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OPERATION "MARKET GARDEN"

17-26 Sept 1944

Classification and to
RESTRICTED

Approved by British Army Staff for SPWT 401 (29 Jan 45)

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I N T R O D U C T O R Y

OPERATION "MARKET GARDEN"

17 - 26 September 1944

GENERAL

1. (a) This Operation carried out by Second Army, with 1 British Airborne Corps under command, was known as "Operation MARKET GARDEN".
- (b) To avoid confusion the operation carried out by 30 Corps was known as "GARDEN", and that carried out by Airborne Troops as "MARKET".

OBJECT

2. The object of this report is to record and to describe 30 Corps planning and execution of Operation "GARDEN". +

LAYOUT AND DISPOSITIONS

3. (a) The report is divided into THREE parts, which cover respectively the planning and preparation, the execution, and a summary of the main points of the operation.
- (b) The dispositions of formations within 30 Corps, prior to the advance on 17 September, are shown at Appendix 'B'.

MAPS

4. Unless otherwise stated, all map references are to 1/50,000 maps.

+ NOTE: The report also outlines in the narrative the parts that were played by the airborne formations of the Airborne Corps.

PART I

RESTRICTED

SECTION 1

GENERAL SITUATION AND SETTING

1. By 11 September, the Second British Army had completed its quick advance from the R SEINE, and its leading formations were established on, and had small bridgeheads across, the general line of the MEUSE - ESCAUT Canal, from inclusive GHEEL 0888 to inclusive the 40 Grid line.

During this period, hard fighting had taken place against an enemy who, although disorganised, continued to offer stiff resistance with rearguards mainly composed of infantry supported by Tiger tanks and SP guns. Behind this screen, he was attempting to organise defensive positions based on the major water obstacles which would have to be crossed if a continued thrust by the Second Army were to be made through the NETHERLANDS.

The British L of C was now approximately 400 miles long. ANTWERP, J 6896, had been captured but was NOT operative, and the full necessary administrative build up would only be achieved when this and other captured channel ports became available. The maintenance links of the Second Army, whereby the necessary administrative build up could be completed, had to be largely supplemented by road transport resources, which in turn had to be provided at the expense of lifting fighting formations. At the same time, it was vital to prevent the enemy re-organising; this could only be done if the time for the administrative build up for this operation was shortened. After careful consideration it was decided to take this administrative risk, subsequently fully justified, and the actual date of the start of the operation was advanced by six days.

The operation entailed the biggest airborne drop yet to be undertaken by airborne formations, and three corps of the British Second Army were to advance and be deployed, 30 Corps leading in the centre, and 8 and 12 Corps echeloned back, each on a flank. For this reason, it can be said that the proposed operation was unique, as although it had many factors in common with other operations, there were certain aspects which were not applicable to any other type of operation.

- 3 -
SECTION 2

SUMMARY OF SECOND BRITISH ARMY PLAN, OPERATION "MARKET GARDEN"

GENERAL

2. The object of Second Army, (with airborne forces under command after landing), was to position itself astride the rivers MAAS, WAAL and NEDER RIJN in the general area GRAVE 6253 - NIJMEGEN 7062 - ARNHEM E 7575 and to dominate the country to the NORTH as far as the ZUIDER ZEE, thereby cutting off communications between GERMANY and the LOW COUNTRIES.

TASKS OF FLANKING FORMATIONS AND AIRBORNE TROOPS

3. The tasks of formations operating under Second Army, in conjunction with 30 Corps, were as follows:-

(a) 8 Corps

8 Corps, consisting of 3 British Division, was to move up on the RIGHT of 30 Corps and carry out the following tasks:-

- (i) Protect the RIGHT and rear of 30 Corps.
- (ii) On advance of 30 Corps, progressively to relieve 30 Corps of responsibility for RIGHT flank protection.

The above was to be accomplished by capturing WEERT 5897 and SOERENDONK 4902, and subsequently extending as far NORTH as HELMOND 5522.

(b) 12 Corps

12 Corps, consisting of 7 Armoured Division, 4 Armoured Brigade, 15 (S) Division, was to continue to operate on the LEFT flank of 30 Corps, and carry out the following tasks:-

- (i) Progressively relieve 30 Corps of responsibility for LEFT flank protection by capturing initially RETHY 1599 - ARENDONCK 1505 and TURNHOUT 0606.
- (ii) Subsequently to advance to R MAAS and possibly beyond.

(c) Airborne Troops

- (i) 1 British Airborne Division (with Polish Parachute Brigade) and 82 US Airborne Division were operating under British Airborne Corps. Their tasks were respectively:-

To capture, intact, bridges over NEDER RIJN at ARNHEM and dominate the surrounding country.

To capture, intact, the bridges over the R MAAS and R WAAL in areas GRAVE and NIJMEGEN and to dominate the intervening country.

- (ii) 101 US Airborne Division was to be dropped under orders of British Airborne Corps in the area from exclusive GRAVE to inclusive EINDHOVEN in accordance with the requirements of 30 Corps. For planning purposes, 101 US Airborne Division was placed under command of 30 Corps.

.../The task

The task of this formation, which was to come under command of 30 Corps on landing, was to facilitate the advance of 30 Corps as far as the RMAAS. Their function could be described as laying down a carpet, in advance, to seize and secure the nodal points on the latter part of 30 Corps' main axis.

SECTION 3

THE PLANNING AND PREPARATION OF 30 CORPS FOR OPERATION "GARDEN"

4. The planning and preparation for "GARDEN" by 30 Corps can be divided into three phases:-

- (a) The assembly prior to the operation
- (b) The break out
- (c) The thrust to contact the airborne forces.

(a) The Assembly

The assembly and the marshalling of the forces before the operation presented a number of unusual points which are worth consideration.

The first point was that the assembly had to be so flexible that the Commander would be able to call forward any body of troops he might find necessary, from the operational point of view, once the Guards Armoured Division had led the break through. The nature of the operation was such that it was never possible to plan upon a fixed order of march for the whole Corps, (approximately 20,000 vehicles), and this necessitated a very careful order of assembly, and an efficient organisation, to call forward groups of troops as they might be required.

The second point was that the whole of the concentration in the BOURG LEOPOLD area had to be effected in a very brief time, through serious bottlenecks at DIEST and BEERINGEN which it was not possible to improve.

The third point was that the nature of the operations were known to be such that groups of administrative and technical vehicles had to be afforded local protection in the form of detachments of offensive troops.

The fourth point was that the column, which from the start was restricted to one axis, included two very large and very vulnerable groups - one - a bridging group, which in certain circumstances might extend to some 5,000 vehicles, and two - the administrative tails of the airborne forces, amounting to some 2,000 vehicles and of necessity requiring a high priority in the order of march.

(b) The Break out

The terrain to the NORTH of the bridge over the MEUSE - ESCAUT Canal at 3596 (JOE'S BRIDGE), and the activity of the enemy in that area, made it clear from the start that the break out operation would be one of considerable difficulty. The bridgehead was small and only served by two bridges. There were few roads and the country to the NORTH and to the flanks of the bridgehead was heavily wooded and very marshy, making it well nigh impossible for the armour to move off the roads.

Bearing these points in view, the Corps Commander directed that the basis of the break out plan should be a very heavy artillery programme supported by heavy waves of Typhoons, and that, relying upon this weight of metal, the armour and infantry of the Guards Armoured Division would break through and advance with all possible speed.

SECTION 4

OUTLINE OF 30 CORPS PLAN FOR OPERATION "GARDEN"

5. (a) Intention

30 Corps was to advance, when ordered, at maximum speed, and to secure the area NUNSPEET Z 6721 - ARNHEM E 7577, both inclusive.

(b) Grouping and Order of Battle

The Order of Battle for 30 Corps, together with the additional troops under command of their formations, is shown at Appendix 'A'. The Order of Battle for Airborne Troops is NOT shown.

(c) Axis of advance, order of march and boundaries

30 Corps was to advance on one main axis, and for part of the way on a subsidiary axis to be used only by fighting troops, in the following general order: -

Guards Armoured Division
Headquarters Main 30 Corps
43 Infantry Division
50 (N) Division

The axis of advance to be used by 30 Corps and inter corps boundaries, together with 1 British Airborne Corps DZs, and final planned positions of 30 Corps NORTH of ARNHEM, are shown at Appendix 'B'.

Note:

The dispositions of formations within 30 Corps, prior to the advance on 17 September, are also shown in this Appendix.

MOVEMENT AND TRAFFIC CONTROL

6. 30 Corps was to move on one axis. Although a subsidiary route was allotted, it did not avoid bottlenecks and therefore did not give a complete second route. The above meant that a column of approximately 20,000 vehicles had to pass certain bottlenecks, on the main axis, at which a good traffic control organisation would be essential, as the course of the battle would entirely depend on the flow of vehicles along this axis.

The importance of speed in the advance in this operation was impressed on all ranks, and that the key note to the whole success of the operation was an efficient traffic control organisation and good march discipline.

The detailed instructions with regard to movement control and traffic organisation as ordered by the Corps, are further considered in detail in Section 5 Part I.

TIMINGS

7. The timings which were arranged by 30 Corps were as follows: -

- (a) 'D' day was the day on which operations "MARKET" and "GARDEN" began.
- (b) 'H' hour was the time at which troops taking part in operation "MARKET" were first to drop.

.../'H' hour

'H' hour had been fixed provisionally for 1300 hours A 17 September and this was to be confirmed.

Postponements would be for periods of 24 hours.

- (c) 'Z' hour was the time at which leading troops taking part in operation "GARDEN" would advance. 'Z' hour was likely to be one hour after 'H' hour and would, in any case, not be earlier. The exact time of 'Z' hour was to be notified later.
- (d) In the movement instruction all estimated times for serials to pass SP would be in terms of 'Z' plus so many hours.

TASKS OF FORMATIONS

8. The tasks of formations in 30 Corps, as ordered, were as follows:-

- (a) Guards Armoured Division

Guards Armoured Division will advance at 'Z' hour at maximum speed to area ARNHEM and, by-passing APPELDORP Z 7803, will dominate the area from inclusive NUNSPEET Z 6721 to exclusive APPELDORP.

Should bridges at either GRAVE, NIJMEGEN or ARNHEM have been destroyed, Guards Armoured Division will fan out to the flanks on the SOUTH bank of the river and, in conjunction with airborne troops in the area, take all appropriate action to facilitate the task of 43 Division to carry out bridging operations. This will include securing the flanks of the proposed bridge site and, if possible, the securing of a small bridgehead.

- (b) 15/19 H Group

15/19 H Group will advance to area EINDHOVEN and there come under operational command of 506 RCT with a view to helping to keep clear 30 Corps main axis of advance in the EINDHOVEN area.

- (c) 44 RTR Group

44 RTR Group will advance to area VEGHEL E 4737 and there come under operational command 501 RCT with a view to helping to keep clear 30 Corps main axis of advance in the VEGHEL area.

- (d) SRV Group

SRV Group will advance to area GRAVE and there be in support of troops of 82 US Airborne Division with a view to assisting that Division to keep clear 30 Corps main axis of advance in the GRAVE area.

- (e) 43 Division

43 Division will:-

- (i) Advance, when ordered, at maximum speed and secure area from inclusive APPELDORP E 7803 due SOUTH along high ground to a point of junction with 4 British Airborne Division in the area NORTH of ARNHEM.

- (ii) Send detachments to secure crossings over R IJSEL at DEVENTER Z 9107 and ZUTHEN E 9494.

.../(iii)

- (iii) Should bridges over either rivers MEUSE, WAAL or NEDER RIJN have been destroyed, be prepared to carry out an assault crossing and bridging operation.

(f) 50 (N) Division

50 Division will continue to hold the existing bridgehead over the MEUSE - ESCAUT Canal. Thereafter the Division will:-

- (i) Send detachments to secure a crossing over R IJSEL at DOESBURG E 9081.
- (ii) Advance when ordered and secure high ground to the NORTH of ARNHEM, relieving 43 Division of part of their responsibility and keeping contact with Northern troops of 1 British Airborne Division.
- (iii) Be at all times available as a Corps reserve.

(g) 101 US Airborne Division

The main missions which have been assigned to 101 US Airborne Division on landing are shown diagrammatically at Appendix 'B'.

AIR SUPPORT ARRANGEMENTS

9. The Break out

- (a) The planning of air support proceeded on the assumption that during the Airborne drops the 83 Group aircraft supporting 30 Corps would be grounded to allow the fighter and fighter-bomber escorts to the troop-carrying glider force free play in:-
 - (i) Fighting hostile aircraft,
 - (ii) Attacking hostile flak positions,since it was appreciated that the slow moving troop carriers and gliders would present a sitting target both from ground and air.
- (b) As soon as the drop was over 83 Group were free to support the advance of 30 Corps.
- (c) This support was to be based on a pre-arranged requirement of one squadron of RP Typhoons every five minutes for 35 minutes, briefed to strafe the road NORTH of the leading troops and to be followed by a "cab-rank" of RP Typhoons flying over the leading armoured elements. All these aircraft were to be controlled from the ground by an RAF Squadron Leader in R/T touch with the pilots from a contact car fitted with VHF wireless equipment. The whole RP Typhoon effort of 83 Group was by this means to be made available at very short call to the local commander of the force which led the break out on its very narrow front.
- (d) Another contact car was sited alongside Commander 30 Corps with the priority task of receiving a report from a Tactical Reconnaissance aircraft on the accuracy of the airborne drop so that the Commander could, by reference to that information fix the zero hour for the break out. This car could also talk to any other Tactical Reconnaissance aircraft which were over the area.

- (e) In addition to the RP Typhoon effort, the normal fighter effort of 83 Group was available in the role of continuing, after the airborne drop, to keep the sky clear.

10. After the Break Out

- (a) The normal ASSU tentacle system was available and the allotment of tentacles, (excluding the contact cars already referred to), was as follows:-

HQ 30 Corps	1
Guards Armoured Division	2
43 Division	2
50 (N) Division	1

- (b) The airborne forces were to drop with jeep tentacles manned by US operators and with US Air Support Officers, these to be netted in on a separate net to its control at Second Army Headquarters. 30 Corps was to monitor this net so as to be able to impose a veto if any demands for support submitted on it appeared to endanger 30 Corps troops. In the event of the jeep tentacles being unable to get the range necessary for wireless touch with their control at Army Headquarters, an FCP with a 12 HP set was available at 30 Corps Headquarters. The FCP was also available for use as a forward non visual control post by the RAF Squadron Leader when his task with the contact car was over.

- (c) Ground to Air Recognition

It was appreciated that the ground situation in this operation would call for the maximum employment of all aids to recognition. Arrangements were made for the use of cerise fluorescent panels during a rapid advance, suspension of which was to be at the discretion of Commanders. The use of yellow smoke and MANN BEACON lamps was also ordered.

- (d) Landmarks

12 Corps was to set up a landmark "T", with the head of the letter facing NE. Each arm of the letter to be 100 yards long, and to be made of white hessian cloth. In addition, each point of the "T" was to be prolonged for 500 yards by yellow smoke from points of origin at 100 yards interval.

RA

11. For their break out from the ESCAUT bridgehead the Guards Armoured Division was to be supported by a field and medium rolling barrage, under the direction of the CRA of the Guards Armoured Division. Details of arrangements made are shown at Appendix 'C' and trace thereto.

AA

12. (a) 100 AA Brigade, (with under operational control 27 LAA, less one troop), was ordered to provide AA defence as follows:-

- (i) Over all bridges along the main axis of advance, i.e.:-

Bridges over ESCAUT Canal 3596
Bridges at BREUGHEL 4426 and VEGHEL 4837
Bridges at GRAVE and NIJMEGEN

- (ii) In the case of the bridges at GRAVE and NIJMEGEN, HAA and LAA defence, with radar and searchlights, was to be provided by last light D + 1.
- (iii) Arrangements were made to counter Motor Torpedo Boat activity in the NIJMEGEN area.
- (b) Should ARNHEM bridge be reached on D + 1 or D + 2, AA protection was to be provided by the Guards Armoured Division.
- (c) As from D day, and continuing until further orders, a HOLD FIRE on all AA fire was ordered during daylight so as to ensure that none of our aircraft being used for dropping parachutists should be fired on.

RE

13. (a) Airfields

Because the RAF urgently required the use of airfields at VOLKEL 5640 and EINDHOVEN, every effort was to be made to capture them and CE of Corps was directed to report early on their condition.

(b) Bridging

The bridging plan to surmount the three major water obstacles across which the Corps axis of advance was directed was as follows:-

- (i) Sufficient bridging equipment was ordered and given a definite position in the initial order of march to provide crossings over the Canals up to and inclusive the R MAAS, and to provide ferries for the rivers WAAL and NEDER RIJN.
 - (ii) Equipment for bridging over the R WAAL and NEDER RIJN was available in the bridging dump at BOURG LEOPOLD.
 - (iii) CE 30 Corps was put in charge of all bridging operations and could demand, if necessary, all or part of 43 and 50 (N) Divisions' RE resources.
- (c) Planning

Notes on the RE planning aspects for 30 Corps operation "GARDEN" are shown at Appendix 'D'.

ADMINISTRATION

14. See Part I Section 6.

INTERCOMMUNICATION

15. (a) Location of Headquarters

- (i) GOC 30 Corps' reconnaissance was to move immediately in rear of the Guards Armoured Division.
- (ii) Main Headquarters 30 Corps was to be phased into the order of march according to the progress of the battle.

(b) Communications

- (i) Extracts of CSO 30 Corps' Signal Instruction for this operation is at Appendix 'E'.
- (ii) The communications that were to be set up for Airborne Troops and for all formations under and operating with 30 Corps during this operation are shown at Annexures to Appendix 'E' as follows:-

Annexure 1 - Main Headquarters 30 Corps W/T Communications

Annexure 2 - W/T Communications Airborne Corps Headquarters in UNITED KINGDOM.

Annexure 3 - W/T Communications after Airborne Corps Headquarters had landed.

Annexure 4 - W/T Communications Special RA.

Note:- Some notes on the execution of 30 Corps Signal plan is shown at Appendix 'Q' to Part II.

LIAISON

- 16. (a) Five Contact Detachments were provided by 101 US Airborne Division to work between elements 101 US Airborne Division and forward troops of the Guards Armoured Division.
- (b) Arrangements were made for a liberal exchange of Liaison Officers as between Headquarters 30 Corps and Headquarters British Airborne Corps.

SECTION 5

ORGANISATION FOR MOVEMENT OF 30 CORPS TRAFFIC

THE PROBLEM

17. The problem presented to the Corps was the tactical move of approximately 20,000 vehicles across HOLLAND; one route, supplemented by a subsidiary route, was available.

ORGANISATION

18. Full details of the plan and the organisation set up to deal with the problem are shown at appendices to Part II as follows:-

- (a) Appendix 'G' - Headquarters 30 Corps Movement Instruction for Operation "GARDEN"
- (b) Appendix 'H' - Headquarters 30 Corps Traffic and Movement Control Organisation.

TOPOGRAPHY

19. Topographical appreciation of the axis of advance and the Going Map issued for the operation are shown at Appendices as follows:-

- (a) Appendix 'J' - Topographical Appreciation of the axis of advance and Rivers WAAL and NEDER RIJN.
- (b) Appendix 'K' - "Going Map" as issued for the Operation.

INITIAL CONCENTRATION IN GROUPS

20. 30 Corps was initially concentrated in carefully pre-arranged groups in an area SOUTH of the ESCAUT Canal astride the axis of advance, and these are shown at Appendix 'B' to Section 1, Part I.

PERIODS OF MOVEMENT AND HARBOURING

21. (a) The principle of movement was that movement should take place by day only.
- (b) Formations and Units would harbour along the road each night, retaining their order of priority.
- (c) Formations and units were to be fed into the axis as road space became available.

SUMMARY OF 30 CORPS MAINTENANCE PLAN FOR OPERATION "GARDEN"

GENERAL

22. Reference to 30 Corps Order of Battle, (Appendix 'A', Part I), for operation "MARKET GARDEN" will show that their operational and maintenance commitments far exceeded those expected to be normally executed by a Corps Staff and Services.

The outline Maintenance Plan to meet these commitments is as shown below.

GENERAL MAINTENANCE

✓ 23. (a) Up till 16 September, all formations and Corps Troops were to remain based on 160 FMC in BRUSSELS area, and ammunition would continue to be drawn from No 6 Army Roadhead in the BRUSSELS area until 161 FMC was open.

