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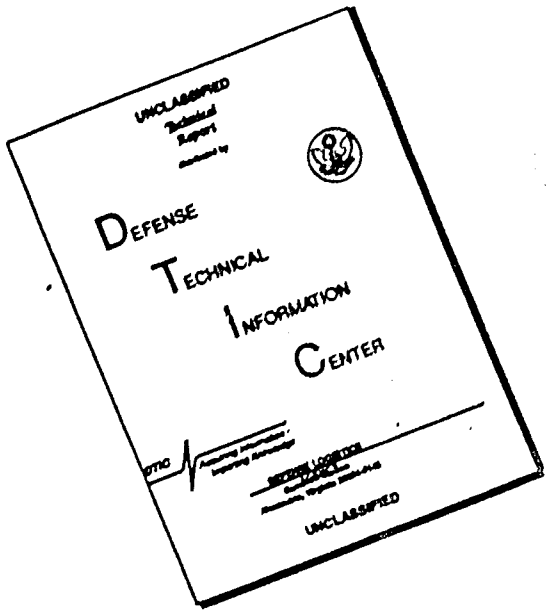

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DEPARTMENT OF THE ARMY
OFFICE OF THE ADJUTANT GENERAL
WASHINGTON, D.C. 20310

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AGDA (M) (3 Nov 69) FOR OT UT 693316 [illegible] November 1969

SUBJECT: Operational Report - Lessons Learned, Headquarters, [illegible] Engineer Battalion, Period Ending 31 July 1969

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DEPARTMENT OF THE ARMY
HEADQUARTERS, 169TH ENGINEER BATTALION
APO 96491

EGBE-3 15 August 1969

SUBJECT: Operational Report of 169th Engineer Battalion, APO 96491, for Period Ending 31 July 1969

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Section 1. Operations: Significant Activities:

1. Command:

a. Unit Employment: The 169th Engineer Battalion is headquartered on Long Binh Post, Republic of Vietnam. During this quarter the battalion was commanded by LTC Clifford T. Flanigan until 18 June 1969 when he was injured in an airplane accident and evacuated to CONUS. LTC Edward L. Arnold assumed command on 19 June 1969 and remained in command until 19 July 1969 at which time the command of the battalion was taken over by LTC Robert S. McGarry.

b. Mission: The mission of the 169th Engineer Battalion in the theater of operations is: to construct and rehabilitate roads and airfields, pipeline systems, structures, and utilities; to provide combat and operational support and to assist in emergency recovery operations as directed by the 159th Engineer Group. In addition to the TOE mission as stated above, the Commanding Officer of the 169th Engineer Battalion is designated as Subsector Commander and has the responsibility for the security of Long Binh Post in his subsector. The subsector responsibility includes a 1700 meter portion of the Long Binh Post Perimeter.

c. Area Of Responsibility: The 169th Engineer Battalion's area of responsibility includes the provinces of Binh Tuy, Long Khanh, Phuoc Tuy, and portions of Bien Hoa Province. Additional responsibilities include missions in the Long Binh/Bien Hoa complex.

d. Attachments and Detachments: During the quarter the 169th Engineer Battalion had seven attached units. They are the 43rd Engineer Company (DT) (4 officers and 109 EM authorized), 22nd Engineer Detachment (WD)(2EM), 38th Engineer Detachment (WD)(2EM), 156th Engineer Detachment (WD)(2EM), 351st Engineer Detachment (WD)(2EM), 917th Engineer Detachment (WD)(2EM), and one earthmoving platoon (1 officer, 25EM) from D Company, 92nd Engineer Battalion. The 92nd Engineer Battalion's platoon was attached to D Company, 169th Engineer Battalion, from 15 March 1969 through 30 June 1969, for the purpose of assisting in the LOC construction of National Highway 20.

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e. Movements and Location: Headquarters Company, A Company, and the 43rd Engineer Company (DT) continue to be located at Long Binh Post in the 169th Engineer Battalion cantonment area. B Company is based at Xuan Loc. C and D Companies each maintain their headquarters and a platoon (-) on Long Binh Post, with the bulk of their personnel located at two separate base camps situated along National Highway 20.

2. Personnel, Morale, and Discipline:

a. Personnel:

(1) The 169th Engineer Battalion remains organized under TO&E 5-115G type B w/augmentation, and has a total authorized strength of 42 officers and 681 enlisted men. Its major attached unit, the 43rd Engineer Company (DT) is organized under TO&E 5-124G with a total assigned strength of 4 officers and 109 enlisted men. The personnel strengths of the 169th Engineer Battalion and attached units for the reporting period were as follows:

(a) May 1969 (as of last day of the month)

	OFF	WO	EM	TOTAL
Authorized (with augmentation)	37	9	805	854
Assigned	36	7	818	861

(b) June 1969

Authorized (with augmentation)	37	9	805	854
Assigned	34	9	854	897

(c) July 1969

Authorized (with augmentation)	37	9	805	854
Assigned	34	8	847	889

NOTE: Above strengths are exclusive of the attached platoon of the 92nd Engineer Battalion.

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(2) As of 31 July 1969 [illegible] attached units, was 4.1% [illegible] strength.

