revetments, B Company, 46th Engineer Battalion: Corrugated metal siding on wooden frame sections were prefabricated, assembled and filled with laterite to form 12' high "U" shaped revetments for U-21 aircraft of the 224th Avn Bn at Tan Son Nhut AFB. The project was started 9 March and was completed 16 April 1969.

(aa) GD 159-401, Aircraft Revetments, B Company, 46th Engineer Battalion: 47 each parallel 5' high revetments were constructed at Tan Son Nhut Heliport for the protection of helicopters. Wood frame panels with corrugated metal walls and roof were prefabricated, assembled and filled with laterite. The project was started 5 February 1969 and was completed 22 April 1969.

(bb) OS 159-69-007, Binh Loi Bridge Gate, B Company, 46th Engineer Battalion: Vehicle control gates at each end of the Binh Loi Bridge were constructed out of pipe and a vertical rotating concrete counterbalance. The project was started 20 April 1969 and was completed 30 April 1969.

(cc) OS 159-69-047, Ong Thin Bridge Bunkers and Catwalk, B Company, 46th Engineer Battalion: Construction of catwalk around the four (4) piers below the bridge deck and the installation of two (2) bunkers on the deck, increased the defense and security of this critical bridge. The project was started 26 February 1969 and was completed 6 March 1969.

(dd) OS 159-68-433, Binh Loi Bridge Lighting, B Company, 46th Engineer Battalion: Installation of floodlights meeting required lighting standards increased the security of this bridge. The project was started 14 March 1969 and was completed in one (1) day.

(ee) OS 159-69-023, Fire Support Base, B Company, 46th Engineer Battalion: Three (3) duster pads and access road were constructed using 6" rock along with compacted clay for the subbase. The project was started 19 March 1969 and was completed 12 April 1969.

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(ff) OS 273-5394-O-20, Temporary Lighting, B Company, 46th Engineer Battalion: A temporary lighting system consisting of floodlights and a 30 KW power supply system increased the security of the Ong Thin Bridge. The project was started 15 March 1969 and was completed in one (1) day.

(gg) OS 273-5448-O-20, CMAC Revetments, B Company, 46th Engineer Battalion: Protection of the critical communications facility at CMAC headquarters was accomplished with the construction of 250 linear feet of 8' high double wall concrete block revetments. The project was started 25 March 1969 and was completed 24 April 1969.

(hh) OS 159-68-221, Floating Bunker, B Company, 46th Engineer Battalion: A floating bunker capable of supporting armed guards was constructed for the defense of the Quay Bridge. The project was started 27 January 1969 and was completed 8 February 1969.

(ii) OS 275-5435-O-20, FSB Hardcore, B Company, 46th Engineer Battalion: 3500 cubic yards of clay and laterite were utilized in the construction of a $\frac{1}{4}$ mile long access road. A 36" culvert along with sand subgrade provided lateral drainage through the road. The project was started 1 March 1969 and was completed 30 April 1969.

(jj) OSD 159-68-260(C), Newport Bridge, C Company, 46th Engineer Battalion: Floating pier protection systems were installed on two (2) piers. Concertina and chain-link fence were utilized to protect against floating mines and swimmers. Also 5250' of chain-link fence for backwater protection of piers out of water and partially out of the water were erected. In addition, 2500' of catwalk, suspended beneath the bridge in the center, were installed. The project was started 19 December 1968 and was completed 26 March 1969.

(kk) OSD 020-68-012, Holipad, C Company, 46th Engineer Battalion: One (1) holipad 60'x70' was constructed at Newport Bridge. The project was started 24 January 1969 and was completed 1 February 1969.

(ll) OSD 159-68-108, Dial Central Revetments, C Company, 46th Engineer Battalion: 305 feet of 12' high building revetments were constructed for the protection of machinery in the Dial Central Building for IIFV at Long Binh Post. The project was started 11 October 1968 and was completed 16 April 1969.

(mm) OSD 243-5395-O-20, Self-Help Bunkers, C Company, 46th Engineer Battalion: Technical assistance and materials were provided for the construction of 100 Dahlia bunkers by USARV Special Troops at Long Binh Post. The project was started 26 February 1969 and was completed 18 April 1969.

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(nn) OSD 207-5360-0-20, Commo Revetments, C Company, 46th Engineer Battalion: One (1) "L" revetment was constructed to protect a communications equipment van for the 20th Engineer Brigade Headquarters at Bien Hoa. Revetment sections were prefabricated by the Carpenter Shop, HHC, 46th Engineer Battalion. The Project was started 1 April 1969 and was completed 8 April 1969.

(oo) OSD 159-69-005, Prefabricated Bunker, C Company, 46th Engineer Battalion: One (1) command bunker was prefabricated for the 257th FA Det (Radar) at Bien Hoa. The project was started 1 April 1969 and was completed 12 April 1969.

(pp) OSD 243-5484-0-20, Drainage Improvement, C Company, 46th Engineer Battalion: 3000 meters of road drainage ditch was upgraded for the 101st Airborne Div Rear in the SERTS area at Bien Hoa. Also 240' of 24" culvert was installed to provide access to buildings along the road. The project was started 15 April 1969 and was completed 21 April 1969.

(qq) OSD 243-5331-0-20, IIFV Fields of Fire, C Company, 46th Engineer Battalion: Fields of Fire were cleared for two (2) bunkers in an area 600'x300' for IIFV at Long Binh. The project was started 13 February 1969 and was completed 17 February 1969.