(b) On 17 September, 161 FMC was to open in BOURG LEOPOLD area for the maintenance of:-

52 Division (Seaborne Element)
Corps Bridge Column
All Corps Troops
82 US Airborne Division
101 US Airborne Division

(c) On D + 3, 162 FMC was to open in the ARNHEM area for issues to:-

Guards Armoured Division
43 Division Group
50 (N) Division Group
1 Airborne Division (including Polish Parachute Brigade)
8 Armoured Brigade
Corps Troops forward of the R WAAL.

MAINTENANCE OF GROUND TROOPS

24. (a) The maintenance of Corps, Army and Army Group RE attached to Divisions for bridging etc, was to be by Divisions concerned.

(b) Detachments of Units placed under command of Airborne Formations were to be accompanied by a proportionate amount of their second line transport, which was to work unit control to the FMC from which that unit was to draw.

SUPPLIES AND POL

25. Formations and Corps Troops within 30 Corps were ordered to hold the following:-

<u>Formations</u>	<u>Days Supplies</u>	<u>Miles POL</u>
Guards Armoured Division	8	200
43 Division	6	250
50 (N) Division	6	250
8 Armoured Brigade	6	250
Corps Troops	4	150

.../AMMUNITION

AMMUNITION

26. (a) All formations were ordered to carry, as a minimum, double second line holdings of 25 pounder, and all ammunition for programme 17/18 September was to be drawn from 161 FMC.
- (b) Owing to the slender stocks held at Roadhead, (later to be held at 161 and 162 FMCs), formations were ordered to accept the fact that they might have to carry on with depleted second line holdings.

TRANSPORT

27. (a) Troop Carrying Transport

The allocation of lift for troop carrying commitments to formations was as follows:-

- | | |
|-----------------|--|
| 43 Division | - 297 and 536 Companies, (DUKWS) |
| 50 (N) Division | - 20 Army Troop Carrying Company
90 Armoured Brigade Company, (less one platoon 6-tonners). |

DUKWS allotted to 43 Division were to remain under command but were to be made available for use by RE for assault river crossings. Ammunition loaded in these vehicles was to be off loaded and held under arrangements 43 Division. This ammunition was to be regarded as a Corps reserve and was not to be issued to any formation or expended by 43 Division until released by 'Q' Main or Rear Corps.

On arrival of formations on their objectives, all troop carrying transport, (less DUKWS), was to revert to 30 Corps control to supplement Corps third line maintenance lift.

(b) Increment to Army Transport

Owing to lack of Army Transport, 30 Corps were made responsible for their own Army, (3rd line), Transport lift from Roadhead to FMCs. To increase the Army Lift, the following measures were ordered:-

- (i) Transport of the Seaborne element of 52 Division, (both first and second line), was to dump its commodities and G 1098 equipment, thereby providing eight platoons transport lift.
- (ii) All troop carrying transport, having deposited formations in their objective area was to revert to 30 Corps control.
- (iii) Divisions within 30 Corps were to be prepared to accept Corps tasks for five platoons of transport for an unspecified period.
- (iv) Four US Truck Companies - see paragraph 30 below.

MAINTENANCE OF AIRBORNE TROOPS

28. From D till D + 5, the formations of British Airborne Corps were to be maintained by air by Fortresses, Stirlings and Dakota aircraft. Provision was also made for maintenance, in an emergency, of 82 and 101 US Airborne Divisions from 161 FMC with effect from D day and for 1 Airborne Division from 162 FMC with effect from D + 3. Seaborne element of 1 Airborne Division was to rejoin the Division at the earliest opportunity.

MAINTENANCE 1 BRITISH AIRBORNE DIVISION

29. Maintenance by air was to be carried out by Stirrings and Dakotas, and all drops were to be based on pre-determined commodity demands. The drop on D + 1 however was to be entirely ammunition.

The Seaborne Tail was to carry a further echelon of ammunition and two days supplies was to be phased in, in blocks, in accordance with priorities as demanded by Commander, 1 Airborne Division. The first block, with ammunition lorries leading, was to follow the Guards Armoured Division.

MAINTENANCE US AIRBORNE FORMATIONS

30. Air maintenance for US Airborne Formations from D + 1 was to be provided by Fortresses. Thereafter, air maintenance could only be provided by such Dakota aircraft as were available. In the event of extreme emergency, First Allied Airborne Army were to air land 150 tons of US ammunition at BRUSSELS airport, which was to be carried forward to the US formations by road.

Four US Truck Companies, loaded with ammunition, were ordered to report from LE MANS to 161 FMC by 18 September. Thereafter, they were to be prepared to deliver commodities to US Airborne Divisions on instructions from Rear 30 Corps.

After delivery of stores to Airborne Formations, all Companies were to return to 161 FMC where they would come under control of DDST 30 Corps for reloading from Army railhead.

MEDICAL - GROUND TROOPS

31. (a) Medical Plan

The normal medical arrangements on a Corps level were made, except that the help of the Dutch Authorities, through the medium of Prince Bernhard, was enlisted to supplement the Corps Medical resources.

(b) Evacuation

A high rate of casualties had been expected during the employment of the British Airborne Corps, and in the initial stages medical units were warned that they would have to hold casualties pending evacuation. Evacuation from Divisional Medical Units was to be initially to civilian installations at BOURG LEOPOLD, and later to 3 and 10 CCSs at ARNHEM and NIJMEGEN by 111 MAC.

MEDICAL AIRBORNE TROOPS

32. From Airborne Units, evacuation was to be initially into Field Ambulances of 30 Corps or direct to 3 and 10 CCSs. Evacuation by air was to be arranged by DDMS Airborne Troops as opportunity permitted. Ninth Troop Carrier Command agreed to evacuate up to 750 casualties daily from BRUSSELS, the aircraft doing this being on the return run from a supply mission. This method of evacuation might also be applicable to Second Army casualties other than Airborne.

Medical supplies for Airborne Troops were to be dropped until D + 4 inclusive, after which 30 Corps were to be responsible for provision of these articles.

ORDNANCE FOR GROUND TROOPS

33. Ordnance Stores were to be received by both road and air, and arrangements were made for maximum loads to be forwarded to Divisional, Armoured and Infantry, Ordnance Sub Parks. Armoured and Infantry Ordnance Sub Parks were attached to their formations and were to supplement the tank and MT spares position.

Vehicle and Controlled Stores Park, and Corps and Army Troops Sub Park, were to be "stepped up" from their rear locations by 18 September, and maximum available issues were to be made prior to the operation.

FMSs were located at 161 FMC for issues.

Arrangements were made for delivery by air of urgent demands such as MT spares, wireless valves, etc.

Arrangements were also made for daily clearance by Ordnance Vehicle Stores Convoy Unit of such stores as are received from the base at Ordnance Maintenance Company at ENGHIEU J 34.

ORDNANCE FOR AIRBORNE TROOPS

34. 110 tons of ordnance stores were landed at BAYEUX in three bricks of about 34 tons each. Shortage of transport imposed some delay in getting these bricks to the "MARKET" area, but it was hoped to get at least one brick into this area by D day. ✓

REME

35. In summary, the arrangements for repair and recovery were as follows:-

(a) Repair

- and Am Co*
and Am main Sect
- (i) In the early stages not more than one Brigade Workshop was to move with each formation. ✓
 - (ii) Certain formation workshops were to remain on wheels, whilst the remainder were to stay in their existing locations.

(b) Recovery

- (i) ARM 30 Corps was allotted two light recovery sections for work at TCPs. ✓
- (ii) Headquarters of 6 Recovery Company, with light recovery facilities, was to be located in the area of Rear Headquarters 30 Corps. ✓
- (iii) All "crocks" were to be removed from the road for forward recovery only. ✓

CIVIL AFFAIRS

36. The three Corps Detachments were placed under command Guards Armoured Division for deployment as follows:-

222 CA Detachment	-	APPELDORP
213 CA Detachment	-	ARNHEM
214 CA Detachment	-	NIJMEGEN

.../Other

Other detachments were also deployed, moving under Corps orders.

POSTAL, REINFORCEMENTS, PW, EFI, SALVAGE

37. Normal facilities were planned.

INTERCOMMUNICATION

38. Rear Headquarters 30 Corps was to be established at BOURG LEOPOLD by 16 September.

GROUPING AND ORDER OF BATTLE
OPERATION "MARKET GARDEN"
17 SEPTEMBER 1944

GROUPING

Additional troops under command of formations, within and operating with 30 Corps, for operation "MARKET GARDEN", were as follows:-

(a) Guards Armoured Division

(i) Under Command

84 Med Regt RA
198/73 A Tk Bty RA
Det 4 Svy Regt RA
11 Fd Coy RE
Part 128 Br Coy
Recce Parties 16 Airfd Constr Gp
Recce Parties 5357 Airfd Constr Wing

(ii) Under Command for Movement

Elements 100 AA Bde (A/MTB role on R WAAL)
Recce Party 100 AA Bde

(b) 43 Division

(i) Under Command

8 Armd Bde (less one Armd Regt)
Royal Netherlands Bde
147 Fd Regt RA (less one bty)
One Pl 210 Fd Coy RE
64 Med Regt RA
419/52 Hy Bty RA
Bty 4 Svy Regt RA

(ii) Under Command for Movement

HQ 128 Br Coy and part Br Coln
30 Corps Tps RE (less 11 Fd Coy RE and one Pl 210 Fd
Coy RE)
7 Army Tps RE
23 Mech Eqpt Pl
Elements 16 Airfd Constr Gp
Elements 5357 Airfd Constr Wing

(c) 50 (N) Division

Under Command

86 Fd Regt RA (less one Bty)
7 Med Regt RA
Bty 4 Svy Regt RA
195/73 and 196/73 A Tk Bty RA

(d) 101 US Airborne Division

- (i) 15/19 H, with under command one sqn ROYALS and one bty
86 Fd Regt RA, came under command 506 RCT on arrival
in EINDHOVEN area.

.../(ii) 44 RTR

- (ii) 44 RTR, with under command one sqn ROYALS and one bty 4 RHA, came under command 501 RCT on arrival in VEGHEL area.
Det 27 LAA Regt is under command 44 RTR for movement.

(e) 82 US Airborne Division

SRY, with under command one sqn ROYALS and one bty 147 Fd Regt RA, in support of 82 US Airborne Div on arrival area GRAVE.
Det 27 LAA Regt under command SRY for movement.

April 23rd 1944

RA GDS ARMD DIV TASK TABLE

ISSUED IN CONJUNCTION WITH FIRE PLAN TRACES FOR
OPERATION "GARDEN"

ZONE 'A' times comes into force 0300 hrs 17 Sep 44 (1200 hrs
GMT = 1300A hrs = 1400B hrs)

1. Fd Arty Rolling Barrage

(a) Units taking part

- (i) Opening Line 74 and 124 Fd Regts
- (ii) Line b 94 and 112 Fd Regts
- (iii) Line c 147 and 179 Fd Regts

(b) Co-ords

	E	N	Ht
A.	437605	499255	35 m
B.	436402	499799	35 m
C.	439115	502575	30 m
D.	437922	503135	30 m

(c) Timings

		74 Fd	124 Fd	94 Fd	112 Fd	179 Fd	147 Fd
Minus	3 - 0	a	a	b	b	c	c
	0 - 1	d	d	b	b	c	c
	1 - 2	d	d	e	e	c	c
	2 - 3	d	d	e	e	f	f
	3 - 4	g	g	e	e	f	f
	4 - 5	g	g	h	h	f	f
	5 - 6	g	g	h	h	i	i
	6 - 7	j	j	h	h	i	i
	7 - 8	j	j	k	k	i	i
	8 - 9	j	j	k	k	l	l
	9 - 10	m	m	k	k	l	l
	10 - 11	m	m	n	n	l	l
	11 - 12	m	m	n	n	o	o
	12 - 13	p	p	n	n	o	o
	13 - 14	p	p	q	q	o	o
	14 - 15	p	p	q	q	r	r
	15 - 16	s	s	q	q	r	r
	16 - 17	s	s	t	t	r	r
	17 - 18	s	s	t	t	u	u
	18 - 19	u	u	t	t	u	u
	19 - 20	u	u	u	u	u	u

(d) Rates NORMAL throughout.

(e) Amn HE.

(f) Rates of Adv 200 yds in one min

- (g) Trace issued in conjunction with RA Gds Armd Div Task Tables dated 16 Sep 44 is shown as "Annexure" 1 to this Appendix.

2. Med Arty Rolling Barrage

(a) Units taking part

(i)	Opening Line	84 Med Regt
(ii)	Line bb	7 Med Regt
(iii)	Line cc	64 Med Regt

(b) Co-ords

	E	N	Ht
W.	439110	503149	30 m
X.	438349	503515	30 m
Y.	440629	506470	25 m
Z.	439863	506835	25 m

(c) Timings

	84 Med	7 Med	64 Med
Minus 10 - Minus 9	aa	bb	cc
Minus 9 - Minus 8	dd	bb	cc
Minus 8 - Minus 7	dd	cc	cc
Minus 7 - Minus 6	dd	cc	ff
Minus 6 - Minus 5	gg	cc	ff
Minus 5 - Minus 4	gg	hh	ff
Minus 4 - Minus 3	gg	hh	ii
Minus 3 - Minus 2	jj	hh	ii
Minus 2 - Minus 1	jj	kk	ii
Minus 1 - 0	jj	kk	ll
0 - 1	mm	kk	ll
1 - 2	mm	nn	ll
2 - 3	mm	nn	oo
3 - 4	pp	nn	oo
4 - 5	pp	qq	oo
5 - 6	pp	qq	rr
6 - 7	ss	qq	rr
7 - 8	ss	tt	rr
8 - 9	ss	tt	uu
9 - 10	uu	tt	uu

(d) Rates NORMAL

(e) Arm HE

- (f) (i) On completion of this Barrage Regts will relay their guns as follows:-

84 Med Regt - Opening Line
7 Med Regt - Line bb
64 Med Regt - Line cc

- (ii) It may be necessary to fire the whole barrage again. In this case the following orders will be given by HQ RA Gds Armd Div to 64 Med Regt Gp and 84 Med Regt

"Fire Rolling Barrage at hrs".

(g) Trace issued in conjunction with RA Gds Armd Div Task Tables dated 16 Sep 44 is shown as Annexure 1 to this Appendix.

3. TIMED CONCS

Serial	Unit	Tgt	Time		Rate	Amm	Remarks
			From	to			
1.	86 Fd	2801	0	5	NORMAL	HE	
2.	151 Fd	2813	0	5	"	"	
3.	86 Fd	2802	5	10	"	"	
4.	151 Fd	2814	5	10	"	"	
5.	86 Fd	2803	10	15	"	"	
6.	151 Fd	2815	10	15	"	"	
7.	90 Fd One Bty	2804	0	15	"	"	
8.	90 Fd One Bty	2805	0	15	"	"	
9.	90 Fd One Bty	2806	0	15	"	"	
10.	Belgian Arty	2807	0	15	"	"	
11.	Belgian Arty	2808	0	15	"	"	
12.	Dutch Arty	2809	0	15	"	"	
13.	419 Hy Bty	2810	0	15	RAPID	"	
14.	165 Hy AA Regt One Bty	2811	0	15	3 rpgpm	"	Airburst
15.	165 Hy AA Regt One Bty	2812	0	15	"	"	"
16.	165 Hy AA Regt One Tp on each	2821 { 2822 {	0	15	"	"	"

4. Concs on Call

To be worked out by all btys able to reach :-

2816
2817
2818
2819
2820
2821
2822

All regts, whether firing in the barrages or not, will work out ALL concs.

5. LIST OF CO-ORDS

Tgt No.	E.	N.	Ht. (m)	Remarks
2801	438950 437950	502150 501800	30 30	
2802	438800 438370	503450 502500	30 30	
2803	439450 438850	502850 503750	30 30	
2804	437100 436650	503300 503580	35 35	
2805	436150 435960	501350 501750	35 35	
2806	435510 435220	501200 501640	35 35	
2807	442050	501000	30	CONC (<u>NOT</u> on Trace)
2808	442200	500000	35	CONC (<u>NOT</u> on Trace)
2809	431700	501440	40	STONK 160° (<u>NOT</u> on Trace)
2810	441500	508200	25	
2811	440350	506980	25	
2812	437370	506234	25	
2813	438750 438600	499900 501250	35 35	
2814	439000 439000	500750 502150	35 35	
2815	440600 439250	502560 502200	35 35	
2816	440000	508300	25	
2817	441800	509450	25	
2818	448000	508000	25	(<u>NOT</u> on Trace)
2819	449800	510900	25	(<u>NOT</u> on Trace)
2820	442800	513030	25	(<u>NOT</u> on Trace)
2821	435200	505250	30	CONC (<u>NOT</u> on Trace)
2822	433350	504230	30	CONC (<u>NOT</u> on trace)
2823	442200	510600	25	CONC (<u>NOT</u> on Trace)
2824	440500	512200	25	CONC (<u>NOT</u> on Trace)
2825	438800	515250	30	CONC (<u>NOT</u> on Trace)
2826	437200	514300	30	CONC (<u>NOT</u> on Trace)
2827	434200	511650	25	CONC (<u>NOT</u> on Trace)

(Signed) XXXXXXXXXXXXXXXX

B.L.A.
16 Sep 44
1130 B hrs

Major R.A.
B.M.R.A., Gds Armd Div.

RE ASPECT OF OPERATION "GARDEN"

SCOPE OF TASK

1. The problem facing the CE in the "GARDEN" Operation was entirely one of bridging. Apart from the four major obstacles of the MEUSE, MEUSE - WAAL Canal, WAAL and NEDER RIJN there were, at least, two sizeable water obstacles before the MEUSE was reached, namely, the WILHELMINA Canal and the ZUID WILLEMS VART Canal.

PLANNING

2. (a) Although the Airborne forces were being dropped with the object of capturing the bridges intact, engineer planning had to be based on the worst cases where all obstacles would have to be bridged.
- (b) Another factor in planning was that although the bridges might be blown, the Airborne forces might be in possession of the sites and routes in between, so that work could be carried out on all bridges simultaneously if rafts were used to ferry bridging equipment forward.

ORGANISATION AND CONTROL

3. In order to meet these commitments, a large engineer force was assembled at BOURG LEOPOLD under the Corps Chief Engineer, their control being decentralised through CsAGRE who were placed under command of Corps for that purpose. This involved :-

- (a) three CsAGRE,
- (b) two formations of Army Troops Engineers,
- (c) two formations GHQ Troops Engineers,
- (d) two formations Canadian Army Troops Engineers,
- (e) two Mechanical Equipment Platoons.

The above was, of course, in addition to Corps Troops, Divisional Engineers, and the Corps Mechanical Equipment Platoon. The Divisional Engineers were to be placed under command CsAGRE, as required, according to the circumstances. In all, there was a total of about 9,000 Royal Engineers and Pioneers, not counting the Airfield Construction Units.

4. Nearly the whole resources of the Army Group Bridge Column were assembled at BOURG LEOPOLD under their CRASC with four Bridge Company HQs.

5. This amount of bridging equipment on wheels was sufficient to provide bridges over the initial obstacles, bridges and rafts over the MEUSE - WAAL Canal, Close Support Rafts over the WAAL and NEDER RIJN and a Class 9 Bridge over NEDER RIJN.

6. In addition, a large amount of bridging equipment, about 2,000 lorry loads, was brought to BOURG LEOPOLD and dumped. This was sufficient to provide eventually three bridge crossings over each major obstacle, either on pontoons or barges, and to refill all the bridging vehicles.

RE CORPS PLAN

7. With the knowledge that this bridging was at BOURG LEOPOLD and could be called forward on priority, no bridging was put in to the order of march except a small amount under the direct command of the Guards Armoured Division ; this was sufficient to bridge small obstacles on the route and to provide Assault Boats and Rafts to get the leading troops and tanks over the major obstacles should the bridges be blown, but held by our own Airborne Troops.

