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HEADQUARTERS  
159TH ENGINEER GROUP (CONST)  
APO 96491

12 August 1966

EOB-3

SUBJECT: Operational Report for Quarterly Period ending 31 July 1966,  
Reports Control Symbol CSFOR-65.

THRU: Commanding General.  
18th Engineer Brigade  
APO 96307

THRU: Commanding General  
United States Army, Vietnam  
ATTN: AVC (History)  
APO 96307

THRU: CINCUSARRC  
ATTN: GPOP-MH  
APO 96558

STATEMENT #2 UNCLASSIFIED

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

REC-100  
JAN 9 1968  
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Section 1, Significant Organization or Unit Activities.

1. GENERAL:

a. This report covers the following headquarters and units with arrival and operational dates in theater as indicated.

UNIT	ARRIVAL	OPERATIONAL
HHC, 159th Engr Gp (Const)	30 Oct 65	30 Oct 65
46th Engr Bn (Const)	25 Sep 65	4 Oct 65

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<u>UNIT</u>	<u>ARRIVAL</u>	<u>OPERATIONAL</u>
169th Engr Bn (Const)	30 May 66	10 Jun 66
103d Engr Co (CS)	5 Feb 66	27 Feb 66
617th Engr Co (PB)	4 Nov 65	11 Nov 65
536th Engr Det (PC)	5 Feb 66	11 Mar 66

b. Individual reports by each of the two battalions are forwarded separately.

c. This report presents information covering the Group HHC and the separate companies, and offers consolidated recommendations in regard to all elements listed in para 1a.

2. Movements: During the report period the following moves were accomplished within the Group:

a. 4 squads of A/168th Engr Bn (Cbt) moved from Di An to Phu Loi on 4 May 1966.

b. Company D/169th Engr Bn (Const) arrived in-country from Okinawa on 6 May and was operational by 8 May 1966.

c. The 169th Engr Bn (Const) minus D Co arrived in-country from Okinawa during the period 12-30 May and became fully operational on 10 June.

d. C/168th Engr Bn (Cbt) moved from Long Binh to Phuoc Vinh on 1 June 1966 (Admin Transfer).

e. B/588th Engr Bn (Cbt) moved from Phuoc Vinh to Long Binh on 1 July 1966 (Admin Transfer).

f. B/588th Engr Bn (Cbt) moved from Long Binh to Cu Chi during the period 10-20 June.

g. 171st Engr Det (WD) departed Di An to move to Nha Trang on 13 June 1966.

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h. 156th Engr Det (WD) arrived Di An on 30 June and was operational on 4 July 1966.

i. The following units were detached from the 159th Engr Gp and attached to the 79th Engr Gp on 20 July 1966:

- (1) 168th Engr Bn (Cbt)
- (2) 588th Engr Bn (Cbt)
- (3) 362d Engr Co (LE)
- (4) 557th Engr Co (LE)
- (5) 38th Engr Det (WD)
- (6) 156th Engr Det (WD)
- (7) 917th Engr Det (WD)

3. PERSONNEL:

a. The consolidated strength figures for the entire 159th Engr Gp are as follows:

(1) 31 May 1966

	<u>Officer</u>	<u>WO</u>	<u>EM</u>	<u>Total</u>
Authorized:	130	21	2810	2961
Assigned:	*158	**23	2755	2936

\* Including 22 assigned not joined.

\*\* Including 2 assigned not joined.

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(2) 30 June 1966

	<u>Officer</u>	<u>WO</u>	<u>EM</u>	<u>Total</u>
Authorized:	164	29	3561	3854
Assigned:	*191	**32	3499	3722

\* Including 22 assigned not joined.

\*\* Including 2 assigned not joined.

(3) 20 July 1966 following transfer of 168th Engineer Bn, 508th Engineer Bn and 557th Engineer Co (IE) to the 79th Engineer Group.

	<u>Officer</u>	<u>WO</u>	<u>EM</u>	<u>Total</u>
Authorized:	94	21	2123	2238
Assigned:	*101	**28	2194	2323

\* Including 4 assigned not joined.