(rr) OSD 243-5486-0-20, Engineer Support, Fire Base, C Company, 46th Engineer Battalion: A 200'x500' laterite pad was constructed for Fire Base Echo using 2500 cubic yards of laterite. The project was started 31 March 1969 and was completed 11 April 1969.

(ss) OSD 243-5365-0-20, USARV Fighting Bunkers, C Company, 46th Engineer Battalion: Three (3) slit trenches were cut with a D7E. Then three (3) precast Columbine bunkers, supplied by the Carpenter Shop, HHC, 46th Engineer Battalion, were erected inside the trenches. The trenches were backfilled around the bunkers. Three (3) layers of sandbags were then placed on the roof for protection. The project was started 15 February 1969 and was completed 16 February 1969.

(tt) OS 273-5443-0-20, CMAC Bunkers and Tower, B Company, 46th Engineer Battalion: Construction of six (6) bunkers and a 15' observation tower, prefabricated by the Carpenter Shop, along the Saigon Capital Beltway improved the control and security along this critical route. The project was started 25 April 1969 and was completed 30 April 1969.

(uu) OSD 159-68-214 (C), Command Bunker, C Company, 46th Engineer Battalion: Constructed 20'x24' concrete pad using 15 cubic yards of concrete. Then a command bunker was built on the pad. The project was started 12 March 1969 and was completed 21 March 1969.

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(vv) OSD 243-5483-0-20, Test Target, C Company, 46th Engineer Battalion: Constructed three (3) targets for an M-72 LAW. The targets consisted of one (1) 8'x8'x5' plywood box filled with laterite and two (2) 8'x8'x4' sand-bag walls. Shields were constructed behind the targets to determine the penetration pattern of the weapon. The project was started and completed 23 March 1969. On 23 April 1969 the targets were rehabilitated for further testing.

(ww) OSD 159-68-223, Dust Palliation, C Company, 46th Engineer Battalion: Stripped, graded, compacted and pneu-primed a 200'x400' area for dust palliation for the 51st LRP at Bien Hoa. The project was started 21 April 1969 and was completed 23 April 1969.

(xx) OS 207-5350-0-20, Ammo Storage Pits, D Company, 46th Engineer Battalion: Constructed three (3) ammo storage pits with a D7E dozer. The project was started and completed 18 February 1969.

(yy) OS 159-69-040, Fighting Bunkers, D Company, 46th Engineer Battalion: Transported three (3) four-man fighting bunkers, prefabbed by the Carpenter Shop, HHC, 46th Engineer Battalion, to the 29th General Support Group and provided technical assistance in the erection of these bunkers. The project was started 11 February 1969 and was completed 25 February 1969.

(zz) CS 159-5414-0-20, Long Dinh Post Defense, D Company, 46th Engineer Battalion: Constructed five (5) 12' towers and erected a four-man fighting bunker on each tower. Erected six (6) more four-man fighting bunkers on top of existing berms. This project was started 27 February 1969 and was completed 1 March 1969.

(aaa) OS 207-5390-0-20, Interior Work, Bien Hoa Tactical Command Bunker, D Company, 46th Engineer Battalion: Completed interior work which included installation of furniture and electrical lights. Also constructed a briefing area complete with four (4) double sliding map boards and lights. This project was started 25 February 1969 and was completed 4 March 1969.

(bbb) OS 243-5373-0-20, Ammo Pits, D Company, 46th Engineer Battalion: Constructed two (2) 30'x40' ammunition pits with a D7E dozer. The project was started 6 March 1969 and was completed the same day.

(ccc) OS 207-5430-0-20, Trench and Bunker Destruction, D Company, 46th Engineer Battalion: Destroyed 2000 linear feet of bunkers and trenches with a D7E dozer. The project was started and completed 7 March 1969.

(ddd) OS 143-5325-0-20, Equipment Support, 11th Armored Cav, D Company, 46th Engineer Battalion: Provided two (2) dozers to destroy three (3) emplacements, one (1) wall, and eight hundred (800) linear feet of trench. The project was started and completed 7 March 1969.

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(eee) OS 243-5410-0-20, Removal of Obstacles, Long Binh Post PDO Yard, D Company, 46th Engineer Battalion: Delivered two (2) four-man fighting bunkers to the PDO Yard. Final positioning and construction was accomplished by the user. This project was started and completed 9 March 1969.

(fff) OSD 159-68-291, Prefabricated Bunkers, D Company, 46th Engineer Battalion: Prefabricated and constructed five (5) 20'x24' reaction force bunkers with 2' thick revetment walls and overhead cover. Constructed firing steps and bunks in all bunkers. The project was started 19 January 1969 and was completed 23 March 1969.

(ggg) OS 207-5519-0-20, Dozer Support, D Company, 46th Engineer Battalion: Supplied one (1) D7E dozer to dig ammo pits and constructed berms. The project was started and completed 2 April 1969.

(hhh) OS 207-5549-0-20, TOC Improvement, III CTZ TOC, Carpenter Shop and D Company, 46th Engineer Battalion: Project included extending the operations table, installing tables and shelves, drafting table, cabinets, one (1) sliding and one (1) hinged window, two (2) dutch doors, one (1) doorway. The furniture work was accomplished at the Carpenter Shop. D Company delivered and installed the furniture. D Company also constructed and installed latrine facilities. The project was started 11 April 1969 and was completed 25 April 1969.