BRIDGING COLUMNS

8. Plans were, therefore, made to form pre-arranged columns to meet various contingencies of a major bridging commitment. These columns were given code-names and convoy serial numbers so that they could be called forward by the Traffic Control organisation when required. The columns so constituted were, roughly, as follows :-

- (a) Columns to provide bridges and rafts over each obstacle on the assumption that all bridges were blown but held by our troops, and that bridging over each obstacle would take place at the same time.
- (b) Columns to provide the full scale of rafts and bridges for individual obstacles should any one be blown and held by our own troops.
- (c) Columns to provide assault equipment and initial bridging and rafts for each individual obstacle should it be held by the enemy.
- (d) Columns to provide duplicate bridges over each river should the existing bridge be intact.
- (e) A column to go right through past ARNHEM to provide equipment to form an opposed bridgehead over the IJssel.

9. Each column included the correct number of RE Units and formations to carry out the task, which had been planned and studied by them. In all, twenty different columns were planned and details worked out. Of these columns, four were eventually called forward, exactly as planned and the system worked very well. Subsequent bridging was called up as required on an "ad hoc" basis.

~~SECRET~~
APPENDIX 'E'
TO PART I

CSO 30 CORPS SIGNAL INSTRUCTION NO.12

(To be read in conjunction with 30 Corps Op Instr No.24 -

Operation "GARDEN")

INFORMATION.

X X

INTENTION

4. To provide comms for operation MARKET-GARDEN.

METHOD

5. Normal Corps comms will be maintained as shown at Annexure 1. 15/19 H will keep set on Corps Secondary Net until they pass to cmd 506 RCT.

6. Special comms for MARKET as follows (see diagrams at Annexures 2 and 3).

- (i) Two links, A9 and All, between Main Second Army - 30 Corps - Br Airborne Corps in UK. These are already established. When comms have been established with Airborne Corps after it has dropped, comms will be maintained on whichever of A9 or All is the better.
- (ii) One link (C5) 30 Corps - Br Airborne Corps - 101 US Airborne Div - Main Second Army - Tac Second Army. Two British operators have been attached to 101 US Airborne Div to work on C5.
- (iii) One link (C8) Main Second Army - Tac Second Army - 30 Corps - Br Airborne Corps.
- (iv) 101 US Airborne Div is sending to HQ 30 Corps one SCR 193 with US operators to work on C14 to the Airborne Div Guard sets of 101 US Airborne Div, 82 US Airborne Div and 1 Br Airborne Div in turn. Two US operators are being sent to Gds Armd Div to work on C14 a set to be provided by Gds Armd Div (see Annx 2).
- (v) 101 US Airborne Div is providing 5 SCR .300 (FM sets), each with two operators, to work between fwd elts of Gds Armd Div and fwd elts 101 US Airborne Div. The operators will come complete with all necessary code details.

RA.

- (vi) Div Arty Gp. 3 No.19 Sets and 1 Cdn 9 Set each with US operators will work a Div Arty Gp from CRA Gds Armd Div to FOCs with Fd Regts of Gds Armd Div. Fire control sets from Airborne Divs will come up on the gp as required.
- (vii) Med Arty Gp. 84. Med Regt will have one set for which a US operator is being provided to which fire control sets of Airborne Divs will work as required.

'Q'

- (viii) One 76 Set with crew will move with DA & QMG Br Airborne Corps to work on C6 to Rear Br Airborne Corps in UK. This set will be with Rear 30 Corps until Airborne Corps seaborne tail joins Main Airborne Corps HQ.
- (ix) As soon as seaborne tail of Br Airborne Corps HQ joins Br Airborne Corps HQ, a one-to-one link will be established between Rear 30 Corps and Br Airborne Corps. Second Army is providing the set at Rear 30 Corps. Details of freq and linksign will follow.

Frequencies.

7. (i) For detailed freq allotment see Annexure 5.
- (ii) Freq lists will be in use in Second Army as follows :-

30 Corps	Corps List A
8 Corps	" B
12 Corps	" C
Gds Armd Div	Armd Div List A
11 Armd Div	" B
7 Armd Div	" C
50 (N) Div	Inf Div List A
43 Div	" D
15 (S) Div	" B
53 Div	" C
3 Br Div	" B
4 Armd Bde	Indep Bde List C
8 Armd Bde	" A

8. Codes.

(a) General.

Airborne fms hold only Airborne Code keys and therefore ground fms communicating with Airborne fms will always use Airborne keys.

(b) Code Signs.

Row Registers of Airborne fms have already been distributed. Code signs for use on special links are detailed by sequence and row number with a schedule of wireless nets at Annexure 5. Copies of a special Airborne Code Sign Extract are attached at Annexure 6 (not included). Ground fms must realise that Airborne fms know only the code signs of Airborne fms and do not understand Second Army code signs. When making contact on Guard Waves or using RT codes, if it is necessary to indicate the names of ground fms they must, contrary to normal practice, be encoded in SLIDEX.

It is important that the use of SLIDEX to conceal the names of fms is reduced to the minimum.

(c) SLIDEX & MAPLAY.

Airborne Tps SLIDEX and MAPLAY keys have already been distributed and keys for further periods follow. These SLIDEX keys will be used with normal Br Army SLIDEX cards for comm to Br Airborne fms down to and incl Div level of Airborne fms. When using SLIDEX to US Airborne Divs, Airborne Tps SLIDEX keys will be used with American SLIDEX cards.

...(d) /Authentication

(d) Authentication.

For the purpose of making contact on Div or Corps Guard Waves or for authentication on the comms to be set up between ground and Airborne fms, Combined Authentication System CCBP.0122, Serial A6, will be used with the sheet for the day concerned. The first method of authentication detailed in CCBP.0122 will be used. Airborne fms will understand no other means of authentication.

CIPHER.

9. The following One Time Pad links will be held.

(i) <u>Nine-way</u>	<u>Holder Out Table</u>	<u>Pad Number</u>
	Spare at Second Army	204
	Main Second Army	205
	Main Airborne Corps	206
	Main 21 Army Gp	207
	Gds Armd Div	208
	43 (W) Div	209
	Tac Second Army	210
	Spare at 30 Corps	211
	Main 30 Corps	123

(ii) Three-way

(Second Army	13	(30 Corps	368
+ (30 Corps	14	(Second Army	369
(101 US Airborne Div	15	(1 Airborne Div	370
(30 Corps	Nos	(30 Corps	367
+ (Second Army	to	(Second Army	383
(82 US Airborne Div	follow	(52 (L) Div	384
(30 Corps	371	(Gds Armd Div	36
(Second Army	372	+ (101 US Airborne Div	37
(Main Airborne Corps	373	(Spare at 30 Corps	38
(Gds Armd Div	33	(Gds Armd Div	30
+ (82 US Airborne Div	34	+ (1 Br Airborne Div	31
(Spare at 30 Corps	35	(Spare at 30 Corps	32

Pads marked '+' are "Letter Pads" for which instrs to use have been issued through cipher channels.

(iii) Special Airborne Double Transposition Cipher has been distributed down to and incl Bde level for use in the event of lateral cipher comm with Br Airborne fms being required. Distribution within Br Airborne fms is as follows :-

HQ Br Airborne Corps (Main, Rear and AFCE)
 HQ 1 Airborne Div and all bdes.
 HQ 52(L) Div and all bdes
 HQ 1 Polish Indep Para Bde

(iv) It is hoped to provide M209s (US cipher machine) for 30 Corps, Gds Armd Div, Second Army and 43 (W) Div in case the US forces use this. Instrs will be issued through cipher channels.

(v) Rear HQ Br Airborne Corps in UK will continue to operate the usual Corps ciphers and messages for clearance in

.../UK

UK should be routed to them. It is particularly important that the correct code sign is used.

TIME

10. Zone A time comes into force 0300 17 Sep 44.
11. H hour is 171400A.
12. ACK.

(Signed) X X X X X

Time of Signature ...160555....

Method of issue ...Hand and E.L.S.

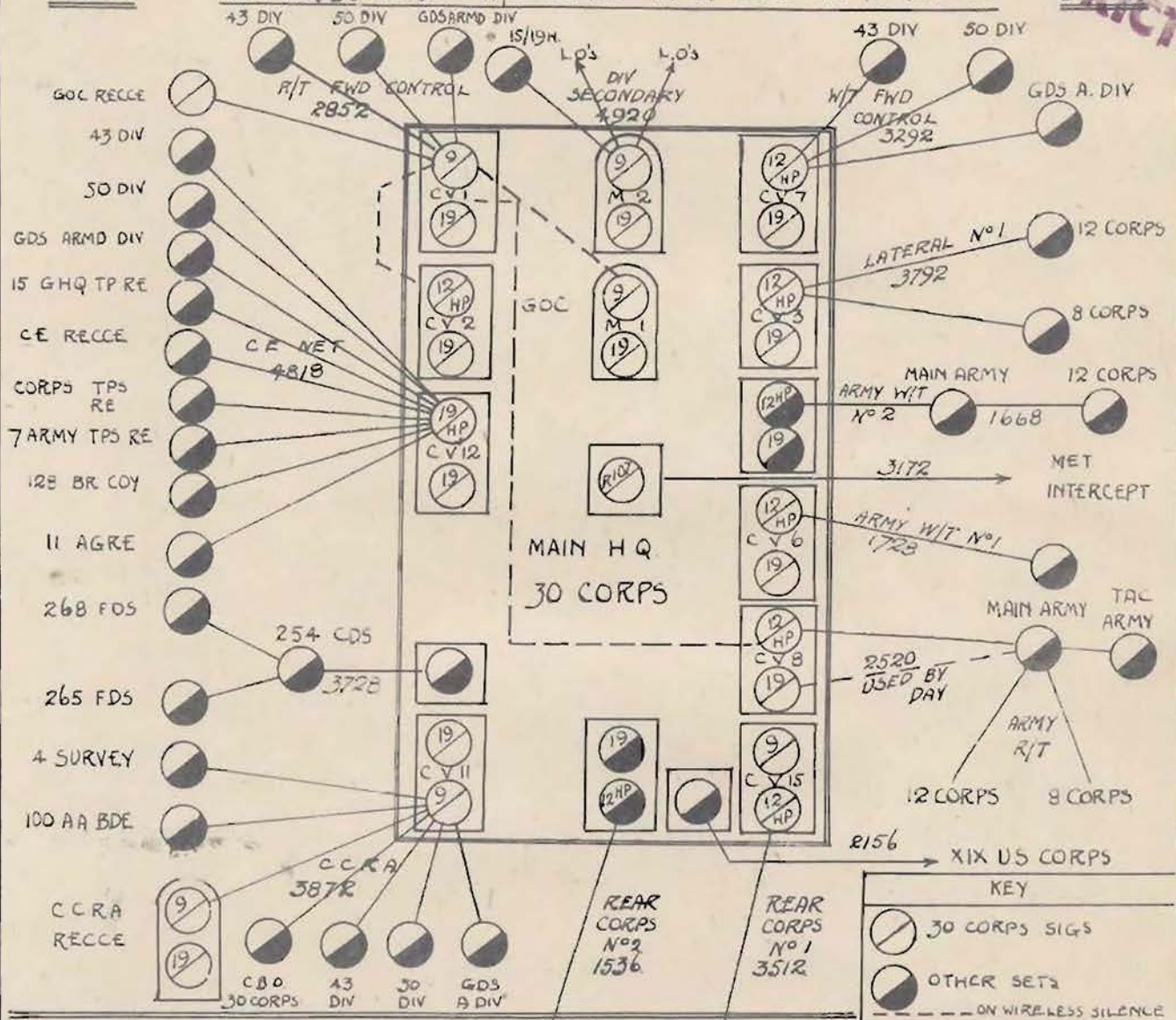
Brigadier
Chief Signal Officer
30 Corps

RESTRICTED

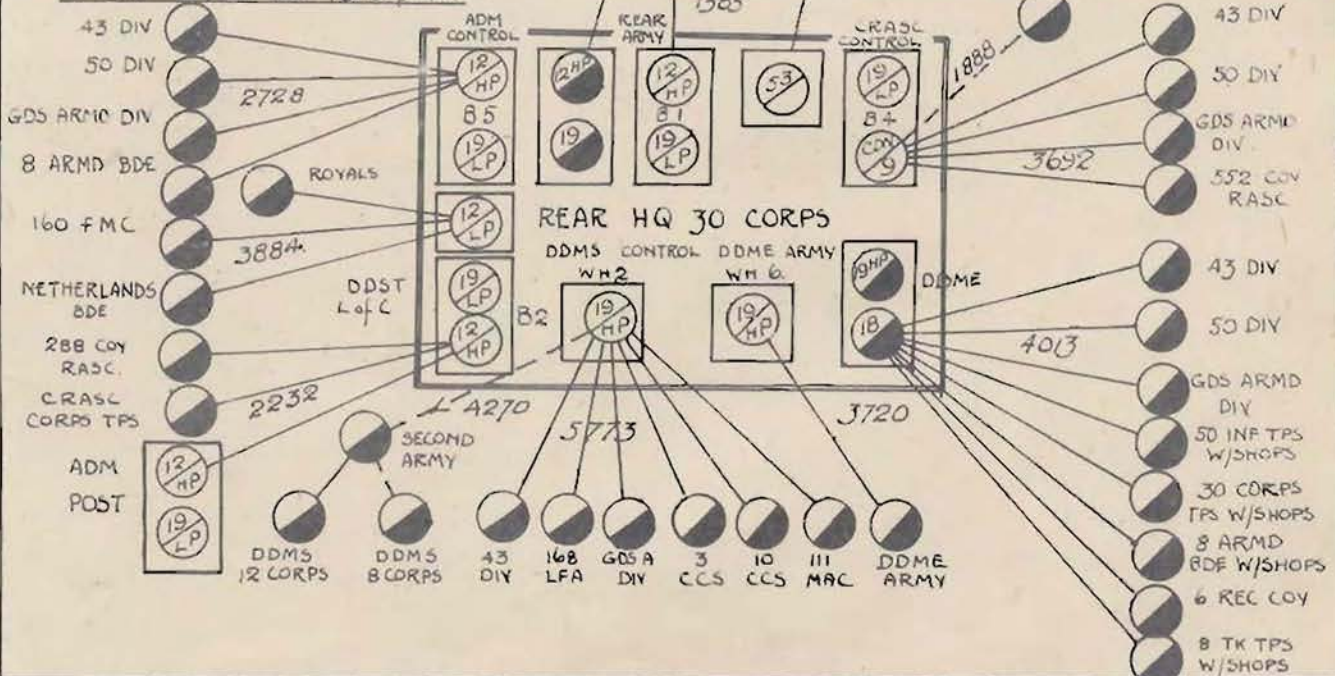
GARDEN

MAIN HQ 30 CORPS W/T COMMS AS AT 0200 hrs 16 Sep 44

SECRET

REAR HQ 30 CORPS W/T COMMS

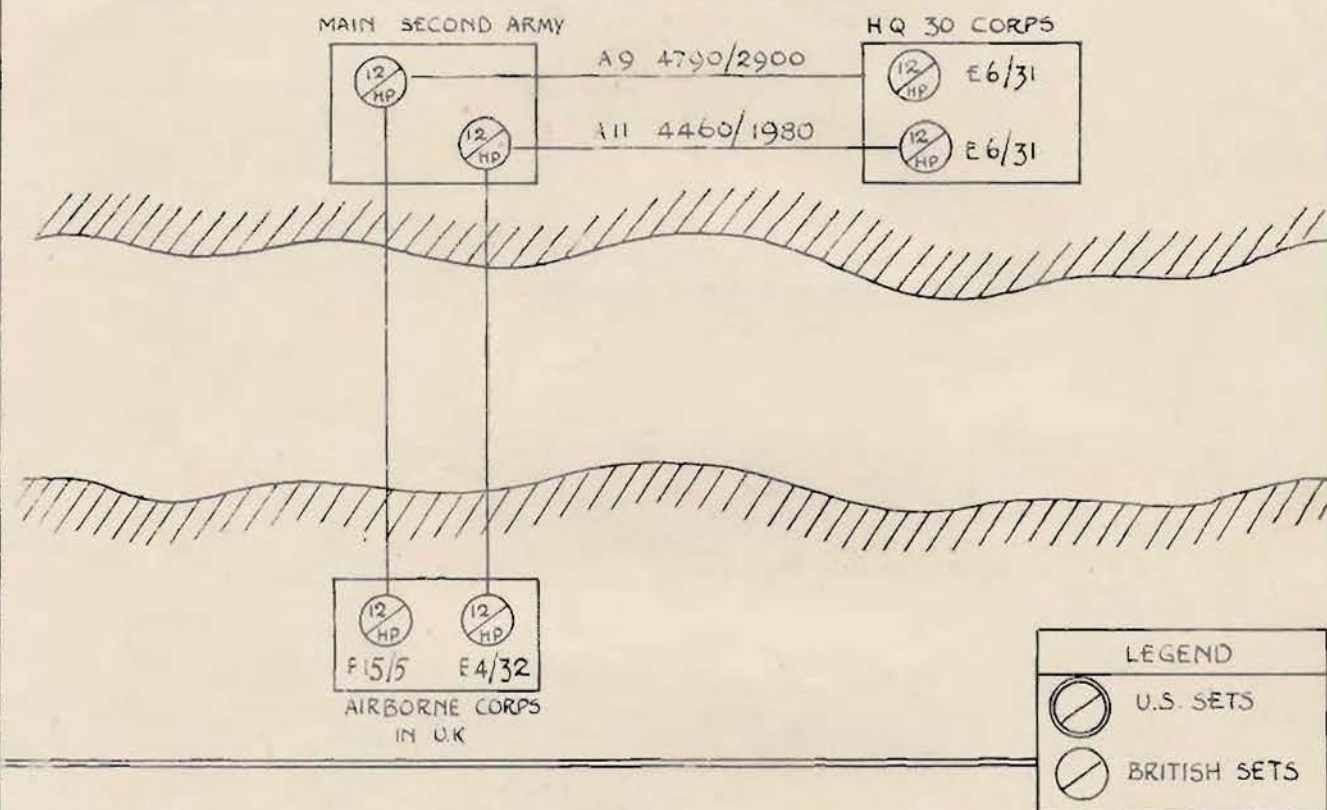
AS AT 0200 Hrs 16 Sep 44.