\*\* Including 6 assigned not joined.

(4) 31 July 1966

	<u>Officer</u>	<u>WO</u>	<u>EM</u>	<u>Total</u>
Authorized:	94	21	2123	2238
Assigned:	*102	**27	2240	2369

\* Including 4 assigned not joined.

\*\* Including 6 assigned not joined.

b. The Group is presently employing approximately 1300 indigenous personnel.

#### 4. OPERATIONS:

a. Construction operations within the Group during the past 3 months may be summarized by major construction location as follows:

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(1) Long Binh-Activities in the Long Binh sub- area can be divided into roughly 6 project categories:

(a) II FFORCE V: At the beginning of the period, areas for the Headquarters, HHC, Corps Arty Headquarters, HHD, and and MP Company had been completed. Work had started on the Signal Battalion and Radio Research Battalion areas. During the period the Signal and RR Battalion areas have been completed to standard 3. Improvement of these areas to standard 4 is continuing on a self-help basis. In addition, work is now complete to standard 3 on the Aviation Group Headquarters area and is roughly 50% complete to standard 3 on the 79th Engr Gp Area. In conjunction with construction of the 12th Av Gp area, 11 helipds have been treated with peneprime and covered with PSP for use in parking Group helicopters. Work has started on the community facilities area. A PX building is in the final stages of completion and a dispensary is complete except for the electrical wiring and the provision of shielding material for the X-ray machine.

(b) Ammunition Supply Depot and Log Depot: Based on greatly expanded ammunition stockage levels, a requirement was generated in mid-June by the 1st Log Command to expand the Ammunition Supply Depot by 71 pads (100'x100') ASAP. This diverted the major part of horizontal effort available in the LB area to work on the ASD. Since mid-June 42 pads have been completed and turned over (as of 31 July). This made 114 total pads available for storage at the end of July. The total requirement forecasted for December 1966 is 199 pads. Four ea 70'x140' warehouse buildings have been completed in the Quartermaster Depot area in addition to two 40'x100' warehouses being used for class I, II, & IV storage. A bakery building measuring 20'x170' has been completed and is now producing 6,000 loaves of bread a day.

(c) Cantonment Construction: Work is now virtually complete on a Headquarters area for the CO, Long Binh Sub-Area Command, and his staff. This area consists of a Headquarters Bldg, a Post Office (4000 sq ft), a Finance Bldg (6000 sq ft), a dispensary, a dental clinic and cantonment facilities for Hq, IBSAC (Long Binh Sub-Area Command).

1. The 64th QM Bn (POL) has been located along the base road of the LB triangle in an area formerly occupied by the 2/18th Infantry. Latrines and showers have been constructed and work on a mess hall is approximately 50% complete.

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2. Following the unit's arrival in-country the 169th Engr Bn placed a portion of their construction effort on completion of their own area to standard 3. This was accomplished in the remarkable time of only 10 days. Part of this can be attributed to the fact that D Co preceded the unit by almost 30 days and completed most of the horizontal work. The most important factor, however, was that the 169th pre-cut all materials in Okinawa before shipping out. This resulted in great economy of effort and allowed the 169th to mobilize in the minimum amount of time. The unit's cantonment is now at 85% standard 4.

3. Cantonment areas to standard 3 were completed during the period for the 48th TC Gp, 68th Med Gp, 58th Med Bn, and the 74th Med Bn.

(d) Facilities for Units moving out from Saigon:

1. 90th Replacement: In late April impetus was given to the movement of units out of the Saigon area as quickly as possible. Primary among the units to be moved was the 90th Replacement Center located on Tan Son Nhut Air Base. Clearing work began in early May and the area was occupied during the first week in June. The project consists of 4 areas. At present two of the areas are essentially complete, and the third area is approximately 50% complete. The facility is fully operational and processing up to 560 people daily.