(a) Four MOS overstrengths are as follows:

MOS	DESCRIPTION	RANK	[illegible]
51B	Carpenter	E-4,5	65/56
[illegible]	Electrician	E-4	9/1
62E	Grader Operator	E-4,5	32/21
[illegible]	[illegible] Vehicle [illegible]	E-4	78/[illegible]

(b) [illegible] of understrength include construction supervision, and maintenance. These include:

MOS	DESCRIPTION	RANK	[illegible]
51H	Const Foreman	E-6,7	24/35
5[illegible]	Plumber	[illegible]	23/3[illegible]
62J	Gen Const Machine Oper	E-4,[illegible]	20/28
[illegible]	Const Mach Supv	[illegible]	[illegible]
[illegible]B	Heavy Vehicle Driver	E-5	66/100
71T	Maintenance Data Spec	E-4	3/[illegible]
[illegible]6A	[illegible]	E-3	4/[illegible]

(c) The imbalance in MOS strength is a result of the difference between the requirements listed in the TOE and the present mission of the battalion. Replacements having different MOS are given OJT in the needed MOS. For example, plumbers (51K) who are not essential to the present mission are being trained as construction foremen, truck drivers and equipment operators.

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b. Health and Sanitation:

(1) The physical conditions and overall health of the personnel is very good. Good personal hygiene, cleanliness and personal protective measures are emphasized continuously.

(2) The mess halls and sanitation facilities are inspected regularly, and have been found to be in satisfactory condition. Deficiencies and recommendations are reported to the respective companies, and cooperation of the units has been good.

(3) Although no outbreak of diseases reaching epidemic proportions occured, there are several problem areas. The incidence of diarrheal disease is high, but fortunately most cases are self limiting. Many cases are the result of ingestion of local Vietnamese food, and drink, the dangers of such practices are emphasized to the troops. Common colds have been another problem area during this quarter. The high rate can be attributed to the rainy season and the confinement of the troops in crowded quarters.

(4) Venereal disease remains a major problem within the battalion. Personal protective measures are continuously stressed to the troops.

c. Morale & Discipline:

(1) During the reporting period there have been 147 company and field grade Article 15's. Many of these have been for traffic violations, in particular, speeding. Sixteen Summary and Special Court Martials have been convened.

(2) Morale has remained high throughout the reporting period for the battalion as a whole. This is evident by high number of extensions (82). Softball, basketball, volleyball and football activities have been scheduled; movies are shown in the battalion theater and base camps; and a modern NCO-EM club has regularly scheduled entertainment. A full time chaplain provides both Catholic and Protestant services.

(3) R&R allocations for the 169th Engineer Battalion average 60 leaves per month for out-of-country locations. The Battalion receives four allocations to Vung Tau per month. While out-of-country allocations are deemed adequate to accomodate personnel in this battalion, in country allocations are effective and will be requested to reward equipment operators and heavy truck drivers who work long hours under potentially dangerous conditions.

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(4) During this reporting period the men of this battalion received 16 Army Commendation Medals, 18 Bronze Stars, Five Purple Hearts, and Four 20th Brigade Certificates of Achievement. In addition there are eight ACM's, 18 Bronze Stars, and two 20th Brigade Certificates of Achievement pending.

3. Intelligence, Counter Intelligence, and Enemy Activity:

a. Intelligence and Counter Intelligence:

(1) The battalion has performed no combat intelligence functions during the past reporting period other than reporting to higher headquarters all incidents involving enemy activity in the AOR that involve either units within the Battalion or security forces provided for the Battalion.

(2) The battalion receives intelligence information concerning the Long Binh area and Long Khanh Province in the form of intelligence summaries from Bien Hoa Tactical Area Command, II Field Forces, and Long Khanh Province advisory team. These INTSUMS are received daily.

(3) In addition periodic intelligence briefings are given to officers of the battalion by the 18th ARVN Division and the districts along QL-20. By means of close personal contact with the ARVN and districts, the battalion is kept abreast of the tactical situation.

(4) Recons have been made along QL-20 during this period to locate possible quarry sites, borrow pits, and a base camp area for the projected move of Company B in preparation for the next construction season.

b. Enemy Activity: During the past reporting period the construction activities of B, C and D Companies were hampered by enemy activity along National Highway 20. Twenty-eight company construction days were lost.

(1) Between 0140 and 0200 hours on 15 May 1969, a bridge in B Company's AOR came under mortar fire. One mortar round hit the bridge causing light damage to the hand rail. No battalion personnel were at the bridge at that time and the Popular Forces bridge security suffered no casualties.

(2) At 2200 hours on 19 May 1969, Company C Base Camp (YT403263) came under mortar fire. There were no casualties or damage.

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(3) at 0045 hours on 22 May 69, Brave Company base camp (YT455085) came under mortar and small arms attack. The base camp received small arms fire and 19 mortars and rockets. Five US personnel were wounded. Medivac was not required. Several buildings received extensive structural damage from the mortar rounds to include two billets, two maintenance sheds and the chapel. There were no known enemy casualties.

(4) At 1000 hours on 13 June 1969, Company C construction personnel were ambushed at YT4634 as they were working on QL-20. The attack commenced with B-40 rocket fire which hit a civilian truck. The truck blocked the road forcing a battalion dozer to stop. The dozer operator grabbed his weapon and ran into the tree line to get out of the kill zone. He was killed in action and his body was recovered several hours later. Casualties included one US KIA and 2 or 3 Phillipine civilians wounded. The attack was countered with artillery and close air support. Equipment suffered minor damage.