(iii) OS 159-68-265C, Bridge Lighting, B Company, 46th Engineer Battalion: Installation of temporary lighting systems on five (5) critical bridges in the Saigon area, greatly increased their defenses against floating mines and swimmers. The project was started 18 February 1969 and was completed 2 April 1969.

(2) Lines of Communications:

(a) CD 98-201-15-T-MA, Road Repair, B Company, 46th Engineer Battalion: 100 cubic yards of 6" rock and 100 cubic yards of laterite were used to fill a hole in the road bed of a primary perimeter road at the Nha Bo POL Tank Farm. The project was started 3 March 1969 and was completed 4 March 1969.

(b) LOC 159-68-004, 103d Quarry Maintenance Facilities, D Company, 46th Engineer Battalion: Placed a concrete pad and constructed a single story 20'x72' tropical wood frame technical parts supply building. Placed a concrete slab and constructed a 40'x84' four-bay maintenance building complete with offices, tool rooms and grease pits. The project was started 27 January 1969 and was completed 8 March 1969.

(3) Minimum Essential Requirements:

(a) MER 159-68-118, Parking Hardstand, B Company, 46th Engineer Battalion: A 750 square foot stabilized fill consisting of 50 cubic yards of 6"

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rock and 150 cubic yards of laterite was constructed in support of GMAC at a radar site west of Saigon. The project was started 19 March 1969 and was completed 12 April 1969.

(b) MER 159-69-007, FSB Sue, B Company, 46th Engineer Battalion: A concrete mess hall slab was constructed to provide an essential requirement for an artillery unit at FSB Sue. The project was started 23 April 1969 and was completed 30 April 1969.

(4) Base Construction:

(a) GD 159-374 (MC) IIFFV Service Club, C Company, 46th Engineer Battalion: Technical assistance was provided for the construction of a 40'x80' wood frame building. The using unit supplied the personnel for the construction effort. Trusses were provided by the Carpenter Shop, HHC, 46th Engineer Battalion. The project was started 13 January 1969 and was completed 4 April 1969.

(b) GD 159-380, Underground TOC, 1st Aviation Brigade, D Company, 46th Engineer Battalion: Prefabricated and constructed three (3) blast walls and one (1) retaining wall. Backfilled around these structures with 80 cubic yards of laterite to protect the existing TOC. Constructed an escapeway and mounted two (2) air conditioners and installed all necessary vents and ducts. The project was started 31 January 1969 and was completed 8 February 1969.

(c) CD 43-279-14-T-6S, IIFFV Conference Room, D Company, 46th Engineer Battalion: Placed a concrete slab and constructed a 20'x48' insulated conference room with a three (3) level viewing platform, projection room, false ceiling, sliding map boards, air conditioning, exhaust fans, tile floor, complete interior finish, concrete sidewalks and steps, a concrete porch, and 100 linear feet of security fencing. The project was started 9 January 1969 and was completed 18 March 1969.

(d) CD 507-0301-01, 1st Cav Pascoe Buildings, D Company, 46th Engineer Battalion: Placed an eight (8) inch concrete slab for each of three (3) 40'x100' prefabricated metal Pascoe Buildings and then erected the buildings complete with sliding doors, hinged doors, windows, vents, monitors and concrete approach aprons. C Company, 46th Engineer Battalion, hauled, graded and compacted 5040 cubic yards of laterite to construct a 114'x520' pad and 2300 cubic yards additional for 1200' of access roads. The project was started 24 March 1969 and was completed 30 April 1969.

(e) CD 43-350-01, BOQ's and BEQ's, 117th Assault Helicopter Company, D Company, 46th Engineer Battalion: Hauled and compacted 1000 cubic yards of laterite to form one (1) orderly room pad, one (1) BOQ pad and two (2) BEQ pads. Installed 100' of 12" culvert for drainage. Poured a 20'x48' concrete slab for

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an orderly room, two (2) 20'x108' concrete slab for BEQ's and one (1) 20'x120' x80' "L" shaped concrete slab for a BOQ, and accompanying concrete sidewalks and porches utilizing 100 cubic yards of concrete. Constructed a 20'x48' tropicalized wood frame building for an orderly room. Constructed two (2) double story 20'x108' tropicalized wood frame buildings for BEQ's. Constructed all accompanying stairways and provided technical assistance for installation of electrical distribution wiring and fixtures. The project was started 11 October 1968 and was completed 28 April 1969.

(5) Revolutionary Development Support: None

c. Projects on which Work was Accomplished During This Period and Which Are Still Active:

(1) Combat and Operational Support:

(a) OS 159-68-231C, A Company, 46th Engineer Battalion: A Company was given this classified project starting 15 November 1968 and 120 manhours have been reported. Project Scope: Classified. The project is 60% complete.

(b) Letter Directive, A Company, 46th Engineer Battalion: A Company is presently evaluating a Light Weight Sandbagger to determine its feasibility for use in filling sandbags. The project was started 1 April 1969 and continues.

(c) OS 159-69-048, Generator Pads and Sheds, B Company, 46th Engineer Battalion: Construction of concrete pads and protective sheds are necessary for the protection of generators on eight (8) Saigon area bridges. Complete facilities have been completed at two (2) bridges and a 3rd is presently under construction. The project is 30% complete since starting 1 March 1969.

(d) OS 159-69-012C, FSB Stephanie, B Company, 46th Engineer Battalion: Construction of a one (1) mile road to the fire support base through a sandy rice paddy area west of Saigon, requires 1000 cubic yards of 6" rock base course on the sand subgrade. A Foot of well compacted laterite will complete the road. The project was started 3 February 1969 and is presently 30% complete.