2. MP Stockade: Work on the MP stockade was slowed in the early part of the period due to higher priority projects. The first phase of the project is now well on its way to completion, and will be occupied in the near future. Laterite was applied to the area and double cyclone fence around 2 of the 3 area compartments has been erected.

(e) Medical Facilities:

1. 93d Evac Hospital: This facility is complete with the exception of a Central Medical Sterilization building and the completion of all covered walk-ways between buildings.

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2. 24th Evac Hospital: Work began on this project on 5 July, and ultimately the hospital will be a 400 bed unit. Latrines and showers were initially installed for the 24th Evac personnel arriving from CONUS. Erection of round-wall quonsets (20'x48') for operational and ward facilities is now underway and the project is an estimated 20% complete.

3. Dispensaries: As noted previously dispensaries are being constructed as part of the Long Binh Sub-Area Headquarters complex and as part of the II FFORCE V development.

(f) Barge Off-loading Facilities: Due to the congested status of the Saigon Port area, plans were formulated in early May to develop as many expedient barge off-loading sites up-river in the Long Binh-Thu Duc area as possible. This temporary measure was designed to provide a facility with an expected life of 6 months which would allow single cranes to work directly off of the bank and unload. Finding suitable sites for such off-loading points proved very difficult and in two of the three areas developed, semi-permanent facilities had to be constructed to overcome poor bank conditions.

1. Cogido: During the period this existing project was expanded to two additional finger piers with interconnecting walkway. By 20 June the two piers were complete and in use.

2. Thu Duc: This location proved the only area which could really be developed in the expedient sense. Real estate rights in the area were obtained with aid from USAID. Work began on 1 June and 8 pads were complete and ready for occupancy by the 20th. Despite the high priority of this job, as late as mid-July only 2 pads were being utilized by the Terminal Command.

3. Song Dong Nai: Highly unstable bank conditions here caused the scrapping of the original plan to fill the area to a given grade and place pads as at Thu Duc. Several slides caused the project to be redesigned as a bulkhead using croosoted wood pile tied off to deadmen and shored with heavy timbers. Due to tricky ground conditions this project has required a great deal of patience, and based on the effort and materials required can no longer be considered an expedient solution. The bulkhead will be ready for use on or about 27 August.

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(2) Vung Tau: Construction effort presently deployed at Vung Tau consists of D/46th Engr Bn, 536th Engr Det (PC) and the Quarry Platoon of the 103d Engr Co (CS). Nine projects were active during the period.

(a) Ammunition Supply Depot: Work on access roads and laterite pads was completed during the period and the project is now complete.

(b) Cantonment: During the period work on the 200 man Engineer Base Camp was completed and the only major item remaining to be completed on the 500 man Cantonment is the dispensary.

(c) Flight Line Facilities: Work on Phase II of the Parking Ramp project is complete to include asphalt cutback treatment of parking space for UH1B & 1D helicopters. 16,000 cu yds of sand was hauled into area III to bring this location to grade. The haul of laterite to the area is now underway.

(d) Port Facilities: During July, test piles were driven and data was forwarded to the contractor for design of the pier. No work as yet has been started.

(e) Covered storage: Essentially a month was lost on this project due to missing components of the 120'x200' building. Work has now resumed on the construction of the last two bays of the building and the project is 85% complete.

(f) Australian Log Depot: This project provided 15,000 sq yds of hardstand and access roads to be used by Australian Logistical units deploying to RVN. This project was completed on 12 July 1966.

(g) POL Storage: One ten-thousand barrel tank was completed and tested during the period. Three other 10,000 bbl tanks are under construction. In all, 10 ten thousand and 4 three thousand barrel tanks will be erected.

(h) Barge Construction: The 536th Engr Det (PC) was given the mission in May of constructing 60 TC barges for use in port operations. To date 24 barges have been completed and are being maintained by the 536th.