(5) At 1720 hours on 17 June 1969, a dump truck from Company C on an asphalt run up QL-20 received automatic weapons fire. The truck received two rounds in the bed and continued through the ambush with slight damage.

(6) At 0500 hours on 28 June 1969, a section of QL-20 in Company B's area of responsibility came under mortar attack. No personnel were present at the time and the road surface received light damage from one direct hit.

(7) During the past reporting period the subsector of Long Binh Post controlled by this Battalion received several rocket attacks. Slight damage was suffered and there were no serious casualties. No rounds were received in the Battalion area.

4. Operations and Training:

(1) Combat and Operational Support:

(a) 68-20-6, Airfield Maintenance, Ham Tan, Company B, 169th Engineer Battalion: Project consisted of repairing and maintaining an airfield. Repaired 821 square meters of sub-surface failure, patched 27,690 square meters of potholes and applied a sand surface treatment to 27,000 square meters. This continuous project was rescinded and a new continuous maintenance directive was issued on 21 Jun 69.

(b) 289-5676-0-20, Fire Support Base, Gia Ray, Company B, 169th Engineer Battalion: Constructed three gun positions, an ammunition storage area and a perimeter berm in support of IIFFV Artillery. Completed 5 Jun 69.

(c) 289-5794-0-20, Fire Support Base, Gia Ray, Company B, 169th Engineer Battalion: Supported IIFFV Artillery by closing fire support base. Completed 21 July 69.

(d) 289-5798-0-20, Fire Support Base, Company C, 169th Engineer Battalion: Supported IIFFV Artillery by constructing a berm and defensive positions: Completed 21 Jul 69.

(e) 589-0302-0-01, Deepen Water Well, Camp Lee, Xuan Loc, Company [illegible] Engineer Battalion: Completion directive administratively closed [illegible] Jun 69.

(f) 289-5592-0-20, Temporary Lighting La Nga Bridge, QL-20, D Company, 169th Engineer Battalion: Installed fixtures and wiring to illuminate the La Nga River Bridge. Starting date: 20 May 69. Completion date: 28 May 69.

(g) 28[illegible]-5702-0-20, Equipment Support Landing Zone Rock, Vic [illegible] the La Nga River, D Company, 169th Engineer Battalion: Supported 1st Air Cavalry Division by clearing logistical area, digging sump and covering the sump. Started and completed 10 Jun 69.

(h) 289-5620-0-20, Repair Firing Positions, vic [illegible]4330, Company D, 169th Engineer Battalion: Supported IIFF by constructing six (6) firing positions (berms). Starting date: 13 May 69. Completion date: 30 Jun 69.

(i) 2[illegible]-5[illegible]-3-23, Long Binh Post Defense, [illegible] Company and [illegible] 169th Engineer Battalion: Improved Long Binh perimeter by building [illegible] bunkers, latrines, and urinals. Installed culverts, culvert gates, concertina, M-79 firing positions, claymore mines and trip flares. Continuous project was terminated 2 Jul 69, and a new directive was issued. (See active project 243-5729-3-23).

(j) 1[illegible]-68-158, Protective Walls for [illegible] Facilities, Long Binh Post, Company D, 169th Engineer Battalion: At one facility, 641 linear feet of laterite filled revetments were constructed using M8A1 steel matting. At the other facility, corrugated steel was used to construct 275 linear feet of revetments. Starting date: 18 Mar 69 Completion date: 2 Jul 69.

(k) 159-69-039, POL Tanker Revetments, 64th Quartermaster Bn, Long Binh Post, 43rd Engineer Company (DT), 169th Engineer Battalion: Hauled 8,100 CY of laterite to fill revetments. Starting date: 5 Apr 69. Completion date: 5 Jul 69.

(l) 289-5499-2-23, Maintenance Hardstands and Revetments, Blackhorse, Company C, 169th Engineer Battalion: Supervised placement of steel matting and revetments to form parking spaces and maintenance area. Work accomplished on a self-help basis. Starting date: 20 May 69. Project 72 percent completed when administratively terminated on 1 Aug 69.

(2) MER: None

(3) LOC: None

(4) MACV Advisor Facilities:

(a) 87-242-01, Well Drilling, Bearcat, Company A, 169th Engineer Battalion: Well was drilled to 78 feet with 70 feet of casing; test pumped at 30 GPM. Starting date: 19 May 69. Completion date: 4 Jun 69.

(b) 889-0302-0-01, III CTZ MACV Advisory Upgrade, HQ/43rd Post 18th ARVN Division, Xuan Loc, Company B, 169th Engineer Battalion: Constructed one billet with latrine, kitchen, and covered storage. Also constructed a water storage tank and tower, connecting water and sewage lines, and septic tank. Starting date: 3 Jun 69. Completion date: 21 Jul 69.

(5) Base Construction:

(a) 07-240-01-T-7S, Water Supply Facilities, Bien Hoa, Company D 169th Engineer Battalion: Constructed two water storage tanks with steel towers and two water treatment facilities for the 101st Airborne Division. Starting date: 17 Apr 68. Completion date: 21 Jul 69.

(b) 07-241-01-T-7S, 101st Water Supply Facilities, Bien Hoa, Company D, 169th Engineer Battalion: Constructed three water storage tanks with steel towers and two water treatment facilities. Starting date: 29 Mar 69. Completion date: 21 Jul 69.