(e) 273-5461-0-20, Binh Loi Bridge Defense, B Company, 46th Engineer Battalion: A pier protection system was required for the defense of the critical Binh Loi Bridge on one of the primary roads into the Saigon area. Due to the depth of the water, a floating collar with suspended chain-link and concertina wall was prefabricated on shore and will be moved into position around the pier. Construction of steel H-pile fenders to protect the collars from floating debris and river traffic, and construction of anti-sapper booms are included in the project. The project was started 20 March 1969 and is presently 40% complete. It is estimated that the project will be completed 1 June 1969.

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(f) OS 245-5481-0-20, Generator Revetments, B Company, 46th Engineer Battalion: Construction of 7' revetments was necessary for protection of critical generators of the 509th Radio Research Group at Tan Son Nhut AFB. Wood panels with corrugated metal sides were prefabricated, assembled, earth filled and then capped off with sheet metal to form a completely inclosed unit. The project was started 21 April 1969 and is presently 90% complete with a completion date of 3 May 1969.

(g) OS 273-5530-0-20, Nha Be Lighting, B Company, 46th Engineer Battalion: Evaluation and inspection of the existing perimeter lighting system around the tank farm complex at Nha Be, resulted in the redesign and repair of the entire system along with installation of additional fixtures to bring the system up to required standards. The project was started 6 April 1969 and is presently 90% complete.

(h) OS 273-5447-0-20, FSB Sue, Tower, B Company, 46th Engineer Battalion: An elevated tower with concrete revetment and equipment bunker was required to house and protect the sensitive radar equipment of an artillery unit near FSB Sue. Three (3) cast in place footers have been completed and a 20' timber tower is under construction. A concrete block revetment will be constructed on the tower and a separate 20'x20' bunker will be included to house personnel and equipment. The project was started 15 April 1969 and is presently 15% complete.

(i) GD 159-324, Saigon Bridge Lighting, B Company, 46th Engineer Battalion: Repair and upkeep of existing lighting facilities continues nightly throughout the Saigon area on bridges. The project is continuous.

(j) GD 159-478, ARVN Contact Team, B Company, 46th Engineer Battalion: OJT training is being given to six (6) ARVN, forming an effective electrical contact team. The ARVN team is instructed nightly on generator operations, maintenance and upkeep of bridge lighting facilities. The project is continuous.

(k) OSD 159-68-161, Towers and Bunkers, B Company and Carpenter Shop, 46th Engineer Battalion: A 30' observation tower was constructed near the Newport Bridge. Eleven (11) bunkers were installed. The remaining one (1) 30' tower and one (1) firing bunker will be installed when civilian contractors finish construction of a railroad spur blocking the job site. The project is 92% complete.

(l) OSD 291-5560-0-01, Firing Platforms, C Company, 46th Engineer Battalion: Started construction of two (2) of six (6) 24' diameter, circular firing platforms for 105 mm howitzer. These platforms will be air transportable. The project was started 30 April 1969 and is 20% complete.

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(m) OSD 243-5414-1-23, Long Binh Post Perimeter Defense, C Company, 46th Engineer Battalion: Constructed an earth filled 10' high revetment which is 33' long and 36" wide. Constructed two (2) chain-link fence bunker standoffs 16' high, which are 50' wide in the front and 25' on each side. 20 acres of land was cleared on the Long Binh Post perimeter near 64th QM. D7E dozers were used for the majority of the project. In marsh areas the brush was burned. A two (2) acre strip was cleared along the 46th Engineer Battalion perimeter using D7E's to clear and pile brush to be burned. A six (6) acre section near the 64th QM along highway 317 was also cleared using D7E's. The project is continuous.

(n) OSD 243-5449-0-20, 44th Medical Brigade Bunkers, C Company, 46th Engineer Battalion: Prefabbed and transported to the using unit a 48-man Dahlia mortar bunker which is to be constructed on a self-help basis by the using unit, with technical assistance supplied C Company, 46th EBC. The project was started 14 April 1969 and is 90% complete.

(o) OSD 207-5474-0-20, Grading and Stabilization, C Company, 46th Engineer Battalion: Hauled, graded and compacted 2050 cubic yards of laterite to construct a protective berm and upgraded existing ditches for the 383rd QM Det. The project was started 24 April 1969 and is 65% complete.

(p) GD 159-256 (U), Installation of Security Lighting, Rach Chiec Bridge, D Company, 46th Engineer Battalion: Bridge and perimeter lighting system was installed in March 1968. The project currently consists of providing two (2) generators and one (1) operator with transportation each night to run the generators and make the necessary repairs. The project was started 15 March 1968 and is continuous.

(q) GD 159-316(A) Protective Walls for Billets, Long Binh Post, D Company, 46th Engineer Battalion: This project consists of providing materials and technical assistance to units to upgrade revetments around billets in our area of responsibility. The project was started 20 July 1968 and is continuous.

(r) OSD 159-68-275, Upgrade Bridge Lighting, D Company, 46th Engineer Battalion: Upgrade security lighting system on the Rach Chiec, Rach Cat, and Cau Ganh Bridges to IFFV standards. Placed a 225 amp circuit breaker, 3500 linear feet of 12/3 power cable, moved existing lights and bulbs and wired the system to provide adequate lighting on the Rach Cat and Cau Ganh Bridges. Replaced twelve (12) floodlights and repaired wiring on the Rach Chiec Bridge. The work on the Rach Cat and Cau Ganh Bridges has been completed and the facilities were turned over to the user. The Rach Chiec Bridge remains to be completed. The project was started 3 February 1969 and is currently 95% complete.