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(1) Movement of Generators: One particularly interesting mission undertaken by D/46th Engr Bn was the movement of 4 ea 500 KW generators weighing 21 tons each from the Vung Tau Port area to a StratCom site atop one of the two towering ridges in the area. Due to the sharp hair-pin curves in the primary access road to the site, this route could not be used. In order to provide access, an abandoned road winding around the far side of the ridge had to be rehabilitated. In some areas the road was blasted to provide wider clearance; in other areas fill had to be placed to provide for adequate turning radius. Either side of the road sheer drops through jungle vegetation made negotiating the road in even a jeep very dangerous. After a great deal of road repair, the 4 generators were safely shuttled to the top of the ridge during the period 14-17 June 1966.

(3) XUAN LOC: During the latter part of June one platoon from the 169th Engr Bn (Const) was committed in this location to prepare cantonment areas for a composite artillery battery and a 155 gun battalion. Horizontal work was to be completed by the ARVN 10th Engr Bn. The platoon was to do vertical work. As the situation developed the burden of the horizontal effort also fell to the U.S. unit to accomplish. Latrines, showers, and mess-halls have been provided for the composite battery and 3 batteries of the gun battalion. At present, horizontal effort is being expended on gun pad and ammo pad preparation.

(4) Saigon: Work during the period has been limited to the preparation of a CRS (Crypto Radio Service) administrative area consisting of 3 quonset buildings and a latrine facility. Some work has been accomplished in spreading and leveling material delivered on contract for the construction of an aircraft parking ramp facility at Tan Son Nhut. Work on this project has been hampered however by the failure of units in the project area to remove bladder tanks and aircraft parts which obstruct further work.

b. COMBAT SUPPORT: During the period combat support has been limited to support of LOC improvements by providing panel bridge and technical assistance.

(1) During the first 15 days of May the 617th Engr Co (PB) supported LOC maintenance operations in conjunction with operation Birmingham conducted by the 1st Inf Division in the Tay Ninh Area. Although it was initially anticipated that panel bridge would be required to up grade the existing LOC, no panel bridge was actually placed during the operation. The 617th was used primarily to haul laterite to back-fill culverts and improve abutments.

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(2) During June the 617th Engr Co supported the 1st Engr Bn in up-grading bridges along highway 16. 190ft of TS bridge and 200 ft of DS bridge were constructed.

(3) On 26 July the panel bridge company was committed to replace a 100 ft TS span which had been demolished by overloading. This repair was done in conjunction with B Co, 1st Engineers and completed on 28 July.

(4) During the week ending 27 July, D/46th Engr Bn provided 23 men, one bucket loader, 2 lo-beds and a crawler tractor with blade to rehabilitate a road vicinity YS 500 565.

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## Section 2, Commanders Observations and Recommendations

### 1. Part I, Observations (Lessons Learned) See Annex A

### 2. Part II, Recommendations

a. The construction effort continues to maximum capacity and accomplishments are contributing greatly to the overall effort. However, the requirements continue to outpace the engineer capability. All critical requirements continue to be satisfied, but there is a delay to the customer for the less essential needs.

b. The foundation problem in this area overtaxes the horizontal effort of the construction battalions. Poor subgrade conditions and the relative flatness of the terrain complicates the drainage requirement. Vertical effort is fully employed, but less critical. This is partially relieved by the extensive self-help program undertaken by all units with some technical engineer advice.

c. The supply situation has improved markedly and few jobs are held up for any appreciable time because of shortages. The few items which do cause delay in some dates of completion are acetylene, shower heads, water containers, spring valves and electrical wiring.

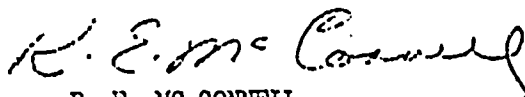
d. Although less critical to this Group since the reassignment of two combat battalions to a newly arrived Group, the air capability available is still less than desirable. Reconnaissance for future operations and normal commander and staff visits overtaxes the present support.

e. The weather during this period has significantly limited the construction effort, particularly the earthwork. The local laterite is a good select material for base courses, but cannot be worked properly during rain while in a loose condition. Since the drying time after a typical monsoon downpour is extensive, many construction hours are lost.