MARKET

ANNEXURE 2 to APPENDIX 'E' to Part I

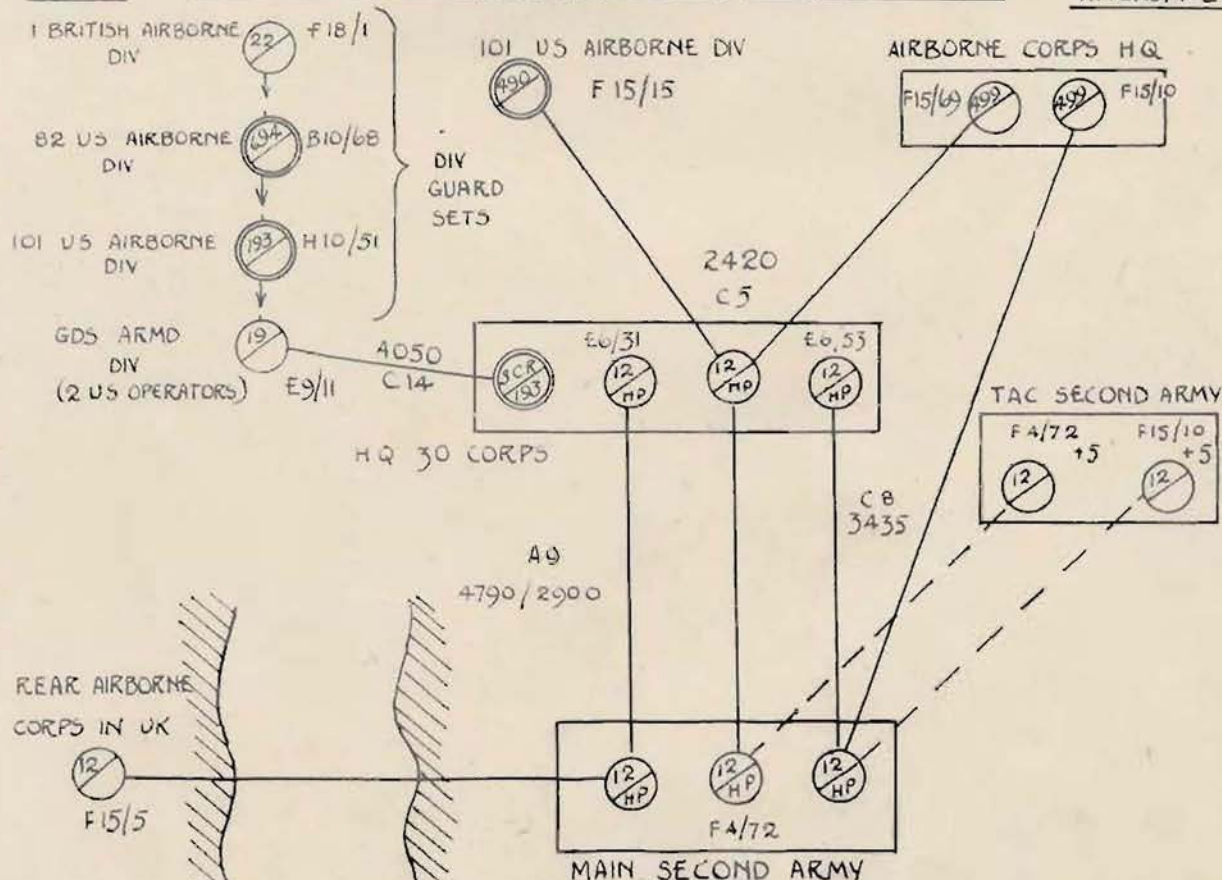
W/T COMMS — AIRBORNE CORPS HQ IN UK



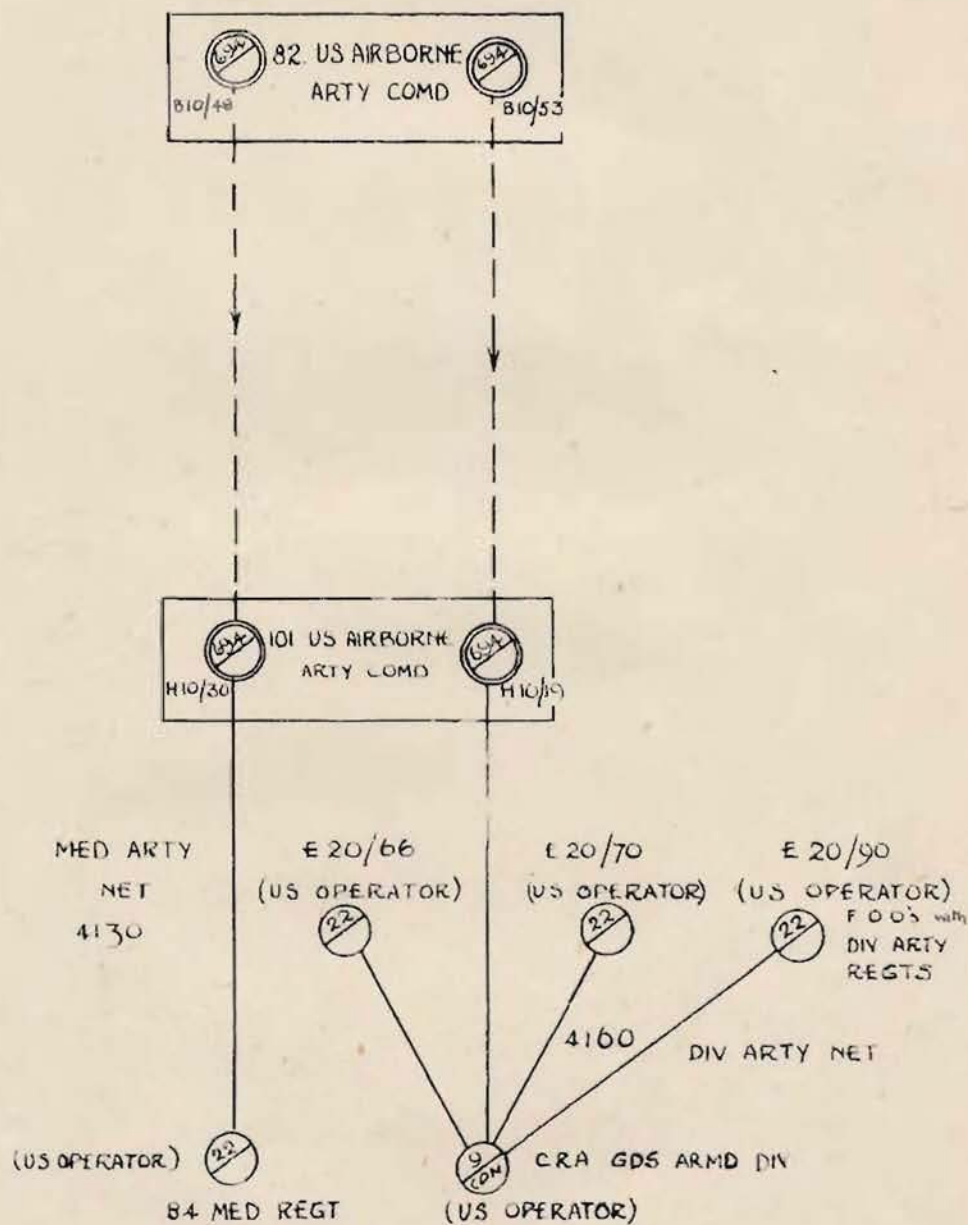
MARKET

W/T COMMS — AFTER AIRBORNE CORPS HQ HAD LANDED

ANNEXURE 3 to APPENDIX 'E' to Part I



W/T COMMS - SPECIAL RA



LEGEND	
	U.S. SETS
	BRITISH SETS

ANNEXURE 5 to CSO 30 Corps
Sig Instr No.12

FREQ ALLOTMENT - BR AIRBORNE CORPS

ANNEXURE 5 to APPENDIX 'E'
Part I.

Net No.	Designation of Net	Freq	Control Sta	Time of Opening	Outstas	Remarks	Sequence & Row Numbers.	
Q5	Br Airborne Corps RL 1	2420	Main 30 Corps	H - 1 hr	Main Br Airborne Corps		F15	R69
					Main Second Army		F4	R72
					101 US Airborne Div		F15	R15
					Tac Second Army		F4	R72 + Affix 5
Q6	Supply link 1	day 4595 night 3085	Main Br Airborne Corps	H hour	Rear Br Airborne Corps		F15	R17
					1 Airborne Div			to follow
					DA & QMG Br Airborne Corps		F15	R74
Q8	Br Airborne Corps RI 2	3435	Main Second Army	H - 1 hr	Main Airborne Corps		F15	R10
					Main 30 Corps		E6	R53
					Tac Second Army	listening	F15	R10 + Affix 5
C10	Corps Guard Wave	4100				as required	F15	R14
C14	Div Guard Wave	4050	Main 30 Corps	H - 1 hr	1 Br Airborne Div		F18	R1
					82 US Airborne Div		B10	R68
					101 US Airborne Div		H10	R51
					Gds Armd Div		E9	R11
A9	Second Army UK link 1	4790 2900	Main Second Army	in operation	Main 30 Corps		E6	R31
					Br Airborne Corps (UK)		F15	R5
A11	Second Army UK link 2	4460 1980	Main Second Army	in operation	Br Airborne Corps (UK)		E4	R32
					Main 30 Corps.		E6	R31
	Div Arty Net	4160	CRA Gds Armd Div	H hour	3 FOOs (Airborne)		E20	R66
							E20	R70
							E20	R90
					HQ 101 US Airborne Div Fd Arty		H10	R19
					HQ 82 US Airborne Div Fd Arty		B10	R53
	Med Arty Net	4130	84 Med Regt	H hour	Set with fwd tps 101 US Airborne Div		H10	R30
					Set with fwd tps 82 US Airborne Div		B10	R48

P A R T I I

SECTION 7.

GENERAL SITUATION ON 30 CORPS FRONT 17 SEPTEMBER 1944.

DISPOSITION AND ENEMY ACTIVITY

1. (a) Dispositions

The dispositions of 30 Corps prior to operation "MARKET GARDEN" on 17 September are shown at Appendix 'B' to Part I.

(b) Enemy Activity

During the previous 48 hours there had been little enemy activity on the Corps front, other than local infiltration and patrols.

The Corps bridgehead over the MEUSE - ESCAUT Canal was firmly and strongly held by 50 (N) Division (231 Infantry Brigade), backed by elements of the Guards Armoured Division. The enemy put in a number of strong counter attacks against the bridgehead, but directed his main effort on to the 12 Corps bridgehead over the MEUSE - ESCAUT Canal at GHEMEL 0888.

It was estimated that the enemy strength on 30 Corps front, which was to oppose the break out from the bridgehead, was approximately six infantry battalions backed by about 20 AFVs and a dozen or so field and medium guns. The number of 88 mms on the Corps front was not estimated to be many, while the presence of tanks was suspected but not confirmed.

BRIDGE SITUATION.

2. The bridge situation was that Tac R reports showed that all the principal bridges over the main water obstacles on the Corps axis of advance were intact.

Corps Troops RE had completed a Class 40 supplementary bridge over the MEUSE - ESCAUT Canal within the existing bridgehead, thereby easing the break out.

WEATHER AND CONFIRMATION OF OPERATION

3. The day was fine with a slight wind and favourable for airborne operations. On the morning 17 September, Second Army Main confirmed that operation "MARKET GARDEN" would take place; by 1230 hours HQ 30 Corps received from HQ Airborne Troops the information that the leading elements of 1 British Airborne Division, 82 US Airborne Division and 101 Airborne Division were on their way from their home bases in ENGLAND.

OBJECTIVE AND FORMATION ORDERS.

4. For reference purposes the main extracts of the Operation Orders of the Guards Armoured Division, 50 (N) Division and 1 British Airborne Corps, together with the DEs of 1 Airborne Corps are shown at Appendices as follows :-

Appendix 'L' - Guards Armoured Division.
Appendix 'M' - 50 (N) Division.
Appendix 'N' - 1 British Airborne Corps.

SECTION 8.

30 CORPS OPERATIONS 17 SEPTEMBER

GROUND TROOPS

5. At 1310 hours, Commander 30 Corps saw that the airborne drop was proceeding according to plan, and the order to the Guards Armoured Division was given to attack at 1435 hours. 5 Guards Armoured Brigade were led by the IRISH GUARDS Group which had one squadron of tanks leading, followed by a tank-carried infantry company. They in their turn were followed by a squadron of 2 HCR so placed for immediate release once the break out had been achieved.

At first a rolling and narrow barrage of six field regiments was put down covering 1,000 yards either side of the EINDHOVEN road. This lasted for 20 minutes and was accompanied by eight RP Typhoons attacking every five minutes for 35 minutes, followed by further squadrons directed by an RAF controller in a contact car on to targets indicated by Guards Armoured Division. The contact car was the next vehicle to that of the Commander of the leading armoured group. At the same time, but only lasting for 10 minutes, a rolling barrage was also put down by three medium regiments. Timed concentrations were also fired for 15 minutes by three field regiments, BELGIAN artillery, and a DUTCH artillery Heavy Battery. A Heavy AA Regiment fired airbursts with good effect. When the artillery programme finished, a number of well sited spandaus and anti-tank guns came to life, and these let the leading squadron through and "brewed up" 8 tanks of the second squadron. To deal with these, tanks sprayed every hedge with a hail of fire and then the infantry went in to mop up.

By 1500 hours the leading squadron of the IRISH GUARDS Group, consisting of an armoured regiment and one infantry battalion, had crossed the frontier into HOLLAND, and was in contact with about 200 enemy infantry who were dug in on each side of the road; they were being supported by a few enemy SP guns and hard fighting took place in which a number of our tanks were lost. To overcome this temporary check, a further set-piece attack, supported by a Typhoon "cab rank" was staged; this attack was only partially successful, and at 1800 hours the medium R. barrage afforded in the morning had to be lifted forward and repeated. This weight of supporting fire, accompanied by a ground attack, had the desired effect, and by 1815 hours the IRISH GUARDS Group, against weakening opposition, had crossed a small river SOUTH of VALKENSWAARD, reaching the town at last light, and there they harboured for the night. The immediate close support of the Typhoons had been a great success. They released their rockets whilst over our own troops and these were most effectively aimed. Plentiful use of yellow smoke and strips was made by the infantry and tanks, especially those deployed off the road.

231

50 Division continued to hold the bridgehead area, less 2 DEVON and 1 DORSET of 151 Brigade. These two battalions were ordered to advance in rear of the Guards Armoured Division with the object of mopping up, and by last light they were established on a general line SW from BORDEL 3902.

The enemy positions had been much stronger than expected and the Guards Armoured Division had to fight savagely to effect their break out from the bridgehead established over the MEUSE - ESCAUT Canal. During the period of the advance, which was some 7 to 8 miles, the enemy had directed his attacks against the NORTH shoulder of the

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bridgehead but had made no impression. Further, his continuous attacks were determined and were supported by guns and mortars. Identification established that the enemy fighting on the Corps front consisted of 1 and 3 Battalions of the 6 Parachute Regiment and two battalions of 9 SS Division, the presence of the two SS battalions being a complete surprise.

AIRBORNE TROOPS.

6. Landings of the First Airborne Corps took place against only limited opposition. At 1300 hours paratroops of 101 US Airborne Division were firmly established at ZON 4426, SOUTH of ST OEDENRODE 4332, and WEST of VEGHEL 4737. Successful drops had also been made in the vicinity of the main bridges at GRAVE and NIJMEGEN by 82 US Airborne Division and at ARNHEM by 1 British Airborne Division. The bridge at GRAVE was secured intact but that at ZON 4426 was blown; NIJMEGEN and ARNHEM bridges were intact but not in our hands. It can be said that complete surprise was gained in the initial stages and resistance was not at first organised. Enemy flak was much lighter than had been expected and no fighter opposition had been encountered. The re-supply of all these formations was up to schedule, and loss of aircraft had been negligible.

FLANKS.

7. On 30 Corps RIGHT, 8 Corps were preparing to bridge with 3 British Division EAST of the Corps boundary, thereby drawing off enemy attention from 30 Corps' thrust.

On the LEFT, 12 Corps ordered a night attack and this was successful, a bridgehead being established over the MEUSE - ESCAUT Canal, with the object of establishing a Class 9 bridge by early morning 18 September. Both Corps had reported that during the period 16/17 September, enemy reaction on their front had been considerable.

AIR SUPPORT.

8. During 17 September 550 sorties were flown by 83 Group in support of the ground troops. Attacks by Typhoons along the EINDHOVEN road were continuous from 1450 to 1850 hours. These attacks assisted in loosening up some of the stiff enemy positions in the woods on each side of the VALKENSWAARD road and in the village itself where Tiger tanks were attacked with success. The display of fluorescent panels was a marked success, only one vehicle being attacked in rear by our aircraft.

This close RAF support was controlled by one of the RAF contact cars with IRISH GUARDS Group. The scale of attack was as follows :-

8 aircraft every 5 minutes for 35 minutes and subsequently 8 aircraft every 10 minutes until such time as ground troops could make more progress.

Thereafter, Typhoons strafed on the 30 Corps axis of advance up to the time that the Guards Armoured Division reached VALKENSWAARD E4108.

These attacks, put in by Typhoons, were only some 50 yards on either side of the road and 100 yards ahead of the leading vehicles. It should be noted that the usual aid of showing 25 pr red smoke was not required because the RAF Squadron Leader controller in the contact car was able to control the aircraft visually to their targets as indicated by the OC IRISH GUARDS Group. A second RAF contact car

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moved with 30 Corps and was previously briefed, with the primary tasks of receiving by VHF, (very high frequency), a Tac R report, from a specially briefed recce aircraft, of the accuracy or otherwise of the Airborne drops to enable the Corps Commander to decide on his zero hour. This it did and also received Tac R information from other reconnaissance aircraft during the operation.

ENEMY AIR ACTIVITY.

9. Although the enemy put up a fairly strong fighter force, he was either unable or unwilling to interfere with the airborne operations or the close support afforded to our ground troops by 83 Group RAF.

SUMMARY

10. In summary it can be said that an excellent situation had been created. The whole Corps was poised to advance in any order, thereby giving the required flexibility should the order of march have to be altered. The combined ground and airborne attacks had gone according to plan, complete surprise had been achieved, and the enemy's back areas had also been surprised. The RAF with 83 Group had given close and intimate support, and the Corps artillery, reinforced by all divisional artillery, had put down a barrage which enabled the break out from the bridgehead by Guards Armoured Division to be successfully accomplished, although only after fierce fighting. The bridgehead area was firmly held by 50 Division, and 43 Division was ready to move across the MEUSE - ESCAUT Canal when required. As regards the airborne operations, 1 British Airborne Corps was close up and in possession of the NORTH end of the ARNHEM bridge, while 82 US Airborne Division had captured GRAVE bridge and bridges over MAAS - WAAL Canal 678603 701541, but had not yet reached the SOUTH approaches to the NIJMEGEN bridge. 101 US Airborne Division had secured all its objectives along the Corps axis of advance between EINDHOVEN and GRAVE.

SECTION 8.

30 CORPS OPERATIONS 18 SEPTEMBER 1944

GENERAL SITUATION

11. The setting for operations on 18 September was that the enemy had effected an orderly withdrawal during the previous night, that he was in greater strength and quality than expected, and that the difficult nature of the country on either side of the Corps axis of advance favoured the defence and restricted our ability to deploy. Therefore, the need for more infantry was apparent and for this reason the move forward of 69 Infantry Brigade of 50 (N) Infantry Division was accelerated by Commander 30 Corps. A Brigade Group of 43 Division was also directed to be prepared to move up as required.

The enemy was still making repeated attacks on the WEST of the bridgehead over the MEUSE - ESCAUT, but with the 50 Division taking over complete responsibility for holding the bridgehead secure, the Guards Armoured Division would be free to concentrate its attention forward.

No definite news was available about the bridges over the rivers WAAL and NEDER REIJN but it was known that the one at GRAVE over the MAAS was intact and in our hands.

TASKS 30 CORPS FORMATIONS 18 September.

12. The tasks as given to the formations of 30 Corps and those units under command were as follows :-

(a) Guards Armoured Division.

No change from tasks shown in paragraph 8 (a) Part I.

(b) 50 (N) Division.

(i) Be prepared to expend up to one brigade in clearing woods on the flanks of the axis and keeping axis open (from inclusive JAGS BRIDGE 3596) to VALKENSWAARD E4108.

(ii) One brigade to hold bridgehead over the MEUSE - ESCAUT Canal.

(iii) 69 Brigade to close up (from BEERINGEN area.)

(c) 43 Division.

Be prepared to move one brigade group rapidly to go under command Guards Armoured Division if the latter encountered, during their advance, serious opposition in country requiring infantry.

(d) Commanders or representatives of 15/19 H, 44 RTR and SRY to report to BGS morning of the 18th.

GROUND TROOPS.

13. At 0600 hours the Guards Armoured Division, led by IRISH GUARDS Group, resumed their advance from VALKENSWAARD E4108 and continued to meet considerable opposition along the two roads NORTH and EAST of the town. The enemy, generally speaking, were in the same strength and quality as those encountered on 17 September. They were using Panther tanks and their infantry were making full use of the wooded country which lined each side of the road. ALST

E4213, due NORTH of VALKENSWAARD E4108, was reported by 2 HCR to be firmly held. A one-way bridge over a small river just SOUTH of VALKENSWAARD caused a considerable traffic jam, but this was quickly cleared and the flow of traffic maintained. Appreciating that this would continue to be a bottle-neck, the Corps Commander directed that another bridge be built forthwith, but that Guards Armoured RE resources were NOT to be used, as the route was adequate for the division which was keeping its bridging resources for the WILHELMINA Canal. During this period there was no enemy air activity and our own air cover was operative.

Eventually, AALST was reported clear, but the enemy again imposed delay from a concrete strong point two miles to the NORTH. Meanwhile, armoured cars of 2 HCR were exploring the bridges to EINDHOVEN. On the RIGHT, the right-hand squadron of 2 HCR was held up by infantry established to the EAST of VALKENSWAARD but on the LEFT flank armoured cars were exploiting towards EINDHOVEN and WEST of it where contact was made with enemy paratroops.