(s) OS 159-68-160, Bunker Standoff, Dong Nai Bridge, D Company, 46th Engineer Battalion: Placed 3" metal pipe concreted in place and covered with wire mesh in front of twenty (20) bunkers and ten (10) armored vehicle firing

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positions. Placed concreted pipes in front of ten (10) remaining bunkers and five (5) armored vehicle positions. The project was started 13 March 1969 and is 85% complete.

(t) GD 159-406, Dong Nai Contingency Plan, D Company, 46th Engineer Battalion: Drove forty-eight (48) wood pilings and eighteen (18) steel pilings to provide anchorage for a possible floating bridge. Eighteen (18) steel pilings remain to be driven. The project was started 14 February 1969 and is 80% complete.

(u) OS 273-5464-0-20, Platform Construction, GMAC, D Company, 46th Engineer Battalion: Constructed a 12'x12' wooden platform on top of a 60' concrete water tower. Began construction of a wooden guard house on top of the platform. The project was started 28 April 1969 and is 75% complete.

(2) Lines of Communication:

(a) LOC 159-68-004, Resor Quarry, C Company, 46th Engineer Battalion: Two (2) concrete pads were constructed for the primary and secondary rock crushers. Also one (1) concrete pad was placed for the generators. A head-wall for the use in dumping rock into the primary crusher was built, 180' long and 18' high and tapering to the ground for the truck ramp. Laterite pads have been built for five (5) EM billets, one (1) BOQ, two (2) showers, two (2) latrines, two (2) water towers, one (1) orderly room, one (1) mess hall and one (1) recreation building. At this time three (3) EM billets, two (2) latrines, one (1) shower, one (1) water tower, and one (1) BOQ have been constructed and one (1) mess hall is 20% complete. The project was started 22 October 1968 and is scheduled for completion 30 June 1969. The project is 86% complete.

(b) CD 98-231-LC-159, Saigon Bypass, C Company, 46th Engineer Battalion: Redecked four (4) bridges, upgrading them to class 35. Constructed four (4) concrete culvert headwalls and two (2) concrete block culvert headwalls. The construction of the road around the DiAn Base Camp has been completed and the road has been penprimed. Paving operations have been started by the 159th Engineer Battalion under the supervision of C Company, 46th Engineer Battalion. The project is 99% complete.

(3) Minimum Essential Requirements:

(a) MER 159-69-009, 3/82nd ABN, B Company, 46th Engineer Battalion: Earthmoving construction support, to include three (3) access roads totaling 1500 cubic yards, 1700 square yards of maintenance hardstands and 2000 square yards of mess hall pads, is being provided to the 3/82nd ABN Div at Tan Son Nhut AFB. This project was stopped at 50% complete in December 1968 when the 290 scrapers were no longer allowed to haul through Saigon. The completion of the project was assumed by the unit's 307th Engineer Company hauling laterite from

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our stockpile with their 2½ ton dump trucks. Special equipment and technical assistance is being continued by this unit and the project is 90% complete. It was started 24 October 1968.

(b) MER 159-68-021, 11th Transportation, B Company, 46th Engineer Battalion: 10,000 cubic yards of compacted laterite fill is being utilized for the construction of a maintenance, storage and construction area for this critical transportation facility at Cat Lai. Congested access road and low capacity bridges limited the haul vehicles to 5 ton dumps, but 290 scrapers were efficiently used to maintain a laterite stockpile near the area. The project was started 27 January 1969 and is 90% complete.

(4) Base Construction:

(a) CD 43-0301-0-01, SEA Signal School, C Company, 46th Engineer Battalion: Constructed thirteen (13) 20'x60' concrete pads for Adam Huts and one (1) concrete block latrine-washroom-shower. Sidewalks have been constructed from the latrine-washroom-shower complex to the billets. The project was started 25 February 1969 and is 86% complete.

(b) CD 46-81-67, Culvert Yard, D Company, 46th Engineer Battalion: The culvert yard operated by this unit has constructed 580 linear feet of 12" culvert, 1160 linear feet of 24" culvert, 380 linear feet of 36" culvert, 60 linear feet of 48" culvert and 20 linear feet of 60" culvert. The project was started 10 August 1967 and is continuous.

(c) GD 159-254, Concrete Block Shop, D Company, 46th Engineer Battalion: This unit produced 29,713 three-hole concrete blocks during this reporting period. The project was started 10 October 1967 and is continuous.

(d) CD 98-206, Electrical Upgrade, D Company, 46th Engineer Battalion: No work was accomplished on this project during this reporting period. The project was started 17 October 1967 and is continuous.

(e) CD 43-210-01-T-6S/7S, USARV BEQ Dental Clinic, D Company, 46th Engineer Battalion: Completed installation of utilities and testing of water, electrical and gas lines. Finished trim work on interior of building. Installed civilian type dental equipment. Installed a high compression air system and air compressors. Work is currently halted awaiting arrival of high pressure water system, Q1SH materials, from the United States. The project was started 29 November 1967, a BOD provided on 15 December 1968 and is currently 99.5% complete.