f. The practice of equipping all incoming units with WABTOC has greatly expedited the mobilization of units once they arrive in country. In particular, those units which have arrived with pre-cut materials (for tents kits, etc) have become operational almost immediately. I feel that where possible, co-ordination should be made between deploying units in CONUS and nearby engineer units to arrange pre-cutting of latrines, showers, tent kits, and mess facilities. This would allow semi-permanent facilities to be erected on a self-help

Section 2, Commanders Observations and Recommendations

basis with a minimum diversion of in-country engineer effort. It would also afford engineer units in CONUS a good opportunity to become familiar with the standard type buildings being erected in RVN and the cutting schedule for these typical buildings.



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ANNEX A  
LESSONS LEARNED

1. PERSONNEL



ITEM: Interchange of Officers & Key NCO's

DISCUSSION: Sixty to seventy percent of the personnel arriving within a unit will have the same DEROS upon completion of a full tour in Vietnam. With a large turnover of personnel at one time the continuity of effort is adversely affected.

OBSERVATION: Plan for the maximum rotation of officers from staff to command and vice versa. Key NCO's should be interchanged from Group to Battalion and vice versa.

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## 2. OPERATIONS

ITEM: Expedient Tin Cutter

DISCUSSION: Due to the awkwardness of working with a tin shears (if available), large requirements for tin cutting, as in the case of tin roof valleys, may be accomplished more efficiently with expedient equipment.

OBSERVATION: The following expedient does the job very well:

Lay a 2x8 RL on the ground perpendicular to your front. Lay a small, though flexible, wire down the length(centered) of the 2x8. Fasten one end of the wire to the 2x8. Fasten a nail(for a handle) on the other end of the wire. Lay 2 each 2x4's flat on top of the 2x8 and hinge them to the 2x8 on the same end to which the wire is fastened. Space the 2x4's so as to allow the handle to pass between them. Fasten the other ends of the 2x4's together so that they both swing simultaneously. To use, place a piece of tin over the wire, which should be laying on the 2x8. Swing the 2x4's down on top of the tin. Stand on the 2x4's, grasp the handle on the wire and pull so that the wire will tear the tin along the line defined by the spaced 2x4's. Result: A straight quick cut.

### 3. TRAINING AND ORGANIZATION

4. INTELLIGENCE

(NOT PUBLISHED)

## 5. LOGISTICS

ITEM: Utilization of Metal Pallets

DISCUSSION: Cement is being received on metal pallets. Disposal of these pallets had presented a problem, as there are no obvious uses other than as storage platforms. Since pallets could not be broken up for component materials or burned, plans have been made to utilize them as flooring for tents by wiring them together and covering them with 1-inch decking. Another possible use would be as concrete forms replacing large wooden supporting members.

OBSERVATION: Utilization of these pallets will result in saving lumber which at times is a critical item.

ITEM: MTOE (S-4 Yard)

DISCUSSION: The Group S-4 is sometimes required to request, receive, store and issue supplies not scheduled for immediate issue and construction by any subordinate unit. Pacific Architects and Engineer (PA&E), who have a contract with the U.S. Army in Vietnam for a class IV depot, are not able to store and issue project stocks of this nature as required, due to a shortage of either personnel or storage facilities.

OBSERVATION: Take steps to authorize additional personnel and equipment either in Group S-4 and/or Battalion S-4. Expand the Class IV depot presently under contract by Pacific Architects and Engineer with qualified personnel and facilities for receipt, storage and issue to project stocks as required or bring into the Long Binh area an Engineer Supply Point Detachment who could operate a Class IV yard of this type.



6. OTHER

ENGINEERING

ITEM: Excessive Clearing

DISCUSSION: A tendency has been shown for constructing and tenant units to remove all vegetation and attempt to shape land to conform to a rectangular layout. This has resulted in the removal of existing trees and of excessive clearing of natural ground cover. The results have been dust, mud, and drainage problems. A few cantonments have been laid out to conform to existing patterns of groves of trees and land forms. This has resulted in shaded areas, few, if any, drainage problems and relatively pleasant appearing compounds.