(c) 43-336-10, 506th Field Depot, Long Binh, 169th Engineer Battalion: Project consisted of a variety of [illegible] to be constructed including warehouses, loading docks, and administrative buildings and paving hardstands and a vehicular parking area. Many projects have been added and deleted and some were transferred to civilian contracts. The last phase of this project was paving a vehicular parking area (110,500 SY).

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Project was often delayed by higher priority projects. The last phase was started 1 Jan 69 and completed on 26 Jul 69.

b. Active Projects:

(1) Combat and Operational Support:

(a) 289-5671-0-20, Materials Issue for Xuan Loc, B Company, Engineer Battalion: Project consists of issuing materials and providing technical assistance in the construction of one 20 x 100 foot TOC and the repair of one 20 x 60 foot TOC in support of the Deputy Senior Advisor III CTZ. Starting date: 7 Jun 69. Project is 93% complete. Estimated completion date is 31 Aug 69.

(b) 243-5614-0-20, Non-skid Paint, Sanford Heliport, Long Binh Post, C Company, 169th Engineer Battalion: 725 gallons of non-skid paint were applied to 120,000 square feet of M8A1 matting in parking areas and taxiways. Starting date: 12 Jun 69. Paint ran out on 3 Jul 69 (150 Gal on requisition since 24 May 69). Project is 88% complete. Estimated completion date is five days from receipt of paint.

(c) 243-5729-3-23, Maintenance Base Camp Perimeter, Long Binh Post, Company D, 169th Engineer Battalion: Repaired bunkers and installed concertina entanglements and trip flares. Continuous project; started 2 Jul 69.

(d) 289-5756-0-20, Bunker Construction, Hill 837, Nui Chau Chan, Company D, 169th Engineer Battalion: Constructing (and anchoring against sliding) one perimeter bunker. Starting date: 19 Jul 69. Project is 50% complete. Estimated completion date: 10 Aug 69.

(2) MER: None

(3) LOC:

(a) 98-240-159-LOC, Restoration of QL-20, From QL-1, to Trai Lon Cav, 169th Engineer Battalion: Constructing 9.5 kil meters of M.CV Standard Highway, YT342102 to YT382181, and 48.5 kil meters of all weather highway, YT382181 to YT655462. Project includes 64 drainage structures including one 60 foot steel stringer bridge. Starting date: 31 Oct 68. Project is 94% complete. Estimated completion date: 15 Sep 69.

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(b) 159-68-008, Long Binh Asphalt Plant, Company A, 169th Engineer Battalion: A total of 23,512 tons of asphalt were produced during this reporting period. Starting date: 15 Jun 69. This is a continuing project.

(c) 98-201-15-T-M, Maintenance of Roads and Bridges, 20th Brigade, ROK, 169th Engineer Battalion: Present phase of this [illegible] project involves maintenance and repair of QL-20 during the present dry season. Starting date: 15 Jul 69. Estimated completion date: 31 Oct 69.

(4) MACV Advisor Facilities:

(a) 889-0302-0-01, III CTZ MACV Advisory Compound, 1st/43rd Regt, 18th ARVN Division, Xuan Loc, Company B, 169th Engineer Battalion: Project consists of constructing a billet complete with latrine, kitchen, office, electrical wiring, plumbing, water storage tank and tower, and septic tank. Starting date: 23 Jun 69. Project is 20% complete. Estimated completion date: 18 Aug 69.

(b) 889-0302-0-01, III CTZ MACV Advisory Upgrade, 2/43 Regt, 18th ARVN Division, Xuan Loc, Company C, 169th Engineer Battalion: Project consists of constructing a billet complete with latrine, kitchen, office, electrical wiring, plumbing, water storage tank and tower, and septic tank. Starting date: 21 Jul 69. Project is 5% complete. Estimated completion date: 31 Aug 69.

(c) 889-0302-0-01, III CTZ MACV Advisory Upgrade, 3/43 Regt, 18th ARVN Div, Xuan Loc, Company B, 169th Engr Bn: Project consists of constructing a billet complete with latrine, kitchen, office, electrical wiring, plumbing, water storage tank and tower, and septic tank. Starting date: 1 Jun 69. Project is 75% complete. Estimated completion date: 14 Aug 69.

(d) 889-0302-0-01, III CTZ MACV Advisory Upgrade, 1/43 Regt, 18th ARVN Division, Xuan Loc, Company B, 169th Engineer Battalion: Project consists of constructing a billet complete with latrine, kitchen, office, wiring, plumbing, water storage tank and tower, and septic tank. Starting date: 7 Jul 69. Project is 60% complete. Estimated Completion date: 18 Aug 69.

(e) 889-0301-0-01, III CTZ MACV Province Advisors, Xuan Loc, Company C, 169th Engineer Battalion: Project consists of constructing a billet complete with latrine, kitchen, office, water, sewage, and electrical distribution, water storage tank and tower, and a septic tank. Starting date: 23 Jun 69. Project is 95% complete. Estimated date of completion: 15 Aug 69.