By 1100 hours, it was confirmed from civilian sources that EINDHOVEN was strongly held and it was then decided by Commander IRISH GUARDS Group to try to by-pass the town by the WEST route. They were again held up by determined enemy resistance NORTH of AALST, but on our securing EINDHOVEN the enemy withdrew, thereby leaving this group a clear run through on to ZON E4425. To the EAST, the 32 Guards Brigade started to move on the secondary route, but after good initial progress, were held up between VALKENSWAARD and LEENDE E4808. At 1230 hours, the 32 Guards Brigade directed an attack on LEENDE, but were held up by well directed enemy fire coming from the woods situated NE of VALKENSWAARD.

Owing to the weakness of bridges, which would not take tanks, the GRENADE GUARDS Group could make little progress on the roads WEST of EINDHOVEN and had to come back on to the main axis.

At 1700 hours, 101 US Airborne Division reported that EINDHOVEN was firmly in its hands, and that the IRISH GUARDS Group had linked up with it on the NORTH edge of the town. Meanwhile, WELSH GUARDS Group moving on the subsidiary axis were reported to be having a stern fight, but by last light they had overcome enemy resistance and were established just SOUTH of GELDROP E4816, which was still held by the enemy.

In summary, the position at last light was that the Guards Armoured Division was firmly established, centred on EINDHOVEN with the 5 Guards Armoured Brigade Group holding firmly the SOUTH bank of the Canal SOUTH of ZON bridge E4425 which had been blown. The 50 (N) Division continued mopping up operations and maintained their hold over the MEUSE - ESCAUT Canal. 1 DERSETS took over VALKENSWAARD. Throughout the day, the enemy continued to attack the bridgehead over the MEUSE - ESCAUT Canal from the NE. These attacks were supported by twenty mortars and twelve guns but were beaten off after stiff fighting.

In addition, the enemy attempted to disrupt communications along the existing axis, particularly the bridge over the MEUSE - ESCAUT Canal but these attempts were unsuccessful.

50 (N) Division passed temporarily under operational command of 8 Corps, as it was decided 30 Corps should be relieved of the responsibility for safeguarding the bridge area and their axis of advance from that bridge up to EINDHOVEN. It was noteworthy that 50 (N) Division thus left operational command of 30 Corps for the first time since August 1943.

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The bridge situation was that the Guards Armoured Division were building a class 40 bridge over the canal at ZON E4425 and this was to be completed by first light morning 19 September so that the armoured thrust towards GRAVE E6253 could be continued. 82 US Airborne Division had captured intact the bridge at GRAVE. The bridges at NIJMEGEN and ARNHEM were also reported to be intact but not yet secured by elements of 82 US Airborne Division and 1 British Airborne Division. 101 US Airborne Division reported that all the remaining bridges across the water obstacles along the main axis of advance were intact and firmly held.

AIRBORNE TROOPS.

14 (a) 101 US Airborne Division.

101 US Airborne Division continued to consolidate its hold on all the nodal points on the axis of advance up to and excluding the bridge at GRAVE. To date, its losses had been light, and enemy opposition against nodal points which they held had not been active.

(b) 82 US Airborne Division.

In the NIJMEGEN area, 82 US Airborne Division was established SOUTH of the NIJMEGEN bridge with a firm base on the high ground SOUTH of the town. They also further consolidated their hold on this area and extended this up the MEUSE - WEL Canal. Elements of this division were only some 300 yards from the bridge itself, but could get no closer as the enemy was defending it with SP guns and heavy machine guns firing from pre-war concrete pill boxes.

The fly-in of 327 Glider Infantry Regiment was successfully achieved on this day with negligible losses.

(c) 1 British Airborne Division.

In the ARNHEM area, 1 British Airborne Division was established WEST and NW of the town, but the enemy, consisting of SS units and reinforced with tanks and SP guns, was holding the town itself. The situation was obscure. Information was hard to get and communications were difficult owing to bad weather and the intense bombardment that the perimeter of the area, held by 1 British Airborne Division, was receiving from the enemy.

Little was known of the 1 Parachute Brigade, other than civilian reports which stated that elements were still holding out near the NORTH end of the ARNHEM bridge. This subsequently proved to be correct.

No communication was established with 1 Parachute Brigade throughout the day, in spite of attempts by 11 Parachute Battalion and the 8 STAFFS to break through to the EAST.

The First Division build-up was continued during the day by the arrival of 4 Parachute Brigade and sub units of Air Landing and Divisional troops.

As regards maintenance of this Division, the re-supply on this day was not successful as it was all dropped on the enemy, and this was undoubtedly largely due to heavy enemy flak which had been thickened up by flak trains operating WEST of ARNHEM. In addition, weather conditions were far from favourable owing to bad visibility.

...(d)/Since

- (d) Since the start of the operation, Airborne Corps reported that they had taken about 900 prisoners of war but that their own casualties were beginning to mount up.)

AIR SUPPORT.

15. During the whole day the weather was the limiting factor, as it was bad both over airfields and the battle area; consequently, the ground troops of the leading brigade of the Guards Armoured Division did not get the same close and intimate support that they had received on the previous day. In addition, the ground situation lacked the clarity which on the previous day had enabled the degree of intimate support already described to be achieved. This made rapid progress difficult against the enemy who continued to hold his positions, well dug in and with weapons well sited, with great determination.

ENEMY AIR ACTIVITY.

16. There was little interference to our ground troops by enemy air activity, but an unsuccessful attack was made on JOES BRIDGE over the MEUSE - ESCAUT Canal.

FLANKS.

17. On 30 Corps RIGHT 8 Corps had, after very stiff fighting, established a small bridgehead over the ESCAUT Canal in the LILLE - ST-HUBERT K4294 area.

On 30 Corps LEFT, 12 Corps had established another bridgehead over the MEUSE Canal and by last light two brigades were across on the Northern bank.

SECTION 8

30 CORPS OPERATIONS 19 SEPTEMBER

P+2

GENERAL SITUATION

18. The situation at the three main bridges over the Rivers MAAS, WAAL and NEDER RIJN was that :-

82 US Airborne Division had confirmed that the GRAVE bridge was intact and held by them.

Between the GRAVE and NIJMEGEN bridges the situation was obscure. The Division reported fighting 300 yards SOUTH of NIJMEGEN bridge and that they were in possession of bridges over MAAS - WAAL Canal 678603. It was known that they had been forced to pull out on to ground EAST of NIJMEGEN owing to the enemy threat developing in the REICHWALD FOREST area on their RIGHT flank.

From ARNHEM little definite information was available.

To counter the threat in the REICHWALD FOREST area, the COLDSTREAM GUARDS Group were to be placed in support of 82 US Airborne Division.

Guards Armoured Division were ready and about to cross by the ZON bridge, having broken through the enemy's main resistance which had been encountered at EINDHOVEN.

TASKS.

19. Continuation of tasks already allotted.

GROUND TROOPS.

20. At 0615 hours, 5 Guards Armoured Brigade got away to a good start having passed over the Class 40 bridge at ZON which had been completed during the night 18/19 September. The timings for the construction of the bridge, built by 14 Field Squadron were approximately as follows :-

RE reconnaissance reached the site at	1900 hours.
First bridging vehicle	2000 hours.
First vehicle across the bridge	0615 hours.

By 0700 hours, the leading brigade was beyond VEGHEL and heading for the GRAVE bridge, 32 Guards Brigade following close behind them. Although 2 HCR reported opposition in UDEN 5342, by 0830 hours leading sub-units of the 2 ARMoured GRENADEIER GUARDS had crossed the River MAAS using the GRAVE bridge, and thus the first major obstacle had been secured for the further advance of 30 Corps.

By 1115 hours, 15/19 HUSSARS had linked up with 101 US Airborne Division in EINDHOVEN, thereafter coming under their command for execution of their tasks. One squadron was in EINDHOVEN and worked NW towards BEST 3726, and EAST to GELDROP E4816 and HELMOND 5522. The remaining two squadrons pushed WEST from ZON to BEST 3726.

By 1400 hours, leading patrols of 2 HCR had reached the River WAAL and 5 Guards Armoured Brigade was concentrated SOUTH of NIJMEGEN. Meanwhile, fierce fighting was going on in the town of NIJMEGEN itself, which by this time was strongly held by elements of 9 SS Division and Flak troops. They were also holding the SOUTH end of the NIJMEGEN bridge over the River WAAL. The bridge was intact and although prepared for demolition the leads had been cut, it was subsequently found, by Dutch partisans. This was indeed lucky as it was not

.../until

until late the following day that the bridge was finally seized and held by combined British - US elements.

To clear the bridge, a combined Guards Armoured Division and 82 US Airborne Division attack was planned and put in at 1500 hours. This attack, led by the GRENADIER GUARDS Group who made an attempt to force a "blitz" crossing over the NIJMEGEN bridge with tanks, was not successful. The enemy had placed SP guns on the SOUTH end of the bridge and held a number of strongpoints, including concrete pillboxes, on the Southern end. The GUARDS lost a number of tanks, and although they attempted with their infantry to by-pass the approaches to the bridge, they could make no headway. Attempts to get further observation and information as to the enemy strength were made by special parties of infantry who climbed up to the roofs of the highest houses and from which they sniped and shot at the enemy. By last light the attack had definitely failed and the enemy were still in possession of the SOUTH end of the bridge, which was still intact.

At 1740 hours, Headquarters 30 Corps Main, accompanied by 44 ROYAL TANKS and the SRY moved from the HECHTEL 3483 area to proceed to MALDEN 7055 area, which it did not reach, owing to enemy ground and air action, until the evening of 20 September, having been in transit up the main axis for 24 hours, and having taken part in a sharp action to clear the axis.

At 1900 hours the enemy attacked with tanks, with a heavy supporting programme on the ZON bridge, and its area, in an effort to cut our L of C, but this attack was successfully held by 44 ROYAL TANKS and 501 RCT of the 101 US Airborne Division.

AIR SUPPORT.

21. Weather was again the limiting factor. Both over airfields and over the battle area it was bad for flying. Armoured reconnaissance missions sent out had to be recalled on account of banks of low cloud. Only 73 sorties were flown.

The resupply of 1 Airborne Division was unsuccessful and in enemy hands.

ENEMY AIR ACTIVITY.

22. Several formations attacked targets in the NIJMEGEN area and this was followed by a reconnaissance in the Eindhoven - Tilburg area.

AIRBORNE TROOPS.

23. (a) 1 Airborne Division.

At ARNHEM, at 1539 hours, elements of 1 Parachute Brigade were still in the vicinity of the NORTH end of the ARNHEM bridge, but they were not holding it. They were also in the Western end of ARNHEM itself, where they had established themselves in a number of houses and continued to beat off determined enemy attacks. The enemy, who was employing Tiger tanks, used the simple method of blasting a house until it could no longer afford cover. In the bridge area itself, heavy fighting took place but the true situation was obscure as communications were poor; the main cause of indifferent communications was largely because operational conditions necessitated Headquarters being sited in a place which was unsuitable for good communications. It was known, however, that ammunition and supplies were badly needed, as most of the re-supply carried out on

18 September was dropped in enemy territory. The reasons for this were the extremely heavy flak which was employed by the enemy against the unarmed Dakotas and this flak had been considerably thickened up since Sunday 17 September ; Dakota and fighter pilots reported that this was some of the heaviest that they had yet experienced. Civilian sources reported that tanks were operating against 1 Airborne Division perimeter, and a request for immediate air support to combat this threat was initiated by Commander 1 Airborne Division during the day. The Division's position was made more precarious as, owing to bad weather, the drop of the Polish Parachute Brigade, which should have taken place on 19 September, was delayed.

(b) 82 US Airborne Division

To help the Division in its task of protecting the area ~~SE~~ of NIJMEGEN, the COLDSTREAM GUARDS Group of the Guards Armoured Division was detached and came under command of 82 US Airborne Division for operations during 19 September.

As has been described above, elements of this Division located in the NIJMEGEN bridge area, put in an attack to capture the bridge itself in conjunction with the Guards Armoured Division. In addition to this, the Division held off stiff enemy opposition in the BEEK 7560 area. The enemy had attacked with some tanks and was making a nuisance of himself by employing several 88 mm guns. The Division also succeeded in beating off determined enemy attacks, although these were not in great strength, in the GROESBEEK 7555 area.

(c) 101 US Airborne Division

The Division, with 15/19 HUSSARS under command, continued to maintain and secure their hold on the various parts of the main axis of 30 Corps L of C, and on this day their dispositions were as follows :-

- (i) 501 RCT - area VEGHEL 4737.
- (ii) One battalion of 502 Regiment - ST OEDENRODE 4232
- (iii) 506 RCT - EINDHOVEN with detachment at ZON 4425.
- (iv) (327) Glider Regiment and airborne artillery → area 4127
- (v) 502 RCT, less one battalion - area BEST 3726.

The enemy were in fair strength at SCHIJNDEL 4038 which was to the WEST of the axis, and at HELMOND 5522 to the EAST of the axis. In the HELMOND area, the enemy was reported to be NORTH and SOUTH of the town and to be deploying supporting arms, particularly heavy machine guns. The estimated number of prisoners of war taken by both 82 and 101 US Airborne Divisions up to 1300 hours 19 September was approximately 2,000, all of which, it was interesting to note, were from anti-aircraft, German Air Force and L of C units.

..../The

The Division's casualties were estimated as between 500 and 700.

FLANKS

24. The situation on both the 8 and 12 Corps fronts was that only limited advances had been made owing to the difficult nature of the country which the enemy was defending stubbornly and skilfully.

As regards 30 Corps, it had two open flanks and its main axis was subject to continual attacks from enemy elements of about a battalion strength, supported by tanks ; it was accepted that these intermittent attacks would continue until the leading formation of the two flanking Corps could make better progress.

SECTION 8

30 CORPS OPERATIONS 20 SEPTEMBER. 713

GENERAL SITUATION

25. There were three main considerations which were the basis of operations for this day. First, it was imperative to secure the NIJMEGEN bridge, and if this could not be done, then an assault crossing would have to be undertaken. Secondly, on the RIGHT flank the situation was causing some anxiety, as 82 US Airborne Division were being threatened from the BEEK area, and it was apparent that the enemy was building up in the REICHSWALD FOREST E 8551 area. Lastly, the overriding necessity for relieving the 1 British Airborne Division was obvious, as the failure of communications had prevented any assessment of the true situation.

TASKS FOR 30 CORPS FORMATIONS 20 SEPTEMBER

26. In summary, the tasks that were allotted to the formations of 30 Corps for operations to take place 20 September were as follows :-

(a) Guards Armoured Division

- (i) To resume from 82 US Airborne Division, (504 Regiment), responsibility of NIJMEGEN bridge area at first light 20 September.
- (ii) 32 Guards Brigade was to be in support of 82 US Airborne Division and to act as a mobile reserve for defence of EAST flank and also to be responsible for defence of the Canal bridge at 702539.

- (b) 43 Division to concentrate in GRAVE area with a view to undertaking an assault crossing of the River WAAL, and capturing NIJMEGEN bridge intact.

BUILD UP.

27. In order to maintain the impetus of 30 Corps attack on the NIJMEGEN bridge area, a quick build up of fighting troops, supporting arms and supply commodities was vital. The main axis had to be kept open and build-up traffic hustled on. To enable this to be done, all down traffic, less Ambulances, was stopped and certain formations and units were "frozen" to enable fighting troops, vehicles and supplies to get through to the forward areas. During the night 19/20 September, the enemy bombed EINDHOVEN area heavily, causing delay and confusion particularly among the supply echelons. At 0800 hours, the enemy made another attempt to cut our L. of C which he attacked with tanks, SP-guns and infantry; these were based on the HELMOND area in which it was reported that the canal banks were being mined, thereby showing that the enemy was determined to delay the securing of the RIGHT flank by 8 Corps as long as possible. This attack caused further delay, and entailed an organised attack by 501 RCT assisted by 15/19 H, 44 ROYAL TANKS, BRY and Main Corps Headquarters being put in to clear and re-open the main axis; this they did successfully and by 1100 hours, the flow of traffic was able to continue.

The situation as regards Guards Armoured Division and 43 Division was that the Guards, less their administrative echelons, were concentrated in and SOUTH of NIJMEGEN (one Company 1st (Motor) Battalion GRENADEIER GUARDS having successfully blown up the Post Office

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which was believed to contain a switchbox for the demolition of the bridges), while 130 Infantry Brigade of 43 Division was due to move up to the NIJMEGEN area on the night of 20/21 September with a view to taking over the NIJMEGEN bridges once secured.

GROUND TROOPS

28. The enemy bridgehead in NIJMEGEN, which was subsequently proved to have been in a very precarious state on the previous night, was reinforced during the hours of darkness by SS troops from ARNHEM. They took up strong positions in the houses, and notably in the old fort just SOUTH of the road bridge, which, together with anti-tank guns, dominated the roundabout and other approaches.

During the night a plan had been made between Commanders Guards Armoured Division and 82 US Airborne Division.

At first light, 5 Guards Armoured Brigade with under command 2 Battalion, 505 US Parachute Infantry Regiment, assumed responsibility for clearing NIJMEGEN preparatory to seizing the bridge. At the same time, the GOLDSTREAM GUARDS Group of 32 Guards Brigade moved over to support 82 US Airborne Division on the RIGHT flank.

504 US Parachute Infantry Regiment was thus freed to undertake an assault crossing of the River WAAL, WEST of NIJMEGEN in area 6864. The artillery support and timings of both forces were co-ordinated so that the bridges might be attacked simultaneously from both sides of the river.

At first light, 1 Motor Battalion GRENADIER GUARDS with in support tanks of 2 Armoured Battalion GRENADIER GUARDS and snipers of 2 Battalion, 505 US Parachute Infantry Regiment operating largely from roof-tops, proceeded with the laborious task of clearing the town towards the Southern end of both bridges. Before fierce enemy resistance, the advance proceeded from house to house, slowly but steadily.

Meanwhile 504 US Parachute Infantry Regiment, together with two squadrons 2 Armoured Battalion IRISH GUARDS who were to support them from the SOUTH of the river, were preparing for the hazardous task of an assault crossing in daylight. Many factors were against them. The enemy had excellent observation from the NORTH bank, and, even at the hour selected, the current did not drop below three knots.

At 1500 hours the assault began. In order to prevent aimed fire during the launching and crossing, the limited artillery support was augmented by intense HE and SA fire from the IRISH GUARDS tanks, which also attempted a smoke screen. Owing to the weather, however, the latter was not effective and on approaching the enemy bank the assaulting troops were met with heavy fire. This caused very heavy casualties and only a few of the leading wave reached the far bank, some in boats and some swimming. Despite this, a footing was obtained and a small bridgehead 700 yards wide and 100 yards deep was maintained until the arrival of the follow-up waves, some of whom swam the river. By 1800 hours this force moved EAST towards the Northern end of the NIJMEGEN bridges. The ferrying of anti-tank guns, stores and equipment behind the assaulting force was successfully carried out by 615 Field Squadron.

Communications between the two forces were not good, but at approximately 1845 hours a report was received by the GRENADIERS that the American Flag could be seen on the far side of the bridge.

.../This

This subsequently turned out to be the railway bridge but it served as a signal for the GRENADIERS, who were by then fighting on the approaches to the road bridge, to attempt rush tactics.

At 1930 hours a small force, including tanks and infantry of the GRENADIERS, with some SP anti-tank guns and Sappers of 14 Field Squadron, crossed the 600 yards span of the bridge and joined up with the US Paratroops.

The position was soon strengthened by the addition of tanks and infantry from the IRISH GUARDS Group, and by 2015 hours a close bridgehead was firmly established.

Far into the night sporadic fighting continued on both banks, and also on the bridge itself where snipers were still firing from the girders at the Sappers, who were hurriedly removing the ample supply of demolition charges, which mysteriously, had never been fired. Underneath the roadway, in the piers themselves, 80 German prisoners were taken by the Sappers from their place of hiding in the demolition chambers.

It was clear that a considerable amount of mopping up would have to be done on the morning of 21 September before the town of NIJMEGEN could be considered clear of enemy. But one of the most important bridges in Europe had been captured intact in the face of desperate resistance by a very determined enemy. This was a magnificent achievement brought about by the actions, so brilliantly co-ordinated and executed, of the Guards Armoured and 82 US Airborne Divisions.

AIRBORNE TROOPS

29. (a) 82 US Airborne Division

On the RIGHT flank of 30 Corps, which was held by 82 US Airborne Division, the enemy had built up and attacked in some strength.