OBSERVATION: Construction planning should allow for the preservation of protective vegetation when possible.

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ENGINEERING

ITEM: Building Roof Vents

DISCUSSION: Buildings were designed and constructed during the dry season. Roof vents were provided to aid in circulation of air. With the advent of the rainy season, it was found that in many instances the wind carried the rain almost horizontally. Insufficient overhang had been provided and the rain literally poured through the vents. A new design which provides approximately 2 ft overhang with a 7 inch clearance has been found to be effective. Roof and rafter pitch is 6: 12

OBSERVATION: Roof vents are necessary but proper allowances must be made for the monsoon rains.

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## CHAPLAIN

ITEM: The establishing of a chaplain's fund

DISCUSSION: In an area where different commands are involved; where several types of money are used; where several National Banks must be used; where there are no bonding facilities; and where there is a language barrier many problems arise:

1. The unit responsible for the real estate of the area should cut the orders since the senior commander will change from unit as commanders are transferred.
2. The senior chaplain (area chaplain) must receive cooperation from all chaplains of the area and it is best that he be the president and therefore, select the custodian.
3. There are no local bonding facilities. Bonding can be secured from American International Underwriters Ltd, 12 Queens Road, Central, Hong Kong, for \$5,000.00 at the rate of \$38.00 per year.
4. The fund works best when using two accounts: A piaster account with the Bank of Tokyo, Saigon, and an MPC account with Bank of America, San Francisco, California.
5. MPC taken at a designated offering is supposed to be converted at the rate of 80 piasters per US Dollar. Therefore much of the offering is lost in conversion. When we requested the troops give only piasters for designated offering, we found that the amount of the offering dropped approximately 50%.
6. We found that all fund council meetings should be scheduled near the end of the month due to the delay in the custodian receiving his monthly statement from the bank.
7. We found it to be more orderly when the chaplain wrote out his own receipt and asked the local merchant to sign same.

OBSERVATION: An area chaplains' fund can be established in Vietnam but one should be aware of the problems before he attempts to establish same.

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#### CHAPLAIN

#### ITEM: Civic Action Projects

DISCUSSION: There must be close coordination among all units in the area concerning the civic action program. We realize that the civic action activities of a particular unit are the responsibility of the Civic Action Officer. However, by the very nature of their own activities, most chaplains are involved in civic action work to varying degrees--some even, to being Civic Action Officers.

1. We found that some projects were receiving much aid from several military units while some other projects were receiving little or no aid.

2. We found that when a large cash gift was given to local leaders, many times it was mis-used. Example: \$800.00 was given to a priest in a local orphanage where food and clothing were greatly needed. The priest built a beautiful \$200.00 chapel with the gift.

#### OBSERVATION:

1. All civic action projects in a given district need to be coordinated with the senior advisor to the District Chief.

2. When a large sum of money is given to a local leader, the disbursement of said money should be closely supervised by the Civic Action Officer or the Chaplain concerned.

ENGINEERING

ITEM: Fire Prevention

DISCUSSION: An examination of various cantonments demonstrates that in many cases they have been laid out and constructed with tent and building spacing that does not meet the stringent requirements of recently published fire safety regulations. This is attributed to the late publication of regulations and units being assigned an area of pre-established dimensions requiring that facilities be fitted in as well as possible. Area available was limited by real estate requirements and the heavy commitment of engineer units.

OBSERVATION: Many cantonments will not meet requirements although spacing will permit ready access by firefighting equipment.

#### MAINTENANCE

ITEM: Hydraulic Hoist Pump gasket for the M51A2 Truck

DISCUSSION: The Hydraulic Hoist Pump Gasket is made of very thin paper gasket material that does not hold up under sustained operations.

OBSERVATION: A gasket was fabricated using 010 inch aluminum stock, and the bolts were torqued to 120 Ft Lbs. Since this modification there has been no further trouble with the hoist pump.

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