(f) CD 43-301-14-T-7S, 90th Replacement Battalion, Administration Facility, D Company, 46th Engineer Battalion: Completed siding, roofing, and interior work on second building, constructed a tropicalized wood frame 40'x100'

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administration building complete with electrical, screening and interior partitions. The project is currently halted awaiting electrical ceiling fans for all three (3) buildings. This project was started 22 April 1968, a BOD was provided 24 February 1969, and is currently 98% complete.

(g) CD 66-218-DC-76, 145th Aviation Battalion BOQ's, D Company, 46th Engineer Battalion: Upgraded existing laterite pads, placed two (2) 20'x108' concrete slabs and began erection of two (2) each double story BOQ's. Completed all exterior framing and erection to include placing of roofs. Completed siding of the first floor on both buildings; finished decking the second floor to include walkways on both BOQ's. The project was started 17 March 1969 and is 72% complete.

(h) CD 07-246-01, III Corps MACV Advisor Housing, D Company, 46th Engineer Battalion: Placed forms and began to pour concrete floor for a 20'x48' concrete block building. The project was started 28 April 1969 and is 5% complete.

(i) CD 543-0303-0-01, LOC Maintenance Facility, C Company, 46th Engineer Battalion: Cleared, stripped and graded a 180'x380' area. Excavated approximately 3000 cubic yards of waste material to prepare for construction of laterite pads for building sites. The project includes three (3) pre-engineered metal buildings, 1200 linear feet of security fencing and a 12000 square yard maintenance hardstand. The project is being constructed for the 20th Engineer Brigade. It was started 28 April 1969 and is 15% complete.

(j) CD 43-387-01, 95th Military Police Battalion Motor Repair Shops, D Company, 46th Engineer Battalion: The project has not been started and is 0% complete.

(k) CD 43-325-01-159, 9th Medical Cantonment Area, D Company, 46th Engineer Battalion: The project has not been started and is 0% complete.

(l) GD 159-431, 20th Engineer Brigade Communications Center, D Company, 46th Engineer Battalion: The project has not been started and is 0% complete.

(5) Revolutionary Development Support: None.

d. The 103rd Engineer Company (CS) conducted the following activity during the reporting period:

(1) Quarry Operations: 18,530 cubic yards of 3" (-) base course rock, 4668 cubic yards of 1 1/2" - 3/4" concrete aggregate, and 44, 517 cubic yards of 3/4" (-) asphalt aggregate were produced during the reporting period. Three (3) additional troop billets were constructed to house the increased personnel density. The following equipment was added to the quarry operations through the

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LOC Equipment Buy:

- (a) 4 - 600 CFM Compressors
- (b) 1 - Chicago Pneumatic Rock Drill
- (c) 3 - Hobart 400 Amp Arc Welders
- (d) 1 - Steady Crushermatic Arc Welder

(2) Asphalt Plant Operations: Was transferred to the 34th Engineer Battalion (Const) on 21 April 1969. Prior to this date, during the reporting period, 32,720 tons of 1 1/2" Binder Mix and 720 tons of 3/4" Surface Mix was produced and laid on QL-13 north from Phu Cuong to Lai Khe. The following equipment was added to the Asphalt Operations through the LOC Equipment Buy:

- (a) 1 - Cedar Rapids Paving Machine
- (b) 1 - Curb Extruder

e. Personnel Administration, Morale and Discipline:

(1) The 46th Engineer Battalion Headquarters and Headquarters Company is organized under TOE 5-116G; A Company, TOE 5-117G; and Companies B, C, and D, TOE 5-118G. The 103rd Engineer Company (CS) is organized under TOE 5-114D, and was attached by the 159th Engineer Group General Order Number 34, effective 1 January 1968.

(2) The battalion had a total of 238 gains and 294 losses over the quarter ending 30 April 1969. The forecast rotational rates are 13.9% for May, 11.9% for June, and 9.2% for July.

(3) Morale has kept an upward trend during the entire quarter. This has kept an ever increasing level due to the many factors ranging from unit esprit to recreational activities for all companies. All of the battalion's personnel in the Long Binh area live in tropical frame buildings. A central water distribution system provides hot and potable water for showers and mess halls. The fine troop living conditions for Company B in Saigon are another factor for high morale. The obvious indication of high troop morale is the fact that 128 extensions were approved over the quarter. As of the end of the reporting period, the battalion had a total of 111 men who are presently on extension. The awards program has been emphasized over the past quarter and a total of 55 medals were presented in this battalion.

(4) Disciplinary problems were resolved by use of Article 15's. The battalion administered 110 Article 15's during the past quarter and held two (2) Summary Courts-Martial. Many of the Article 15's were given to curtail traffic violations.

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

a. Personnel: None

b. Operations:

(1) Air Transportation of the Parson Trenchliner

(a) Observation: The technical manual for the Parson Trenchliner states that the trenchliner can not be transported by C-123 or C-130 aircraft.

(b) Evaluation: Because of an operational support mission, it was necessary to fly this equipment. The Air Force flew the trenchliner over 600 miles with no difficulties whatsoever. The trenchliner was fastened to a trailer, model 6L873, manufactured by the General Engineering Company and backed into a C-123 with the aid of a 2½ ton truck without any difficulty. Normal rigging procedures were used in holding the trailer in place, but extra steps were taken to insure the trenchliner was securely fastened to the trailer.

(c) Recommendations: A change to the manual which indicates that the trenchliner, securely mounted on the trailer, can be flown great distances in C-123 or C-130 aircraft.