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(f) 43-359-01-159, III CTZ MACV Province Advisors, Ham Tan, Binh Tuy, A&B Company, 169th Engineer Battalion: Project consists of enlarging and improving 3 billets, installing electricity, water, and sewage distribution systems, drilling a well, and constructing a water tower and septic tank. The project is complete except for the well. Starting date: 7 Feb 69. Project is 98% complete. Completion is expected by 31 Aug 69.

(g) 12-260-01, Well for MACV advisors, Phu Cuong, Company A, 169th Engineer Battalion: Drilling well for MACV advisor facility in support of 34th Engineer Battalion. Starting date: 15 Jul 69. Well is 80 feet deep, anticipated aquifer at 100 ft. Estimated completion date: TBD

(5) Base Construction:

(a) 89-236-01-T-7S, Containment Facilities, Blackhorse (Xuan Loc), Company C, 169th Engineer Battalion: No work done this period on Post Chapel, PX Warehouse, maintenance sheds, and grease racks due to lack of self-help manpower. Of these 25 buildings, three are complete, ten pads are placed and seven buildings are framed. All self-help manpower has been diverted to the completion of the Service Club, the largest in Vietnam. Project was transferred from the 31st Engineer Battalion, 34th Engineer Group, to the 169th Engineer Battalion, 159th Group on 3 Mar 69. The Service Club is 84% complete and the overall project is 45% complete. The estimated date of completion is 10 Aug 69 for the Service Club and 1 Apr 70 for the entire project.

(b) 89-205-03-T-7S, Airfield Support Facilities, Blackhorse, (Xuan Loc), Company C, 169th Engineer Battalion: No work performed on wash racks or operations building due to higher priority work on Service Club. Starting date: 9 Nov 68. Project is 97% complete. Estimated date of completion: 30 Sep 69.

(c) 43-371-01, Water Storage Tanks, Long Binh Post, Company D, 169th Engineer Battalion: Two water storage tanks with truck fill stands were constructed. Access roads to the fill stands remain to be constructed, having been delayed due to higher priority horizontal construction on QL-20. Starting date: 1 Jan 69. Project is 95% complete. Estimated date of completion: 30 Sep 69.

(d) 43-377-01, Grass Seeding US/RV Hill, Long Binh, Company A, 169th Engineer Battalion: Seeding and fertilizing 300,000 square yards of US/RV Hill. Project was completed on 30 Jun 69. However, in some areas the seed washed away before it could germinate. These areas are being reseeded and sprayed with an asphalt emulsion which has been shown to yield good results. Starting date: 20 Sep 68. Project is 99% complete. Estimated completion date: 10 Aug 69.

(e) 507-0305-0-01, Road Upgrade, Bien Hoa, Company A, 169th Engineer Battalion: Project consists of paving 86,377 square yards of roads at Bien Hoa Army Base. Starting date: 1 Jul 69. Project is 40% complete. Estimated completion date: 31 Aug 69.

(f) 43-331-15-T-7S Road Paving, Long Binh Post, A & D Companies, 169th Engineer Battalion: Project consists of paving 230,500 square yards of road on Long Binh Post. Completed paving roads at the 48th Transportation Group. Starting date: 20 Nov 68. Project is 53% complete. Estimated completion date; 30 Sep 69.

c. Projects Pending:

(1) Combat and Operational Support: None

(2) MER: None

(3) LOC: 498-5305-0-20, Exploratory Drilling at Xuan Loc, Company A, 169th Engineer Battalion: Project consists of core drilling to determine the limits of the proposed quarry. The core drill has been deadlined since 10 May 69 for a broken gear. The project has not been started.

(4) MACV Advisor Facilities: 43-356-01-159, III CTZ MACV District Advisor Facilities, Binh Tuy Province, Tanh Linh, Company A, 169th Engineer Battalion: Project consists of constructing various combinations of billets with latrines, septic tanks and water storage at Ham Tan and Tanh Linh and a well with pump and chlorinator at Tanh Linh. The project is complete except for the well. Starting date: 7 Feb 69. Project is 98% complete. Completion date is unknown because of security difficulties in transporting the well drilling rig to the job site.

(5) Base Construction:

(a) 589-0303-0-01, Site Preparation for Xuan Loc (Blackhorse), Power Plant, 169th Engineer Battalion: Project consists of hauling rock and sand and constructing two POL tank berms. The customer's plans have not been finalized.

(b) 40-001-01-F-6S, Lai Khe Power Distribution, Company A, 169th Engineer Battalion: Support the 168th Engineer Battalion by drilling ten holes thirty feet deep and two inches in diameter. The core drill has been deadlined for a broken gear since 10 May 69; this project has not been started.

(c) 43-280-01-T-7S (B&D) Outdoor Recreation Facilities, Long Binh Post, Company C&D, 169th Engineer Battalion: Project consists of constructing four softball fields, four tennis courts, four basketball courts, and thirty volleyball courts. Project has not been started due to its low priority.