In the BEEK 7560 area the enemy held the line of 729628 - 735615 - 748602 with about a battalion of infantry, some of whom were dug in and supported by tanks, also dug in, and a number of 88 mm guns. Tactical Reconnaissance had reported that there were more enemy digging in in the REICHWALD FOREST area 7852, and it was obvious that the enemy were building up there with a view to staging a counter-attack against our RIGHT in the area held by 505 Regiment. Small parties of the enemy also attacked 505 Regiment at GROESBEEK, while 508 Regimental Combat Team was attacked by small parties of the enemy operating from MOOK E 7251. Although these attacks were held, they were troublesome owing to the close nature of the country and the fact that, except for Tactical Reconnaissance, the few approaches to the REICHWALD FOREST area 7852, made it difficult for our patrols to go out and obtain information. Further SOUTH as has been described above, the enemy also held MOOK at which were reported to be elements of two German Regiments. It was also reported that a German bridge was being built at COYK 7449 which would probably be used for reinforcing the enemy forces already concentrated in the REICHWALD area 7852.

.../It

It was estimated that as the two villages of MOOK E 7251 and CUYK E 7149 lay at the end of the three main reinforcement routes from GERMANY that the enemy would reinforce in this area and hold on to these points, and this subsequently proved to be correct.

To meet this threat, COLDSTREAM GUARDS Group from the Guards Armoured Division was put under command of 82 US Airborne Division. This Division was also further reinforced by the release of the parachute infantry regiment which had been guarding the NIJMEGEN bridge which was now in process of being taken over by 130 Infantry Brigade of 43 Division.

(b) 1 British Airborne Division

In the ARNHEM area, 1 British Airborne Division were continuing to hold a small divisional perimeter which controlled a portion of the NORTH bank of the NEDER RIJN near the HEVEADORP Ferry 6877 and the wooded area round OOSTERBEEK E 6977.

The situation was becoming acute as the enemy had reinforced during the past two days and it was apparent from prisoners of war that he was bringing in good fighting troops. Extremely heavy fighting was experienced. The enemy made a series of local attacks preceded by heavy mortaring and fire from SP guns and, in some cases, accompanied by tanks. ARNHEM was now entirely in the enemy's hands. The bridgehead was being shelled from the high ground to the NORTH and the enemy were infiltrating through the Airborne Division's lines from the same direction.

Casualties of the Air Landing Brigade and the two Parachute Brigades during this period were heavy; from civilian reports, it could now be assumed that only small elements of the 1 British Parachute Brigade were operating. Thus the enemy's main resistance was centred on ARNHEM in which it was reported that he had 300 SS, a number of paratroops and 10 SP 88 mm guns.

The above information was confirmed by the Adjutant, Royal Engineers, 1 Airborne Division who that morning had crossed the River NEDER RIJN WEST of the ARNHEM bridge and had walked through the enemy lines to the Headquarters of the Guards Armoured Division. He said that the supply situation, after the partially successful re-supplying of the Division by Dakota aircraft on 19-September, was adequate. He knew nothing of the supply situation as regards 1 Parachute Brigade, as the Brigade continued to be isolated from the Division. He emphasised, however, the Division's resources were stretched to the uttermost and that relief was vital within the next 24 hours if the Division was to remain intact as a fighting formation.

(c) 101 US Airborne Division

The Division continued to maintain its hold on nodal points along 30 Corps L of C. At ZON the enemy had attacked but had been repulsed.

.../The situation

The situation as regards any major enemy threat to the Corps axis and L of C was not at this stage apparent, although it was known that a considerable force of the enemy was established to the WEST of the axis. This threat, however, it was hoped would be met by the two flanking formations, 8 and 12 Corps making rather more rapid progress than they had in the past, which had been slow owing to the difficult nature of the country.

AIR SUPPORT

30. Bad weather and the maintenance lift for re-supply of 1 British Airborne Division kept the number of sorties down to 259 of which 181 were purely fighter operations, air cover and sweeps.

Tactical Reconnaissance produced little of value both because of bad visibility and the prohibition on flying during airborne drops. Later this had its effect, as it enabled the enemy to concentrate forces EAST and WEST of the axis of advance with a view to attacking and disrupting traffic on it.

*still
and were
canal
Meuse-Escaut*

FLANKS

advanced but three miles North of the

31. On the RIGHT, 8 Corps had secured ACHEL K 4297 and HAMONT K 4797 both of which were short of the DUTCH frontier. Opposition by the enemy was stubborn, and it was thought that HELMOND was held in strength by tanks and Sappers who were manning the EAST bank of the Canal.

On the LEFT, 12 Corps had gained the line of the road between 3815 and 3010, and had reported stiff opposition from the WEST in the area WEST of 3002.

WEST in the direction of ARENDONCK

SECTION 8

30 CORPS OPERATIONS 21 SEPTEMBER

GENERAL SITUATION

32. With the capture of the NIJMEGEN bridge intact and a decrease of enemy activity SE of NIJMEGEN E 7062, it was hoped that a quick break out from the limited bridgehead across the NEDER RIJN would be achieved.

The unsuitability of the country between the rivers MAAS and NEDER RIJN for tanks made it imperative that more infantry were brought up. This conflicted with essential maintenance up and down traffic plus supporting and AA artillery, all of which were urgently required in the forward areas.

The threat to the Corps L of C was not at this stage serious, although a considerable force of the remnants of the 15 German Army were threatening it from the WEST.

TASKS FOR 30 CORPS FORMATIONS 21 SEPTEMBER

33. The tasks that were given to formations of 30 Corps and units under command for operations were as follows :-

(a) Guards Armoured Division

- (i) Ensure security of road bridge over R WAAL at NIJMEGEN E 7062.
- (ii) Advance earliest possible 21 September at maximum speed to area ARNHEM E 7575 continuing with task given in 30 Corps Operation Instruction Number 24, vide paragraph 8 (a), Part I, and also bringing assistance to 1 Airborne Division. Main axis of advance NIJMEGEN E 7062 - REUSEN 7167 - ARNHEM E 7575 ; operational traffic may also use road NIJMEGEN E 7062 - ELST 7070. If strong opposition met, Guards Armoured Division will make every effort to fan out WEST and reach NEDER RIJN area WEST of ARNHEM to make contact with 1 Airborne Division.
- (iii) COLDSTREAM GUARDS Group remain in support 82 US Airborne Division until released by Corps Headquarters.

(b) 43 Division

- (i) Relieve WELSH GUARDS responsibility bridges GRAVE 6253 and 6760 earliest possible. As soon as available, Squadron Reconnaissance to operate WEST from GRAVE 6253 area.
- (ii) Send two battalions 130 Brigade to assist Guards Armoured Division to clear up WEST part of NIJMEGEN E 7062 and to secure railway bridge 7063. Airborne Corps requested to assist this by endeavouring to seize NORTH end of this bridge.
- (iii) Advance as soon as possible WEST of Guards Armoured Division towards NEDER RIJN to assist 1 Airborne Division.

...(iv)/Boundary

- (iv) Boundary between Guards Armoured Division and 43 Division, when the latter advance, will be, inclusive 43 Division, line of railway from NIJMEGEN to NEDER RIJN at 7176 subject to axis rights mentioned paragraph (a) (ii) above.
- (v) Concentrate remainder Division, as it arrives, in area astride road from bridge 6760 - inclusive GRAVE.

GROUND TROOPS

34. By the morning of 21 September, elements of the 5 Guards Armoured Brigade less WELSH GUARDS Group, which was still guarding the GRAVE bridge, were well established on the NORTH bank of the R WAAL and were prepared to push on with maximum speed to ARNHEM in relief of 1 Airborne Division. To ensure LEFT flank protection, 2 HCR sent out patrols to OSS E 4754 - s'HERTOGENBOSCH E 3246 and also from GRAVE - UDEN. These patrols reported that the enemy were passing through TIEL 4268 and that they were withdrawing EAST along the NORTH bank of the R WAAL. It was now apparent that the enemy were well established in the area NORTH and SOUTH of ELST, which they appeared to be holding in strength. About 20 tanks had been reported by Tactical Reconnaissance to be moving in a southerly direction in the direction of ARNHEM. A prisoner of war from the Panzer Jaeger Battalion stated that they had no orders to attack but merely to dig in in the ELST area, and it was now apparent that the enemy was determined to prevent us reaching ARNHEM.

An added difficulty was that although it had been confirmed that the railway bridge WEST of the NIJMEGEN road bridge was a Class 40 bridge, owing to enemy activity directed against it from the NORTH bank, it was impossible to get traffic on to it. The approaches were weakened and blocked by disabled tanks and vehicles ; a considerable amount of work would have to be done before tanks could be got across. This was undertaken by Corps Troops RE.

During the morning, 130 Infantry Brigade of 43 Division had taken over the responsibility of holding the GRAVE bridge area from the WELSH GUARDS Group. 214 Infantry Brigade Group of the 43 Division was to cross the river by the railway bridge over the R WAAL at 1400 hours that afternoon. A squadron of 4/7 DRAGOON GUARDS crossed the road bridge, the approaches to which had, by this time, been sufficiently strengthened to take tanks.

The previous night 5 Guards Brigade, with the IRISH GUARDS Group and 153 Field Regiment, had established a close bridgehead in the immediate area at the NORTH end of the NIJMEGEN bridge.

By 1230 hours, 130 Infantry Brigade of 43 Division, less two companies of 4 DORSETS, had taken over the NIJMEGEN bridges from 5 Guards Armoured Brigade Group. The disposition of 130 Brigade was that 7 HAMPS were responsible for the Southern exits and 5 DORSETS were responsible for the Northern exits.

By 1300 hours, the IRISH GUARDS Group of 5 Guards Armoured Brigade was deployed as fully as the country would permit, against an enemy who was fighting stubbornly in the area SOUTH of ELST and who had sited a strong anti-tank screen just NORTH of the bridge.

.../Progress

Progress by the armour was slow as it was compelled to keep to the road which imposed upon it advancing on a one tank front. Not only had this road deep ditches on both sides, thereby preventing deployment off it, but it was also raised about 6 feet above the surrounding countryside. Thus our tanks were a perfect target for enemy 88 mms, 105 mms and Tiger tanks who had formed a very strong anti-tank screen some 600 yards off the road on the RIGHT flank in the area of RESSEN station. To liquidate this tank screen, the WELSH GUARDS Group attempted to get round on the LEFT flank but the country did not allow this and both the WELSH and IRISH GUARDS Groups lost a number of tanks. The available artillery support was limited to one battery firing at a time, as only a limited amount of artillery could be got forward up the L of C. In addition, the contact car, which was allotted to the IRISH GUARDS Group, failed to contact the squadron of Typhoons in support owing to faulty communications between the VHF set and the aircraft; thus the tanks lacked vital support at a critical period of the battle. By last light the position was little changed and only a slightly enlarged bridgehead was held by 5 Guards Armoured Brigade Group. Meanwhile, 129 Brigade Group had been moved up and had become available to strengthen the bridgehead, if required, early morning 22 September.

AIRBORNE TROOPS

35. (a) 1 British Airborne Division

There was still little definite news about the Division which continued to hold a Divisional perimeter of approximately one mile by half a mile centred on HARTESTEIN 6978 between the river and the high ground to the NORTH of it. The enemy, most of whom were now confirmed to be elements of 9 SS Division, were shelling and mortaring the position and this was followed up by local attacks which were causing heavy casualties. Although the strength of the 1 Airborne Division was considerably reduced, they continued to inflict heavy casualties on the Germans.

Owing to the contraction of the Divisional perimeter caused by repeated enemy attacks, the divisional Field Dressing Station was also being shelled and hit by the enemy. This continued until the Assistant Director of Medical Services of the Airborne Division drove out in a jeep and demanded from the German Commander that this cease. The German Commander granted this concession and also allowed our jeeps to drive out and collect casualties and thereafter evacuate them into the ARNHEM hospital. It is of interest to note that both British and German casualties were evacuated and treated impartially in this British Field Dressing Station.

In ARNHEM itself, which by this time was entirely controlled by the enemy, elements of 1 Parachute Brigade were continuing to snipe the Germans but they were gradually being mopped up. At 1700 hours, the ferry at HEVEADORP 687767 had been captured by the enemy and thus all links to the Southern side of the river were cut.

Throughout the day, 64 Medium Regiment fired in support of the division causing the enemy heavy casualties. The assistance and accurate fire by this regiment was of the greatest value and raised the morale of the troops considerably. During the day it was of note that the division destroyed 15 enemy tanks.

.../At 1714 hours,

At 1714 hours, about two thirds of the Polish Parachute Brigade were dropped in the area NW and NORTH of ELST 7070. The drop took place nearer to ELST, and hence the enemy positions, than was intended owing to heavy enemy flak. The result of this was that the Polish Parachute Brigade suffered a number of casualties and it took time to collect and concentrate them in the area from which they were to cross to reinforce 1 British Airborne Division. As has already been narrated, the Adjutant Royal Engineers 1 Airborne Division had said that help must reach the division within the next 24 hours otherwise he feared that as a fighting formation it would cease to exist. Food and ammunition were again in short supply due to the difficulty of dropping these commodities into a dropping zone which, of necessity, had to be sited in an unsuitable area within the much contracted Divisional perimeter.

(b) 82 US Airborne Division

Owing to the bad weather, the landing of 352 Glider Infantry Regiment had again to be postponed. This was a cause for anxiety, as although there was a lull in this area following enemy attacks on 20 September, evidence from captured maps and documents showed that it was evident that the enemy had approximately the equivalent of two Home Guard Divisions in the REICHWALD FOREST area. Thus, although these were NOT first class troops, they formed a threat against our RIGHT flank which could not be ignored. Accordingly, the COLDSTREAM GUARDS Group continued to operate in support of 82 Airborne Division in the area SE of NIJMEGEN.

(c) 101 US Airborne Division

The division continued to carry out its task of protecting the L of C. The 15/19 H reverted to the command of 11 Armoured Division. Enemy patrols were active during the day and many minor encounters had taken place. The enemy was operating in parties of about a battalion strength, and the strength of our forces guarding the L of C were not strong enough to deal decisively with the enemy.

AIR SUPPORT

36. Weather and necessity for air lift again kept the number of sorties down and a total of 259 were flown of which 181 were purely fighter operations, air cover and supplies. The activities of Tactical Reconnaissance were limited owing to bad visibility and because further impending airborne operations placed a severe restriction on their use. Through lack of Tactical Reconnaissance, the enemy's temporary cut to the main axis in the VEGHEL E 4737 area was not spotted beforehand. When the cut was spotted, 30 Corps agreed to the unusual procedure of strafing on recognition within the bomblines. This was successful and only one vehicle casualty of ours was reported.

ENEMY ACTIVITY

37. A considerable number of Me 109s and FW 190s operated over the NIJMEGEN area during the afternoon of which two were shot down, one being claimed by 30 Corps Light Anti-Aircraft Guns.

FLANKS

38. In summary, both Corps had made some progress and had advanced

....to

to a line roughly EAST and WEST of EINDHOVEN. Reports from both indicated that the enemy was fighting very hard, and that he was defending every important town and village, and was refusing to give ground unless pushed out. This, coupled with the lack of roads, blown bridges and restricted areas for deployment, had made the role of flank protection to 30 Corps difficult.

SECTION 8

30 CORPS OPERATIONS 22 SEPTEMBER

GENERAL SITUATION

39. It was now apparent that once a junction had been made with 1 British Airborne Division an assault crossing on a large scale would have to be undertaken.

The existing bridgehead, as held by 1 British Airborne Division, was small. Although it was hoped to ferry reinforcements and supplies across to the Airborne Division on the night of 22/23 September, it was known that great difficulty would be experienced getting up and launching either storm boats, assault craft or DUKWs. Thus the number of reinforcements that could be put across in the hours of darkness was limited by the difficulties of launching and lack of craft. The turn around for craft between the NORTH and SOUTH bank was half an hour. Taking into account all these factors, it was apparent that an assault crossing in another place and out of range from the enemy fire might have to be undertaken. The original Corps plan of securing the ARNHEM bridge and using its environments for a quick break-out could not now be undertaken, as the enemy were firmly established in ARNHEM itself, and the ground to the NORTH and NE of it.

Accordingly, the original Corps directive to thrust right through to the ZUIDER ZEE, with the Guards Armoured Division leading and 43 and 53 Divisions holding the high ground to the NORTH of ARNHEM, had of necessity to be modified. The Corps was now ordered not to establish itself NORTH of APELDOORN Z 7803, and this was to be held by the Guards Armoured Division with 43 Division obtaining a firm bridgehead based on ARNHEM. In general, the situation was that the enemy was determined to prevent our reinforcing 1 British Airborne Division, and at the same time would probably continue to harass the Corps L of C, thereby preventing much needed reinforcements and maintenance requirements from being brought up.

TASKS

40. The tasks allotted to 30 Corps formations for 22 September were as follows :-

(a) Guards Armoured Division

- (i) To maintain its present positions and rest for 48 hours.
- (ii) To reconce WEST of the road to ARNHEM, and in the S'HERTOGENBOSCH area. Reconce was also to be undertaken from the GRAVE area on both sides of the main axis of advance.

(b) 43 Division

- (i) To occupy the ARNHEM bridge
- (ii) To make contact with 1 British Airborne Division
- (iii) The ROYAL NETHERLANDS Brigade to take over close perimeter and the defence of the NIJMEGEN bridge under command 69 Infantry Brigade.

...(c)/69 Infantry

(c) 69 Infantry Brigade Group (50 (N) Division).

- (i) To relieve 130 Infantry Brigade Group, 43 Division, of all bridge responsibilities of crossings between NIJMEGEN and GRAVE.
- (ii) To assume command of the ROYAL NETHERLANDS Brigade for tasks shown in (b)(iii) above.
- (d) RA was to be grouped on Corps level in support of 43 Division operation.
- (e) Air support by Typhoons and bombers was to be directed against the enemy on the SOUTH bank of the NEDER RIJN WEST of ARNHEM.

GROUND TROOPS

41. At first light, patrols of 2 HCR operating on the WEST flank of our forces established in the REEK E 5851 area, reached the SOUTH bank of the NEDER RIJN in area 6876 and by 0800 hours had linked up with elements of the Polish Parachute Brigade, who were engaged in the area 6775 - 6774. In establishing themselves in this area, full use of the early morning mist had been made to get a squadron on to its objective. During the course of the day, this squadron continued to send back a stream of valuable information to Corps: at one period they directed the Corps artillery on to targets passed to them by isolated paratroops in ARNHEM. At another period during the day, they observed a steamer flying the German flag and towing four barges. They signalled that they were manoeuvring into a favourable position to engage. Shortly afterwards came the signal - "Steamer damaged - three barges sunk." Back went the signal from the Guards Armoured, "Congratulations on brilliant naval action. Splice main brace." They did.

Meanwhile, at 0830 hours 43 Division attacked with 214 Infantry Brigade with the object of breaking out from the existing bridgehead established over the R WAAL; subsequently they were to secure the road leading from NIJMEGEN to ARNHEM via ELST. At first opposition was slight, and no fire support was necessary, but soon several enemy positions were encountered in the area 6866 and progress was slow. They reached the 67 grid line by 1600 hours after heavy fighting, in which the enemy had refused to give ground unless attacked in force, and driven out. At about this time, it was decided to push a mobile column consisting of the 5 DCLI, with a squadron of 4/7 DG under command, to link up with the Poles in the area of DRIEL and establish themselves on the SOUTH bank of the NEDER RIJN. In order to break through, caution was abandoned and two companies of infantry were mounted on the tanks and all the other fighting vehicles available. Tanks led this column at their best speed whilst the second column "scotched up" on their feet as quickly as possible. By 1915 hours, they had passed through VALBURG E 6670 and with the exception of five Tiger tanks joining their column just WEST of ELST, they reached the NEDER RIJN without further opposition and linked up with the Poles. 1 WORCESTERS closed up behind this column and were firmly established in VALBURG E 6670 by midnight. This relieving force included DUKWs carrying ammunition, supplies and medical stores for the relief of 1 Airborne Division. During the whole of this phase 130 PW had been taken, 2 tanks knocked out and another captured. An attempt was made on the night 22/23 September to ferry across reinforcements and supplies for 1 Airborne Division but the banks were steep, DUKWs were difficult to launch, and the whole of the Southern bank was under heavy enemy MG fire, firing on fixed lines from the NORTH bank. Some supplies and ammunition were got across by rafting during the course of the night.