(2) Utilization of the Light Weight Sandbagger

(a) Observation: Lack of a protective cover over the teeth and engine of the new Light Weight Sandbagger makes its operation dangerous and results in unnecessary wear and tear on the engine.

(b) Evaluation: The Light Weight Sandbagger has an "open conveyor system". Due to its design, the machine throws excess dirt and sand directly into the engine and oil bath. Within a short period of operation, laterite and/or sand will circulate through the engine causing excessive wear, overheating, and clogging of lines. Also the digging teeth of the sandbagger extend beyond the body of the machine. When operating or transporting the machine, the operator must sit within four (4) inches of these teeth, which are a high-carbide steel and honed to a razor-sharp edge.

(c) Recommendation: To protect the operator and engine, the following steps should be taken:

1. Provide a cover from the base of the engine extending outward to cover the "digging arm". The plate should be at least one-quarter inch thick and extend three (3) inches above and one (1) foot beyond the "digging arm". This cover is to protect the operator from the digging teeth.

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2 Enclose the exposed "conveyor assembly" with a light weight steel or aluminum cover. Attachment should begin at the lower end of the "conveyor assembly" and extend along the conveyor frame without interfering with the movement of the conveyor itself. This cover protects the engine and oil bath by preventing dirt from getting into the engine.

(3) Transporting Concrete over Great Distances

(a) Observation: When transporting concrete in 5 ton dump trucks over great distances the concrete sets quickly in hot temperatures.

(b) Evaluation: Evaporation of the water in the mixture, due to hot climate, results in this quick setting phenomena. Thus, the concrete does not have adequate curing time to reach its design strength. A cloth or tarpaulin, saturated with water covering the mix, greatly reduces this evaporation process, thus preserving the water content of the concrete mix.

(c) Recommendation: When transporting concrete for any distances (more than 15 minutes) a cover saturated with water should be placed over the mix.

(4) Substitution of Block for Concrete Walls

(a) Observation: The standard 30' Radar Tower Plan calls for a 5' high, 10" thick concrete wall on the surveillance platform, that is extremely difficult to form and place.

(b) Evaluation: The wall is used as small arms protection. A block wall revetment with voids and steel reinforcing can be substituted for the concrete with very satisfactory results. This eliminates the need for difficult forming, concrete bucket, a 16S mixer, and very scarce boom extensions. The radar can be emplaced before the completion of the wall.

(c) Recommendation: If concrete blocks are readily available, they can be used as a substitute for concrete walls to be placed in elevated places.

(5) A Workable Map Board Installation

(a) Observation: Recently this unit was called upon to install eight (8) double sliding map boards.

(b) Evaluation: The design called for an overhead trolley system; however, the weight, size and number of map boards rendered the designed system unworkable. The trolley rollers could not hold the weight of the boards and suitable overhead support could not be provided.

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(c) Recommendation: This unit had good success placing guides above and below the map boards and using conveyor rollers spaced approximately every two (2) feet under the map boards. This system could not bend or deflect since it rests on the concrete floor.

(6) Method of Placing a Building Foundation to Expedite Steel Construction

(a) Observation: Recently this unit was required to erect three (3) prefab metal buildings. The erection time limitation required that the steel be placed on the slab the next day.

(b) Evaluation: Most units pour this type of foundation in two (2) sections and allow the slab to cure for three (3) or four (4) days before moving onto the slab with a crane for steel erection work.

(c) This unit had exceptionally good success pouring a ring slab. A ten (10) foot wide section of concrete was poured in a "U" shape to include the footer. It was then possible to drive a twenty (20) ton crane down the middle of the "U" shaped foundation and set the steel the next day with no appreciable danger of breaking the fresh concrete. In addition, it is much easier to screed the concrete. The center of the "U" can be poured at any time during subsequent construction.

(7) Utilization of 2½ Yard Front Loaders in Blast Rock Loading Operations

(a) Observation: Deadline rates on crawler-mounted 40 ton cranes dictate the periodic use of Allis Chalmers 2½ Yard Front Loaders in the pit to load out blast rock for transport to the crusher site.

(b) Evaluation: The 12-ply tires utilized on the Allis Chalmers Loaders will not withstand the wear and tear of pit operations. There are no 24-ply loader tires in the theater. The 24-ply rear tires on a Euclid 20 ton are the same size, with a different tread design, but are plentiful within the supply system. Since substituting these tires on two (2) Allis Chalmers loaders sixty (60) days ago, there have been no flats.

(c) Recommendation: In as much as working in blast rock is a most severe wear condition for tires, and the results of mounting 24-ply Euclid rear tires on Allis Chalmers front loaders have been shown to be outstanding, consideration should be given to making this change on all Allis Chalmers loaders regardless of the area utilization.

c. Training: None

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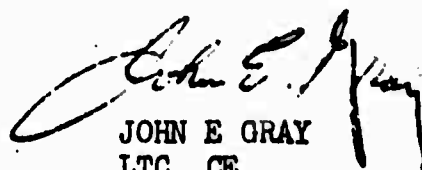
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Period Ending 30 April 1969

d. Intelligence: None

e. Logistics: None

f. Organization: None

1 Incl
Organizational Structure


JOHN E GRAY
LTC, CE
Commanding

DISTRIBUTION:

- 2 - CINCUSARPAC, ATTN: GPOP-DT (AIR MAIL)
- 3 - CG, USARV, ATTN: AVHGC-DST (COURIER)
- 15 - CO, 159th Engineer Group
- 1 - File

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EGB-CO (15 May 69) 1st Ind
SUBJECT: Operational Report of the 46th Engineer Battalion (Construction)
for Period Ending 30 April 1969, RCS CSFOR-65 (R1)

DA, HQ, 159th Engineer Group, APO 96491

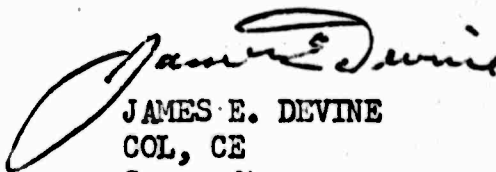
23 MAY 1969

TO: Commanding Officer, 20th Engineer Brigade, ATTN: AVBI-OS, APO 96491

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1969.