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d. Haul Missions in Support of Battalion Operations, (43rd Engineer Company, Dump Truck):

(1) Rock to asphalt plant: 5225 CY

(2) Sand to Asphalt Plant: 1358 CY

(3) Rock to job sites: 4050 CY

(4) Asphalt to paving sites: 14,920 Tons

(5) Laterite to 34th Engineer Battalion and 169th Engineer Battalion Utilities: 680 CY

(6) Rock to the 34th Engineer Battalion: 891 CY

e. Plans: During the past quarter this battalion has been engaged in the planning for the construction of 66 kilometers of QL-20 to CENCOM standards, to be completed on 30 Jun 70. Construction planning, and allocation of resources cannot be finalized until the Architect Engineer design of QL-20 is received by this unit. Because the highway design has not been received several concepts of operations have been developed and it is felt that upon receipt of the design, very little time will be lost in implementing the most applicable plan.

f. Training:

(1) Formal training (as opposed to OJT) is conducted in the Battalion on Sunday and Tuesday evenings. Mandatory DA and USARV subjects are taught. The majority of training is carried on at the company level in commanders lectures and regular classes. At battalion level a class in Counter Sapper Training is conducted every two weeks by the S-2 staff and officers from the companies. This class is given to all new personnel and includes the skills that relate to perimeter guard duties, such as weapons familiarization, artillery fire and adjustment, enemy sapper techniques, and starlight scopes.

(2) Company A, Direct Support Maintenance Section, conducts OJT for ARVN mechanics. There is an average of six (6) ARVN mechanics being trained at all times.

(3) A school has been set up for the drivers of the new GMC dump trucks that are being received under the MCA-OC buy program. The school is conducted by the GMC Technical Representative. Thus far fifty (50) operators from this unit have attended the school.

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(4) In addition to formal driver training a program of OJT training for military dump truck drivers has been set up by the 4/d Engineer Company (DT) to insure a maximum number of qualified operators at all times.

g. Communications: The communications effort during the quarter can be divided into three primary missions:

(1) Wire: The maintenance of the established communication system at Long Binh Post. This consisted of rewiring most of the land-line network of the 169th Engineer Battalion. This quarter saw the installation of some much needed back-up lines to the sub-sector perimeter and the restructuring of the entire telephone circuit system.

(2) Radio: The operation, maintenance and improvement of the radio relay facility on QL-20. The increased emphasis upon the Battalion's mission on QL-20 caused greater usage of the relay station. The tactical situation continued to necessitate 24 hour operations: this was managed by rotating two man teams at the site every month. The fallibility of operators in relaying messages made an auto-retransmission station desirable. Eventually one was successfully established; however it remains a maintenance problem.

(3) Crypto: The establishment of a brigade wide teletype circuit in July, which incorporated a crypto capability added some new hardware to the comm section, requiring the institution of an on-going operator training program. A files system was set up and pertinent AR's and forms ordered. The 169th Engineer Battalion was not able to enter into the net during this quarter because of defective equipment.

5. Logistics:

a. Equipment Status:

The following list reflects Mission Essential TOE/MTOE equipment which is short in the battalion.

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NOMENCLATURE	AUTH	O/H	SHORT
Truck, Dump, 5T	96	80	16
Distributor, water, Tank Type Trk Mtd, 1000 gal	6	5	1
Semi-Trailer, 60T	1	0	1
Shop Maint Equip, Contact Truck	6	5	1
Shop Equip, Weld Working, Trl Mtd	8	4	4
Tractor, Wheeled, DED, W/buldozer, 290M	21	19	2
Semi-Trailer, Long Wheel Base 25T, 4-wheel	26	20	6
Truck, Tractor, 10T, 6x6, 5th W	28	23	5
Distributor, Bit., Tank Type, Trk Mtd, 800 gal	2	1	1
Crane-Shovel, Crwl Mtd, 40T 2 Cu Yd	1	0	1
Roller, Motorized, GED, 3 wheel, 10 Tn	3	2	1
Lubricating and Servicing Unit Power operated, Trl Mtd.	6	2	4
Mixer, Rotary Tiller, Dsl Drvn, Self Propelled	1	0	1

b. Unit Readiness:

(1) The equipment unit readiness standards for equipment on hand is presently reporting a REDCON C4 rating. At the present slow rate of receiving TOE equipment, it appears that the battalion will continue reporting a rating of C4 for equipment on hand for an indefinite period.

(2) The following figures represent the total RICC I reportable line items and the quantity filled:

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(a) Total Filled	No of L/I Filled	% of L/I Filled
(1) 90% filled	63	50%
(2) 80% filled	11	9%
(3) 70% filled	4	3%
(4) Less than 70% filled	49	38%
(5) Overall Rating	127/63/11/4/49 - REDCON C4	

c. MCA/LOC Program: The battalion has been asked by the 20th Engineer Brigade to pick-up, process, and make available all of the incoming MCA/LOC equipment for the brigade in the recent MCA/LOC buy program. The following procedures are in effect:

(1) Upon notification by 159th Engineer Group or 20th Engineer Brigade that equipment has arrived in-country (Saigon Docks, Newport Docks, or Tan Son Nhut AFC), it is picked up and transported to Long Binh by the 169th Engineer Battalion within 24 hours.

(2) Company A, 169th Engineer Battalion, is required to deprocess all the equipment. Technical representatives have been made available by USARV for supervision and assistance.

(3) Once the equipment is ready, the receiving unit is notified and the equipment is transferred and picked up on the receiving unit property book.