.../129 Infantry

129 Infantry Brigade Group advancing NORTH up the main NIJMEGEN - ARNHEM road had made little progress against strong opposition, and owing to the difficulty of deploying off the road. By last light they were halted on the line of the 675 Northing. At 1300 hours the enemy cut the Corps L of C road-link with tanks and infantry between UDEN 5342 and VEGHEL 4737. This threat, consisting of lorried infantry a few tanks and guns had come from a North-Westerly direction. To deal with this trouble 32 Guards Brigade were despatched forthwith ; on arrival in the area the Commander 32 Guards Brigade was to assume command of all the Corps Troops, including the Medium Artillery. By last light, contact with the enemy had been made in the area 5140, SOUTH of GRAVE, but no decisive action had taken place. At the same time as the enemy cut the main axis at UDEN and VEGHEL he started shelling ST OEDENRODE 4232, and it appeared that an attempt was being made to launch a co-ordinated counter-attack on the Corps L of C. This attack did not materialise, but it showed that the enemy was in position to threaten and block the Corps L of C, thereby preventing urgently required reinforcements and maintenance requirements being sent up to the forward areas. This he was temporarily able to achieve as no further traffic could be passed forward for the remainder of that day. On the EAST flank, the ROYAL NETHERLANDS Brigade who were responsible for protection of the GRAVE bridge area, had reported that the enemy were shelling CUYK 7149 ; further, that they had made contact with small detachments of the enemy at OEFFELT 7647, but that they did not appear to have any hostile intentions.

During the course of the day, 69 Brigade, less one battalion had relieved 130 Infantry Group of the responsibility for the protection of the NIJMEGEN bridges.

AIRBORNE TROOPS

42. (a) 1 British Airborne Division

During the night 21/22 September, an attempt had been made by the Division to regain the ferry at HEVEADORP, so that it could be used for ferrying across supplies and reinforcements. This attempt was unsuccessful, and it was now apparent that if an assault crossing were to take place then it could only do so providing the enemy positions on the Northern bank of the river were neutralised.

The enemy continued to exert heavy pressure on the already overtired garrison by mortaring and shelling on the same scale as the previous day. The estimated effective strength of the division was reported to be now only approximately 1200.

(b) 101 US Airborne Division

At 1200 hours the division ceased to be under command 30 Corps and was transferred to 1 British Airborne Corps. During the course of the day, this division fought many minor actions at nodal points on the Corps L of C, and at times had to be reinforced by elements of the 32 Guards Brigade.

(c) 82 US Airborne Division

The RCTs of this division continued to extend their flanks and had to undertake operations against the enemy who were located at MOOK E 7251 and BREKKOM E 7862. It was now apparent that the enemy was building up his strength in the REICHWALD FOREST area and that this would prove a very definite threat to our RIGHT flank.

.../AIR SUPPORT

AIR SUPPORT

43. Flying conditions were much improved and 500 sorties were flown in the general area NW of ARNHEM. 104 of these were armed reconnaissances in the general area NW of ARNHEM down to VENLO E 9109.

Tactical Reconnaissance had reported on the evening of 22/23 September, that there was a column of 100 mixed vehicles in VENLO itself, and that the enemy were digging-in in that area.

Attacks were made in support of 1 British Airborne Division on a big factory in the ARNHEM area from which the enemy were sniping and observing the Airborne defence perimeter. The factory was effectively attacked by 24 Typhoons and enemy activity from this area ceased.

Targets moving up to attack the main Corps axis were also attacked.

FLANKS

44. On the LEFT, 12 Corps had their forward elements NE of EINDHOVEN while 8 Corps continued to push slowly forward towards HELMOND 5522. On both fronts hard fighting had taken place, and it was apparent that the enemy, helped by the country, was capable of still imposing considerable delay on the advance of both Corps. Thus the enemy would be able to continue to harass 30 Corps L of C, particularly from the EAST flank, until such time as 8 and 30 Corps elements could link up.

SECTION 8

30 CORPS OPERATIONS 23 SEPTEMBER

GENERAL SITUATION

45. The problem now confronting the Corps was, firstly to continue operations to secure ARNHEM, secondly to get reinforcements and supplies to 1 British Airborne Division, thirdly to clear and then keep open their L of C. Finally, as the enemy was reported to be bringing tanks SOUTH from ARNHEM, it was essential to ensure the security of the RIGHT flank of the WAAL bridgehead.

As regards protection of the L of C, Second Army had directed that 8 Corps was to relieve 30 Corps of this responsibility up to GRAVE. The heavy artillery supporting programme which was necessary to support the 1 Airborne Division, and the 5 DCLI ferrying across reinforcements, entailed an excessive expenditure of ammunition. It was decided, therefore, that once the road was reopened, priority would be given to the move forward of ammunition echelons. The possibility of having to carry out an assault crossing further to the WEST of ARNHEM, now that the enemy completely controlled ARNHEM, also meant that the move forward of bridging equipment had to receive a high degree of priority.

The necessity for deepening Northwards the existing shallow bridgehead was fully appreciated and further, that the need for additional infantry was vital, as the country NORTH of NIJMEGEN was entirely unsuitable for deploying armour against determined resistance.

As regards the enemy, he was gauged as having two main objects in view; firstly, to continue harassing our L of C and secondly, to eliminate the perimeter held by the British Airborne Division.

TASKS

46. The tasks that were given to 30 Corps formations for operations on 23 September were as follows :-

(a) Guards Armoured Division

(i) 5 Guards Armoured Brigade

Have one Armoured Regiment available to support 129 Infantry Brigade in case of attack. Protect RIGHT flank of WAAL bridgehead from RIGHT flank 129 Infantry Brigade to R WAAL, advancing in any case as far as pond 729658.

(ii) 32 Guards Brigade

Operate with one regimental group in area VEGHEL - UDEN to keep Corps axis clear. Retain regimental group as at present disposed SOUTH of GRAVE which was not to be moved SOUTH unless Divisional Commander considered necessary.

(iii) Retain two squadrons HOR operating NORTH of WAAL bridgehead, also recce WEST from GRAVE towards OSS E 4754 and S'HERTOGENBOSCH E 3246.

...(b)/43 Division

(b) 43 Division

- (i) Retain one brigade group in area R WAAL bridgehead, enlarging this towards BEMMEL 7367.
- (ii) Capture ELST
- (iii) Secure and strengthen junction with 1 Airborne Division
- (iv) Recce Westwards between WAAL and NEDER RIJN.
- (v) Send Commander 129 Brigade earliest to visit Commander 5 Guards Armoured Brigade.

(c) 69 Brigade Group

Carry on with present tasks including recce WEST between MAAS and WAAL and EAST from GRAVE towards CUYT.

- (d) SRY remain under command 82 US Airborne Division.

OPERATION ON 30 CORPS L OF C

47. At first light, 32 Guards Brigade began operations in conjunction with 101 US Airborne Division to clear the Corps axis SW from UDEN. Contact was made with enemy tanks and infantry in the area of VOLKEL 5640, and astride the road in the area 5140. 44 Royal Tanks were also co-operating NE of VEGHEL and by 1300 hours they had joined up with 32 Guards Armoured Brigade.

At 1530 hours, the axis was re-opened and blocks of ten vehicles were being sent through every thirty minutes. From then on, traffic continued to flow through steadily subject to occasional interruptions from enemy shelling, bazookering and small arms fire. Nevertheless, the threat to the axis continued, and the enemy appeared to have in this area about 300 infantry and a number of tanks and SP guns.

GROUND TROOPS, ARNHEM - NIJMEGEN area.

48. As has already been stated it had not been possible to get supplies across in DUKWS on the previous night to 1 Airborne Division. Accordingly, OC 5 DCLI asked that assault boats be sent up to him so that he could make use of them for getting both Polish reinforcements and supplies across on the night 23 September. Commander 43 Division also asked for a smoke detachment to be made available so that such operations would not be limited to the hours of darkness. As regards current operations for that day, the main object of 43 Division was to strengthen and deepen the existing bridgehead so that a link up with 1 Airborne Division could be achieved that night.

By 1230 hours, 5 DORSETS had reached their final objective on the SOUTH bank of the RHINE but were being shelled from ELST which was still strongly held. 1 WORCESTER Regiment had reached, and was well established in VALBURG. Earlier in the day, 1 WORCESTER was counter-attacked from ELST, as a result of which their impending attack on ELST to clear it had to be postponed. The enemy resistance seemed to have increased as he was fighting stubbornly and was much aided by the country, where movement off the road was difficult owing to deep ditches on either side of the road. This area was admirably suited for defence as it enabled the enemy to get good fields of fire across large stretches of open country.

.../By 1430 hours

By 1430 hours, two battalions of 130 Infantry Brigade were just short of the SOUTH bank of the NEDER RIJN and 43 Divisional Reconnaissance Regiment was effectively screening the Corps LEFT flank between the Rivers NEDER RIJN and WAAL. At 1700 hours, 214 Infantry Brigade had launched an attack on ELST from the WEST and by 2200 hours they had reached, and were fighting in, the Western outskirts of the village. Here a house-to-house battle took place and before any progress could be made it was a case of clearing the village house by house.

During the day, the WELSH GUARDS Group had made little progress and by last light had reached area 7265, but as on the previous day, the country over which they had to fight was ideally suited for defence and the enemy was not slow to adapt his methods accordingly.

At 1600 hours, the ROYAL NETHERLANDS Brigade, now under command 1 Airborne Corps, assumed responsibility for the GRAVE bridge and the bridge just NE of it. 43 Division's hold on the SOUTH bank of the R NEDER RIJN in the DRIEL area had been maintained. Movement was still under constant observation and heavy fire from the enemy, and therefore no attempt could be made to cross the river.

The plan for the night 23/24 September to bring assistance to the Airborne Division was to pass over as many of the Polish Parachute Brigade as possible, possibly two companies of infantry, plus essential supplies, mainly ammunition. The call for ammunition by Airborne Forces was an urgent one as they had not been able to be re-supplied the day before by air owing to bad weather conditions. Therefore, no major assault crossing could take place, as the assault craft were required for carrying across ammunition; eventually, 250 Poles of the Polish Parachute Brigade were ferried across on the night 23/24 September and a number of them succeeded in linking up with 1 Airborne Division.

AIRBORNE CORPS

49. (a) 1 British Airborne Division

By midday 23 September, 1 Airborne Division had been further reduced, although it had been reinforced on the night 22/23 September by about 50 all ranks of the 250 men of 1 Polish Parachute Brigade, who had originally been ferried across. The Division's perimeter was still under continuous heavy enemy mortar and shell fire from the NE. Ammunition and medical facilities were in even shorter supply than on the previous day. The food situation was acute. There was still no news of 1 Parachute Brigade, and from statements made by prisoners of war, it was apparent that as a formation it had ceased to exist.

(b) 82 US Airborne Division

On the RIGHT flank, elements of this Division had cleared the enemy from the area in the bend of the R WAAL EAST of NIJMEGEN up to ERIEKOM. The COLDESTREAM GUARDS Group, which was operating in this sector under command of 82 US Airborne Division, had crossed the GERMAN frontier EAST of BEEK 7560 and were thus the first British troops, other than HQ British Airborne Corps, to re-enter GERMANY in this war.

At 1600 hours, 352 Glider Infantry Regiment and the remainder of the Polish Parachute Brigade were dropped in the NORTH of GRAVE with excellent results. Casualties to both gliders and personnel were very light.

...(c)/101 US

(c) 101 US Airborne Division

This Division continued to be actively employed in dealing with the enemy "cut" to the Corps L of C and its subsequent disruption again after repair.

AIR SUPPORT

50. The weather was again cloudy, and this, coupled with the landing of the glider elements of 82 US Airborne Division and the Poles of the Polish Parachute Brigade, interfered with operations by 83 Group. 24 Typhoons were despatched to attack enemy targets in 1 Airborne Division's area, and in all 260 sorties were flown over the Corps area.

FLANKS

51. Both 8 and 12 Corps continued to meet stiff opposition, but both had managed to make some progress, and it was hoped that 11 Armoured Division of 8 Corps would soon link up with 30 Corps patrols on the EAST flank.

30 CORPS OPERATIONS 24 SEPTEMBER

GENERAL SITUATION

52. The enemy had continued in his attempts to cut the Corps L of C and to eliminate the perimeter held by the British Airborne Division the previous day. In addition, the enemy was trying to reinforce the ARNHEM area from the ELST and WEST, using the railway from UTRECHT to EMMERICH E 9760. Tanks had been seen moving along the NORTH bank of the R NEDER RIJN from the direction EAST of RHENEN E 5175 so as to counter any attempt that might be made to cross the NEDER RIJN. Cyclist troops were reported to have been moved SOUTH to the area 5876. The enemy had thickened up his resistance to the EAST and he was also digging-in on the NORTH bank of the NEDER RIJN in the vicinity where the rivers NEDER RIJN and NEDER WAAL approach each other.

TASKS

53. The tasks for operations on 24 September as allotted by 30 Corps are as shown at Appendix 'O'.

GROUND TROOPS BETWEEN ARNHEM AND NIJMEGEN

54. 43 Division continued its efforts to drive the enemy out of ELST, but he had reinforced this area with both tanks and infantry from ARNHEM. So fierce was the fighting in this area that 214 Brigade group did not reach the centre of the village until 1400 hours. By this time they were near the main road NORTH and SOUTH through ELST itself and had elements across it. By last light, the greater part of ELST had been cleared by 214 Brigade, and 7 SUM LI had secured ELST railway station and 1 WORCESTERS on the LEFT was established just SOUTH of ELST. There were, however, still elements of the enemy clinging on to the NE end of the village. The main opposition was from snipers and Spandaus, who were well concealed in almost every house.

The glider element of the Polish Parachute Brigade, which had landed in the GRAVE area on the afternoon of 23 September, were taken up to 130 Infantry Brigade's area by 1600 hours 24 September, so that they could be ferried across that night to reinforce 1 British Airborne Division.

On the SOUTH bank of the NEDER RIJN, the enemy's reaction on the front of 5 DLI was considerable, as he was presumably apprehensive of our making an attempt to establish a bridgehead in this area. The capacity of the roads leading to 5 DCLI area was very limited, in full view of the enemy, and only narrow crossings existed; thus it was difficult to get the assault boats and DUKWs required to ferry reinforcements and supplies down to the river side. If any crossing was to be attempted in daylight, Commander 43 Division asked for a full allotment of smoke to cover such an operation.

At 1600 hours, the WELSH GUARDS Group attempted to take BEEMEL 7367 but found it strongly held. The enemy was most determined in his resistance, and by last light, the WELSH GUARDS Group were short of their objective and were established in the area 730665 to 720695, and SOUTH of BEEMEL 7367.

GROUND TROOPS OPERATING ON THE L OF C

55. The enemy again cut the Corps main axis SOUTH of VEGHEL at 1630 hours and all traffic ceased. This time the attack came in from the WEST of the axis and was made by elements of 6 Parachute Regiment, which had been by-passed in the original drive for NIJMEGEN. The enemy again employed tanks and infantry and a few SP guns.

.../During

During the night of 23 /24 September the road was again shelled and mortared 3 miles NORTH of VEGHEL.

AIRBORNE TROOPS

56. (a) 1 British Airborne Division

1 British Airborne Division had continued to endure heavy casualties and enemy attacks which it had been withstanding for the past week. Their Divisional perimeter had by now been much reduced and was centred on HARTESTEIN 6978. The enemy kept up a steady stream of mortar and SP fire. Our troops had dug themselves in and were also holding some houses, but these were rapidly being destroyed by enemy gunfire from tanks.

Although they had received a few Polish reinforcements, about 150 all ranks, and supplies, the supply and ammunition situation of the Division was precarious. The situation was aggravated by the fact that the enemy was in control of the ferry at 6876, which made the sending over of supplies even more difficult. Casualties were heavy, and the Field Dressing Station established in the centre of the Divisional Administrative Area was greatly overloaded with cases, including GERMANS. AFMS 1 Airborne Division reported that GERMANS were now evacuating all wounded to ARNHEM.

(b) 82 US Airborne Division

The Division continued to send out patrols to the EAST and to mop up enemy strong points which had been established in the MOOK area. During the course of their patrolling, some of these patrols, working in conjunction with a squadron of the SRY, crossed the GERMAN border.

The enemy continued to build up his strength in the REICHSWALD area, and a number of tanks had also been reported there. 82 US Airborne Division had however a good anti-tank obstacle in the form of a railway running through the front of their area, and in addition, the SRY, less one squadron, supplied the armoured support if required.

(c) 101 US Airborne Division

The activities of this Division in the VEGHEL area were fully employed in dealing with the enemy threat to the L of C, and much close and fierce fighting between small detachments of our own and the enemy forces took place.

AIR SUPPORT

57. Enemy positions round the Airborne perimeter were very thoroughly strafed. An observer, who watched from the SOUTH bank of the NEDER RIJN near DRIEL, said that for 3 hours there was a procession of Typhoons which must have given as much heart to the Airborne troops as it caused discomfort to the enemy. Specific targets such as gun and mortar positions were located, but results were hard to observe. Armed reconnaissances operating round ARNHEM interfered effectively with rail movement. 12 Locomotives were destroyed and 10 damaged and 74 railway trucks were destroyed, plus 31 vehicles on railway trucks, (these were first reported as tanks but were found to be civilian cars). Of MT on the roads, 3 were destroyed and 33 damaged.

Tactical Reconnaissance produced some information in the early part of the day but nothing of great significance.

.../A considerable

A considerable force of medium bombers attacked targets in the ARNHEM area.

ENEMY ACTIVITY

58. The NIJMEGEN bridge was covered by Spitfires and these provided a long and spirited series of dog fights over the NIJMEGEN area where they met a strong force of FW 190s and Me 109s. Several enemy aircraft were seen to go down.

30 CORPS OPERATIONS 25 SEPTEMBER

GENERAL SITUATION

59. By now it was apparent that the Corps L of C axis would continue to be cut until 8 Corps could take over effective control. This could NOT be done until the enemy was evicted from HELMOND E 5522, which 8 Corps were having difficulty in reaching. Until, therefore, HELMOND could be cleared, essential traffic such as AA, more infantry and maintenance vehicles would be very slow.

The situation of 1 British Airborne Division was little changed.

During the previous night, the infantry of the 43 Division had forced a crossing of the NEDER RIJN, and eventually succeeded in linking up with the hard pressed airborne troops on the Northern bank. Some supplies had been ferried across but this had to cease at first light owing to the enemy's complete domination by fire of the SOUTH bank of the river.

The enemy had now given up all idea of retaking NIJMEGEN, but from tactical reconnaissance reports it was evident that he was regrouping hard in the ARNHEM area. To the SOUTH of the MAAS he was being gradually pushed Eastwards, and it was hoped that 30 and 8 Corps would link up before night 25/26 September.

TASKS

60. Tasks for formations of 30 Corps operations on 25 September, were as follows:-

(a) Guards Armoured Division

- (i) 32 Guards Brigade continue with present tasks, positioning one regimental group in area 4 miles SW of GRAVE if possible.
- (ii) Continue with present task of protecting EAST flank of bridgehead over the R WAAL, extending this by relieving 43 Division of responsibility for inclusive ELST, when captured.
- (iii) Continue present reconnaissance tasks, including tasks to EAST and WEST from GRAVE, SOUTH from R MAAS, until relieved by arrival 52 Division Reconnaissance Regiment.

(b) 43 Division

- (i) Prepare to establish a bridgehead over the NEDER RIJN in area WEST of REVENUM 6276 as soon as possible.
- (ii) Continue present reconnaissance tasks WEST between the NEDER RIJN and WAAL.
- (iii) Protect EAST flank of 30 Corps from exclusive ELST, after capture, to NEDER RIJN in area 6976.

The decision to withdraw 1 British Airborne Division night 25/26 September was taken during the morning, and the above tasks cancelled. The reasons for this withdrawal, and the revised tasks for formations, as directed by 30 Corps, are shown at Appendix 'P'.