2. The 46th Engineer Battalion contributes to the defense of Long Binh Post by providing personnel to man fire bunkers on the southern perimeter. The 46th Engineer Battalion has also been assigned to defend a subsector of the 160th Signal Group sector along the western perimeter. The brunt of the 23 February 1969 attack was carried in the portion of the southern perimeter defended by the 46th Engineer Battalion but was successfully repulsed due primarily to their effort. One engineer soldier from the 46th Engineer Battalion was killed in action during that defense.

3. Subject report for the 46th Engineer Battalion (Construction) has been reviewed and is considered adequate.


JAMES E. DEVINE
COL, CE
Commanding

CF:
CO, 46th Engr Bn


AVBI-OS (15 May 69) 2nd Ind
SUBJECT: Operational Report of the 46th Engineer Battalion (Const)
for Period Ending 30 April 1969, RCS CSFOR-65(R1)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491

TO: Commanding General, United States Army Vietnam,
ATTN: AVHGC-DST, APO 96375

1. Submitted in accordance with USARV Regulation 525-15, dated 13 April 1968.
2. Subject report for the 46th Engineer Battalion (Construction) has been reviewed and is considered adequate.

FOR THE COMMANDER:


J. J. MONTGOMERY
Major, AGC
Adjutant

Copies Furnished:
CO, 159th Engr Gp
CO, 46th Engr Bn

AVHGC-DST (10 May 1969) 3d Ind
SUBJECT: Operational Report-Lessons Learned (RCS CSFOR-65) for
Quarterly Period Ending 30 April 1969

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

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

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 30 April 1969 from Headquarters, 46th Engineer Battalion.

2. Comments follow:

a. Reference item concerning Utilization of the Light Weight Sand-bagger, section II, page 18, paragraph b(2); concur. Field modifications made to nonstandard equipment that improve safety or operational capability should be reported by submitting an Equipment Improvement Report (EIR) to the appropriate commodity command. Commanders authorizing the modification should insure that the equipment can be returned to its original configuration. No further action is required by this or higher headquarters.

b. Reference item concerning Substitution of Block for Concrete Walls, section II, page 19, paragraph b(4); concur. Although block may prove a most satisfactory substitute for concrete walls, care must be taken to insure that the block gives adequate protection. Based on TB 5-330-1 (Fortifications for Parked Army Aircraft) nine inches of concrete will protect against small arms fire, however cement block (based on soil cement) requires a thickness of 18 inches to give the same protection. This factor must be taken into account when substitution is considered. Unit will be advised.

c. Reference item concerning Utilization of 2½ Yard Front Loaders in Blast Rock Loading Operations, section II, page 20, paragraph b(7); concur. The use of heavy duty tires on equipment performing tasks not normally performed by the equipment is recommended. The recommended change should only be used where absolutely necessary as the cost of the heavy duty tire is considerably higher than the normal tire. No further action is required by this or higher headquarters. Unit will be advised.

FOR THE COMMANDER:


A.R. GUENTHER
CPT. AGC
ASST. ADJUTANT GENERAL

Cy furn:
46th Engr Bn
20th Engr Bde

GPOP-DT (10 May 69) 4th Ind
SUBJECT: Operational Report of HQ, 46th Engr Bn for Period
Ending 30 April 1969, RCS CSFOR-65 (R1)

HQ, US Army, Pacific, APO San Francisco 96558 14 JUL 69

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

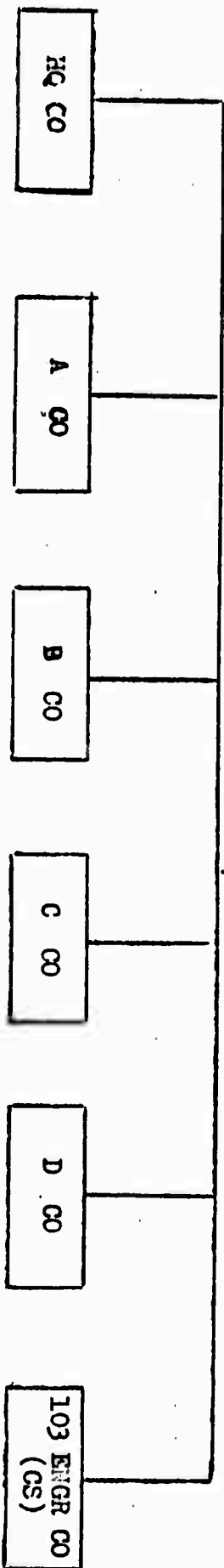
This headquarters has evaluated subject report and forwarding indorse-
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:


C. L. SHORTT
CPT, AGC
Asst AG

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HEADQUARTERS, 46TH ENGINEER BN (CONST)



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CO, 46th Engineer Battalion			
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