(4) As of the end of this reporting period, the 169th Engineer Battalion is assigned 26 pieces of MCA/LOC equipment.

d. Maintenance Float Items: The 169th Engineer Battalion has been authorized additional maintenance float items. An increase from two D7E tractors to 52 assorted pieces of heavy and light equipment has been authorized. The majority of the maintenance float has been requisitioned. The items not requisitioned are not considered critical and a request to eliminate these items from the authorized stockage has been forwarded.

e. General Supplies: An increasing shortage of expendable self-service type items has been noted. Common items such as mimeograph and bond paper, staples, inks, flashlights, (TOE) and assorted typewriter ribbons are not available, or a limit has been imposed on the purchase of such items from the SSSC, making it difficult to perform required clerical duties. Of the 332 flashlights authorized for this battalion, over half are not on hand or are unserviceable.

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f. Ammunition & Demolitions:

(1) During the reporting period, the 169th Engineer Battalion was reinspected by USARV, G4, Ammunition Section, pertaining to the storage, handling, accounting and maintaining of records for ammunition. An overall rating of excellent was received.

(2) A critical shortage of the following munitions have resulted in the items being designated as USARV command control:

(a) Cord, Detonator

(b) Chg, Demo, Composition C

(c) Chg, Demo, C3

(d) Chg, Demo, C4

(e) Cap, Blasting, Spec-Elect

(3) All items of the nature outlined above are required on a continuous basis in order to support quarry operations.

g. Maintenance:

(1) The Battalion deadline rate for the quarter averaged 13.1% for USARV critical items and 5.6% overall. A major portion of maintenance effort continues to be expended on the acquisition of repair parts, especially for low density engineer equipment items.

(2) Long Binh Asphalt Plant needed at least 5 hours a day for maintenance(Ninty percent of this time for repair of the pugmill and motors). Due to age and past modifications on the equipment, parts identification and requisition is difficult.

h. RVNAF Improvement and Modernization: During the reporting period the 169th Engineer Battalion has participated in the RVNAF Improvement and Modernization Program by restoring selected items of equipment to O-2 condition and then transferring the equipment to ARVN Channels.

i. Construction Materials:

(1) During this period the following project was stopped due to the lack of materials:

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Project No	Project Title	FSN of Required Item	Nomenclature of Required Item
243-5414-0-20	Sanford Heliport	5610-921-5752	Paint, Non-Skid

(2) All means have been exhausted to obtain the item. The project cannot be continued until the material is available.

(3) A critical shortage of the following construction materials has resulted in the items being placed under USARV command control:

(a) Lumber, 1x

(b) Lumber, 2x

(c) Lumber, 4x

(d) Plywood, (All Sizes)

6. Force Development: The 169th Engineer Battalion and subordinate company MOR's remained unchanged over the reporting period. Company A retains responsibility for the operation of Long Binh Asphalt Plant and for direct support maintenance. The rock crusher on QL-20 remains the operational responsibility of D Company.

7. Command Management: Increased emphasis has been placed upon the preparation of the project data requests. The entire responsibility for their preparation has been assumed by battalion operations. The bulk of the required information is received in the form of daily feeder reports from the companies. This method has proven to be the most effective means for accumulating correct information on the construction projects.

8. Inspector General Activities: The 169th Engineer Battalion did not receive an inspection during the quarter.

9. PIO:

a. A Battalion Newsletter is published twice monthly. Stories submitted by the companies are featured, as well as those of interest to the battalion in general.

(3)

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b. Feature stories describing the battalion operations and accomplishments were prepared. Twenty-two stories were submitted to the 169th Engineer Group PIO for use in the Group and Brigade newspapers or in military publications outside Vietnam.

c. During the reporting period, 185 Hometown News Releases were submitted. Most of these releases involved newly-arrived individuals and those receiving promotions. Also a recording specialist from the Second Field Forces Information Office came to the battalion area on several occasions to make taped interviews for release to home town radio stations.

10. Civic Action: The personnel of the 169th Engineer Battalion Aid Station have been active in Medical Civic Action Program (MEDCAP) in conjunction with 720th Military Police Battalion. Weekly visits are made to villages outlying Long Binh Post to provide medical care for the local civilian population. The villages included Long Binh Tam, An Hoa Hung, and Long Hung, which is made of two hamlets, Phuc Hoi and An Xuan.

SECTION 2: Significant Lessons Learned:

1. Personnel: None

2. Intelligence: None

3. Operations:

a. Hydroseeding USARV Hill:

(1) Observation: During the hydroseeding of USARV Hill it was noted that much of the seed was lost if heavy rain fell before the seed had time to germinate.

(2) Evaluation: To eliminate this problem some method of holding the seed and fertilizer in place was needed until the seed germinated and rooted.

(3) Recommendation: By mixing an asphalt emulsion with the water, seed, and fertilizer mix in a hydroseeder, and then spraying this mixture over the desired area, the asphalt holds the seed in place long enough for sufficient growth to begin. Test areas have shown 85% germination. When applying this method, care should be taken to flush out the hydroseeder with diesel oil to prevent the emulsion from thickening in the storage tank, pump, and associated piping.

b. Asphalt Plant Engine Cleanliness:

(1) Observation: The drive engines at the asphalt plant deteriorate rapidly.

(2) Evaluation: The abnormally high dust level was causing rapid diesel engine deterioration.

(3) Recommendation: In addition to a more frequent cleaning and changing of air filters, a 15" air pipe was run from the engine to a point 30 feet away where the dust level is much lower. This greatly lowers the dust intake and reduces wear.

c. Well Casing:

(1) Observation: Very often, at great depths, well casing will break at its welded points or the material through which the drilling is taking place will cave in.

(2) Evaluation: A means to continue drilling under these conditions was needed.

(3) Recommendation: Place a cement mixture in the well, let it partially set up, and then drill through the partially hardened concrete with a smaller drill (usually 8" reduced to 6"). This actually makes a concrete casing. Results have thus far been fairly sucessful.

d. Ditch Erosion Control:

(1) Observation: Due to the steep slope of the ditches around a bridge site, rapid erosion of the ditch line was occuring and endangering the entire structure.

(2) Evaluation: Some method of stopping the erosion was required.

(3) Recommendation: Construction of a concrete spillway or trough was considered too time consuming. Half sections of 72" culvert were used in conjunction with headwalls to provide a steep slope while eliminating erosion. Lengths of angle iron were welded under the flange, parallel to the longitudinal axis to provide lateral stability and to prevent a wavey appearance when the culvert was backfilled.

e. Septic Tank Construction:

(1) Observation: Construction of rectangular concrete septic tanks is a time consuming job.

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(24)

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(2) Evaluation: Building and stripping the forms for the walls and baffle is the most time consuming part of septic tank construction.

(3) Recommendation: That septic tanks be composed of two separate cylindrical tanks. The walls of the concrete cylinders may be precast or cast-in-place using concentric sections of corrugated metal culvert as the forms which remain part of the tank. The top and bottom of the tanks may be circular or rectangular reinforced concrete slabs. The design depth and diameter may be determined based on the expected flow. This unit has discovered this to be a very expeditious means of septic tank construction.

f. Perimeter Fighting Positions:

(1) Observation: A great deal of effort has been expended in replacing intermediate fighting positions on Long Binh Post perimeter because of rapid sand bag deterioration.

(2) Evaluation: A low cost, easily constructed, durable fighting position was needed.

(3) Recommendation: That intermediate fighting positions be constructed from concrete and half sections of culvert - both of which are readily available, durable, and low cost construction materials. One design consists of 72 inch and 60 inch culvert 42 inches high concentrically placed and filled with concrete to form a circular wall. The wall has a rear entrance and another arc shaped section of wall for a standoff. The walls are anchored to a six inch thick rectangular concrete slab.

4. Logistics: None

5. Training: None

6. Organization: None

7. Other: None

ROBERT S. McGARRY
LTC, CE
Commanding

(15)

EGB-3(15 Aug 69) 1st Ind
SUBJECT: Operational Report of 169th Engineer Battalion, APO 96491, for Period Ending 31 July 1969

HQ, HQ, 159th Engineer Group, APO 96491 20 August 1969

TO: Commanding General, 20th Engineer Brigade, ATTN: AVCI-CS, APO 96491

1. Submitted IAW USARV Reg 525-15, dated 13 April 1969 is the Operational Report Lessons Learned for the 169th Engineer Battalion.

2. Subject report for the 169th Engineer Battalion has been reviewed and is considered adequate.

JAMES E. DEVINE
COL, CE
Commanding

CF:
CO, 169th Engr Bn

(2)

AVBI-OS (15 Aug 69) 2nd Ind
SUBJECT: Operational Report for the 169th Engineer Battalion (Construction) for the Period Ending 31 July 1969, RCS CSFOR-65(R1)

DA, HEADQUARTERS, 20TH ENGINEER BRIGADE, APO 96491 [illegible]

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 169th Engineer Battalion (Construction) has been reviewed and is considered adequate.

FOR THE COMMANDER:

S. B. KENNEDY
Major, AGC
Adjutant

Copies Furnished:
CO, 159th Engr Gp
CO, 169th Engr Bn

AVHGC-DST (15 Aug 69) 3d Ind
SUBJECT: Operational Report of 169th Engineer Battalion, APO 96491, for Period Ending 31 July 1969, RCS CSFOR-65 (R1)

HEADQUARTERS, UNITED STATES ARMY, VIETNAM, APO San Francisco 96375 22 SEP 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 31 July 1969 from Headquarters, 169th Engineer Battalion.

2. Comments follow:

a. Reference item concerning "Septic Tank Construction", section II, page 20, paragraph 3e; concur. Cylindrical septic tanks may be used singly or in series.. The size and number of tanks must take into account the amount and type of flow expected, and the holding time required.

b. Reference item concerning "Perimeter Fighting Position", section II, page 21, paragraph 3f; concur. This appears to be an acceptable method of prefabrication. The position should be placed in an earth berm or otherwise covered to reduce spalling of the concrete material when struck by a projectile.

3. Inclosure 1, the unit's organizational chart, has been added by this headquarters.

FOR THE COMMANDER:

W. A. GOODWIN
CPT, AGC
Assistant Adjutant General

1 Incl
as
Incl wd HQ, DA

Cy furn:
169th Engr Bn
20th Engr Bde

(28)

GPOP-DT (15 Aug 69) 4th Ind
SUBJECT: Operational Report of HQ, 169th Engineer Battalion for the Period Ending 31 July 1969, RCS CSFOR-65 (R1)

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

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

This headquarters concurs in subject report as indorsed.

FOR THE COMMANDER IN CHIEF:

D. A. TUCKER
CPT. AGC
ASST AG

UNCLASSIFIED

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5. AUTHOR(S) *(First name, middle initial, last name)*

CO, 169th Engineer Battalion

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