GROUND TROOPS

61. At 0345 hours, 130 Brigade of 43 Division reported that the 4 DORSETS had forced a crossing over the NEDER RIJN during the night 24/25 September. Owing to the late arrival of assault boats, due to the cutting of the L of C and the difficulty of approaches to the river, the attack did not start until 0130 hours. On the LEFT, the 4 DORSETS got over 350 men including mortars and two gunner OPs, in spite of the very fast current of the river which dispersed the boats over a wide area. On arrival on the NORTH bank they pushed slowly forward and it is thought that they reached their objectives in the thick woods on the NORTH side of the NEDER RIJN. Contact with the enemy was gained, but they could not locate elements of the 1 British Airborne Division. At first, opposition to their crossing was only moderate, but gradually increased and at first light further ferrying operations had to stop owing to intense enemy fire from the NORTH bank of the river. Approximately three tons of stores - medical equipment, rations and ammunition were got across during the hours of darkness. On the RIGHT, the Polish Parachute Brigade did not cross owing to the late arrival of the assault boats which had been held up in transit and the fact that, without orders, they had stood down, thinking they would not arrive. By this time, only 16 assault boats were available, but the CRE of 43 Division had found some German assault boats which he proposed to use for further operations on the night 25/26 September. In the ELST area, 214 Infantry Brigade, helped by 4/7 DG, continued mopping up operations, but as on the previous day the enemy made strong points of all houses and each house had to be cleared individually. The tanks suffered casualties from bazookas which fired at very short range, and the enemy seemed to have thickened up his defences with additional Spandaus. By 1630 hours, however, ELST was finally cleared and the enemy withdrew Northwards towards ELDEN 7375. At 0700 hours, 69 Infantry Brigade resumed its attack on BEAMEL E 7267 but continued to meet stubborn resistance. By 1700 hours, however, they were established in the town and the enemy had withdrawn.

GROUND TROOPS - OPERATIONS ON THE L OF C

62. SOUTH of the ZUID WILHEMS VAART Canal, the Corps main axis was still NOT cleared, and no traffic had been able to get through during the past 24 hours. 50 (N) Division reported that they considered that the road should be open by the morning of 26 September. At 1700 hours, patrols of the 2 HCR reported that 32 Guards Brigade had established contact with 29 Armoured Brigade of 11 Armoured Division who had reached ST ANTHONIS 7238.

During the day, a subsidiary class 40 bridge, which had been built in case the enemy should bomb the GRAVE bridge, was completed.

AIRBORNE TROOPS OPERATIONS

63. During the night 25/26 September, 130 Infantry Brigade, (4 DORSETS), of 43 Division, carried out operations for the withdrawal of 1 Airborne Division in assault boats. These operations continued until 0600 hours when intense enemy fire made further crossings impossible. These operations, which were carried out with the greatest gallantry and skill by all concerned, resulted in the evacuation of 2163 men of 1 Airborne Division, 160 of Polish Parachute Brigade and 75 of 4 DORSET. 180 men of the latter were left on the NORTH bank of the NEDER RIJN still fighting to cover the withdrawal. Arrangements were made for the reception by 43 Division at short notice, the survivors being housed in the barracks at NIJMEGEN.

The American 82 and 101 Airborne Division continued their respective tasks of flank protection, and assisting to clear the L of C.

.../Although

Although activity against the 82 US Division was not very noticeable, there were signs that they were preparing to counter attack on this Division's RIGHT flank in that area.

AIR SUPPORT

64. The priority was still on the ARNHEM sector. A very large number of targets round the perimeter of the Airborne Division were engaged in spite of cloud, sleet and rain. Gun and mortar positions, including Nebelwerfers, were attacked.

Some rather deeper targets were also taken on. Movement into ARNHEM from RENKUM on the WEST was given a good strafe and armed reconnaissances went to AMERSFOORT where camouflaged MT was reported. No results are available.

Tactical Reconnaissance was hindered by bad going on the reconnaissance airfield early on and by cloud banks later. By 1700 hours, the sorties had all proved abortive.

ENEMY AIR ACTIVITY

65. At about 0830 hours, approximately 40 aircraft made an unsuccessful attempt to destroy both the NIJMEGEN bridges.

Throughout the day fighter patrols made contact with enemy fighters, on two occasions while covering the ARNHEM and NIJMEGEN areas. It was apparent that the enemy was making a major effort to cut the NIJMEGEN bridges with the object of disrupting our L of C for our troops operating between the MAAS and the NEDER RIJN.

FLANKS

66. On the RIGHT flank of the Corps, SOUTH of the R MAAS, the enemy was gradually being pushed Eastwards. At 1700 hours, 30 and 8 Corps joined up at ST ANTHONIS 7138. Further SOUTH, GEMERT 5730, HELMOND 5522 and DEURGE 6520 were now firmly held by 8 Corps. Thus this Eastwards advance by 8 Corps meant that there was little hope of the remnants escaping Eastwards across 30 Corps L of C.

On the Corps LEFT flank, 12 Corps had reported that the main axis of advance NORTH of ST OEDENRODE was still NOT clear and the remainder of the day was spent in trying to clear up this area.

SECTION 9

EXECUTION OF MOVEMENT AND TRAFFIC PLAN OF 30 CORPS
DURING OPERATION "MARKET GARDEN"

THE EXECUTION OF THE PLAN

67. (a) In general the plan worked very well, and proved itself flexible to meet all tactical situations. During the course of the operation the axis of advance between ST OEDENRODE and VEGHEL was cut by enemy action on two occasions:-

FIRST for 25 hours

SECOND for 49 hours

No movement of soft-skinned vehicles took place during these periods.

- (b) The difficult process of 'freezing', to pass forward traffic of vital necessity, was successfully accomplished.

EINDHOVEN was heavily bombed and thus blocked on night 19/20 September; ST OEDENRODE was shelled intermittently with air bursts throughout the operation.

- (c) The Traffic Control organisation, (with one exception), consisted of RA officers and wireless operators. This team assembled at Main HQ 30 Corps the day prior to the start of the operation for briefing and wireless netting.
- (d) Wireless communication between Regulating HQs and TCPs worked spasmodically from the outset of the operation and could not be relied upon. This was due to the limited range of the sets. Recourse was made to DRs. Wireless touch was, however, successfully maintained on HP sets between the Despatching End, (30 Corps Traffic Office), and the Receiving End, (G(SD) Main HQ 30 Corps), throughout the operation.
- (e) The organised movement of large numbers of vehicles is entirely dependent on :-

- (i) A system of control
- (ii) Good communications

As regards the latter, it is suggested that line communication is essential. The control organisation should not be over elaborate, and should be sufficiently flexible to deal with unforeseen contingencies. Much will depend on active patrolling of the route by enthusiastic officers well versed in the tactical plan. Quick thinking and firm action are frequently required.

PRIORITIES

68. Changes of priority were notified to Traffic Office through G (SD) located with Main Corps. Four such changes in priority were ordered :-

- (i) Bridge column, 450 vehicles, ESCAUT Canal to GRIVE.

.../(ii) 69 Brigade

- (ii) 69 Brigade, 450 vehicles, ESCAUT Canal to ST OEDENRODE.
- (iii) 50 Division, less 69 Brigade, 3,000 vehicles, ESCAUT Canal to ST OEDENRODE.
- (iv) 7 Armoured Division. This formation required the axis from EINDHOVEN to VEGHEL.

The acceleration of these columns involved the 'freezing' of all other columns on the road to allow for their free passage.

In all four cases these columns had unhindered runs to their dispersal areas, the Bridging Column covering the distance of 47 miles in $3\frac{1}{4}$ hours, and 50 Division having their best run since landing on D Day.

FREEZING

69. Changes in priority and order of march were made for reasons of urgent operational necessity.

It must be borne in mind, however, that 'freezing' does impose a delay in time and space on moving columns which have to be frozen. The process should not, therefore, be attempted except after careful consideration.

TRAFFIC DISCIPLINE

70. In general a high standard of individual driving and convoy discipline was maintained.

Double banking was NOT permitted except by order of the Traffic Control organization with the object of passing through priority columns.

PROVOST

71. Pointsmen, ferrying parties, and mobile detachments of CMP must be included in each TCP. Pointsmen were excellent, but mobile patrols were not sufficiently in evidence.

A reserve is essential.

MEDICAL AND RECOVERY

72. Both were necessary and should be spaced along the axis. TCPs are suitable locations.

BREAKDOWNS

73. The number of vehicle casualties due to mechanical breakdowns was negligible.

NIGHT MOVEMENT

74. In order to make up for time lost owing to enemy action it became necessary to move by night. In spite of no moon, the standard of driving with no lights was very high indeed.

The imposition of lighting restrictions due to tactical necessity must be carefully weighed with the strain on drivers.

.../CASUALTIES

CASUALTIES

75. Some vehicles and equipment of TCPs were destroyed by enemy bombing. A reserve must be held immediately available.

SPEED OF MOVEMENT

76. The speed of any convoy depends on the speed of the slowest vehicle. It was noticeable that American convoys travel at a higher speed than their British counterparts.

200 USA $2\frac{1}{2}$ ton vehicles were frequently observed to pass a point in 16 - 18 minutes.

MISCELLANEOUS TRAFFIC

77. (a) Whilst control was rigid, it was inevitable that in an operation of this scope a large amount of miscellaneous traffic was on the road. It is estimated that not less than 25 per cent of the traffic using the axis comprised incidental vehicles which made their way independently to their destination. In all planning, allowance must be made for this traffic.
- (b) A commitment not considered in the planning stage was RAF traffic. During the period under review, at least 1,000 RAF vehicles used the axis to EINDHOVEN and later to GRAVE. This priority must be accepted if we are to have adequate air cover for an operation of this nature. RAF must make their demands in time for them to be incorporated in the controlling Army Formation Plan.

TOTAL TRAFFIC

78. A total of 25,280 vehicles had been passed up the axis from 1900 hours 19 September 1944 to 2359 hours 26 September, 1944. This movement took place during seven days running, i.e. an average of 3,610 vehicles a day.

TRAFFIC CONTROL ORGANISATION PROPOSAL

79. (a) Recent operations of 30 Corps have proved the necessity for a highly efficient Traffic Control organisation to deal with large scale movements on roads.
- (b) Provost resources in the Corps are not capable of providing the personnel and communications required. It has always been found necessary to form an "ad hoc" traffic organisation within the Corps to deal with this problem.

30 CORPS AND 1 BRITISH AIRBORNE CORPS
ADMINISTRATIVE ARRANGEMENTS

GENERAL

80. The administrative arrangements that were made for this operation have already been outlined in Part I, Section 6, It is now proposed to examine the main aspects of these arrangements with a view to seeing how they were executed during the operation.

The administrative machinery and the effect operations had during the period 17/25 September, are now considered. For ease of reference in the initial day to day accounts the maintenance aspect of Ground and Airborne Troops is considered separately during period 17/18 September.

81. Scales of holdings for formations

Formations adhered to those scales of commodities as shown in Part I, Section 6, except that both the Guards Armoured Division and 8 Armoured Brigade were deficient of many second line natures of ammunition which Second Army could not meet from Army Roadhead. This was overcome by Second Army agreeing that these deficient natures should be 'pillaged' from 11 Armoured Division and 4 Armoured Brigade.

82. Transport

- (a) Second Army were short of transport for the immediate requirements of 30 Corps, and were not in a position to provide transport lift for the two US Airborne Divisions whose organisations made no provision for transport lift after landing. To meet this transport deficiency, four US Truck Companies were told to report from LE MANS to 30 Corps by 18 September.
- (b) The working of the Corps Transport resources was normal, supplemented by:-
 - (i) 90 Armoured Brigade RASC Company, primarily allotted for troop lifting. This Company passed, however, to 8 Corps with 50 (N) Division, and were fully employed in the lifting of 50 (N) Division.
 - (ii) Three Artillery RASC platoons.
 - (iii) Six platoons formed from the seaborne element of 52 Division, plus four US Truck Companies.
- (c) Two platoons were fully committed in lifting COCs until 26 September. Their return to Corps control would have been more rapid had it not been for the "cut" in the axis.

83. 17/18 September : Ground Troops

From 17 September onwards, 30 Corps was based on 161 FMC at BOURG LEOPOLD which in turn was stocked by Corps transport drawing from Army Roadhead at BRUSSELS.

84. 17/18 September : Airborne Troops

- (a) 17 September. The automatic drop for all formations of 1 British Airborne Corps was carried out successfully on 17 September.

.../(b)

- (b) 18 September. Owing to inaccurate dropping, due to the intense enemy flak, the resupply of 1 British Airborne Corps was not successful and the majority of containers were dropped on the enemy. 82 US Airborne Division were, however, successfully resupplied, whilst 101 US Airborne Division had taken with them sufficient supplies and ammunition for 48 hours.

85. Ground and Airborne Forces

- (a) 19 September. During this day Corps troops transport was employed in building up 161 FMC. Although 50 Division were put operationally under command of 8 Corps, they remained administratively under 30 Corps. Liaison officers were sent to 101 and 82 US Airborne Divisions whose administrative situation was satisfactory. The four US Truck Companies that Second Army were providing for the maintenance of these two divisions failed to arrive.
- (b) 20 September. Although the US Truck Companies arrived, they were incomplete, and they were also loaded up with the wrong type of 105 mm ammunition; in addition, vital transport lift had not been made use of, as some trucks came up empty. Truck Companies were sorted under 30 Corps direction, and each Airborne Division was allocated 20 trucks for ground distribution within divisional areas. During the night, heavy enemy bombing of EINDHOVEN destroyed approximately 27 second line vehicles of Guards Armoured Division. On this day all three divisions were maintained by air, but not adequately, as dropping into DZs was inaccurate owing to heavy flak, inexperience of the pilots and misty weather.
- (c) 21 September. Advance elements of 162 FMC were despatched to Main Corps with the object of establishing 162 FMC in the area of ARNHEM. Operationally, this proved impossible and a site was chosen instead in the GRAVE area. As a start, four platoons of FOL were sent up to GRAVE from 161 FMC at BOURG LEOPOLD, but these did NOT arrive until 23 September owing to the "cut" in the L of C. A platoon of medium ammunition was sent up to 162 FMC for a special artillery programme by 64 Medium Regiment, in support of 1 British Airborne Division; this arrived just previous to the enemy cutting the Corps L of C. 50 (N) Division, and such Corps troops as were in the vicinity, continued to be maintained from 161 FMC at BOURG LEOPOLD. A large German supply dump was captured at OSS and this subsequently proved of great value, as owing to the "cut" in the L of C, the maintenance of certain Corps troops became the responsibility of Divisions in whose areas they were located. Corps then directed that Divisional transport should draw on this dump on a day-to-day basis until the L of C had been restored, having installed a composite platoon to balance rations and control issues. Composite maintenance packs of FOL and supplies were also despatched to 82 and 101 US Airborne Divisions during the day.
- (d) 22 September. On this day the Corps L of C was cut in the afternoon. Owing to congestion on the roads and changes of priority, the four platoons of FOL despatched on 21 September were held up SOUTH of the "cut", as also was the maintenance lift for 82 US Airborne Division, but that to 101 US Airborne Division got through.

.../(e) 23 September

- (e) 23 September. Owing to the L of C being cleared, transport that had been sent on the 21 September to the 82 US Airborne Division delivered its load. The four platoons carrying POL continued their journey and delivered their load to 162 FMC. Further composite maintenance packs were also despatched to both US Divisions. During the night, seven platoons of Main Ammunition Natures were despatched by Corps 'Q' from BOURG LEOPOLD to stock 162 FMC at GRAVE. 3 and 10 CCS were established at NIJMEGEN and 163 Field Ambulance moved forward to DRTEL 6875 to deal with Airborne casualties evacuated over R NEDER RIJN in DUKWS.
- (f) 24 September. On the L of C being restored, Rear Headquarters 30 Corps moved, but the L of C was again cut at 1200 hours on 24 September, and Rear Corps were marooned SOUTH of the 'cut' in the VEGHEL area, together with three of the ammunition platoons despatched the previous night; in addition, NORTH of the 'cut', the four platoons which had delivered ammunition were also prevented from returning, together with some of the four platoons which had delivered POL. 82 US Airborne Division's previous days maintenance requirements were also held up SOUTH of the 'cut.' The German supply dump at OSS continued to be made considerable use of to meet Corps troops' requirements and to supplement Divisions' dwindling resources. Whilst drawing from this dump, the second line RASC Company of the 8 Armoured Brigade routed enemy elements who were also trying to use the dump, and, after killing several of the enemy took 75 prisoners of war. The supply situation at Army Roadhead was not good at this time but the Corps were able to maintain themselves to the extent of 400,000 rations even though the main balancing items, i.e. tea, sugar, milk and cigarettes were unprocureable. All available Corps transport resources were concentrated on the task of building up stocks in 161 FMC to the maximum, as forward maintenance was impossible.
- (g) 25 September. No change from 24 September.

PW

86. The total number of prisoners of war that were captured by the formations within 30 Corps during the period 17 to 26 September, was as follows:-

	<u>Officers</u>	<u>CRs</u>
Guards Armoured Division	10	140
43 Division	11	500
50 Division	5	400
	<u>—</u>	<u>—</u>
Total	26	1,040
	<u>—</u>	<u>—</u>

30 CORPS MOVEMENT INSTRUCTION FOR OPERATION 'GARDEN'

1. General

This instruction is to be read in conjunction with 30 Corps Operation Instruction No. 24, extracts of which are included under Section 4 of this report.

2. Axes of Advance

30 Corps is advancing on one Main Axis as laid down in 30 Corps Operation Instruction No. 24. (See Appendix 'B' to Part I).

The subsidiary axis will assist the advance tactically and may provide a most important alternative route should the main axis or any part of it prove unusable. It will NOT however materially increase the overall speed of movement.

3. Order of March and Timings

At Annexure 1 is a table showing grouping of formations and units for movement.

The table is arranged in the order of march, but it must be appreciated that this will vary in accordance with the tactical situation.

Guards Armoured Division will however advance at 'Z' hour.

4. SP and Dispersal Points

SP for all serials, (less those already NORTH of it), is the SOUTH end of the bridge 3596.

Dispersal point is the Northern outskirts of ARNHEM.

5. Rate of Movement

- (a) The rate of movement depends clearly on the tactical situation. It is, however, hoped to move at approximately 35 vtm and 10 mih.
- (b) It is estimated that for tactical reasons the flow past SP on 'D' Day is unlikely to exceed 3 hours. Thereafter it is hoped that a 13 hour flow daily, (viz from 0600 hours to 1900 hours), will pass SP.
- (c) There will be NO movement on the main axis during the hours of darkness. The only exceptions to this rule will be :-
 - (i) Tactical necessity.
 - (ii) When a Group Commander is satisfied that his group can complete its move, without disrupting traffic arrangements, within two hours of last light.
- (d) Groups leaguering for the night will probably have to do so on the main road owing to the nature of the ground, though it may be possible for them to pull off into fields adjacent in some places. IF UNITS LEAVE THE ROAD FOR LEAGUERING THEY WILL LEAVE A REPRESENTATIVE ON THE ROAD to indicate the point at which the tail of the column was when it started to leave

.../the road.

the road. Following serials will NOT pass this point except under provisions of (c) (i) and (ii) above.

In any case, it is essential that all serials start to move again punctually at 0600 hours. If this is NOT done the order of march will be disarranged and chaos is likely to ensue.

6. Lights

No lights will be allowed on the main axis by night.

No open fire will be lit by night on the main axis or in its immediate vicinity.

7. Rearward Traffic

Rearward traffic on the main axis of advance will be kept to the barest minimum for at least the first 48 hours. This includes local and inter-unit maintenance traffic.

8. Provost

AFM 30 Corps will co-ordinate policing of the main axis.

One section 43 Divisional Provost and two sections 50 Divisional Provost are placed under command AFM 30 Corps.

In principle, each formation will police its own move, Divisional CMP working under the general direction of TCP controlling the sector of the road concerned. (This does NOT apply to Guards Armoured Division who will be entirely responsible for policing their own movement).

9. Traffic and Movement Control Organisation

- (a) At Annexure 2 is a description of 30 Corps Traffic and Movement Control organisation for operation 'GARDEN'.
- (b) All Groups will forward to this HQ by not later than 2000 hours 16 September, details of sub-allotment of serial numbers and, if possible, an anticipated order of march.

(This does NOT apply to Guards Armoured Division, except for Administrative Group. Guards Armoured Division will however keep Traffic Office 30 Corps fully informed of the progress of their move. This is essential so that subsequent groups can be got on to the roads.

- (c) Each group will maintain an LO at Traffic Office 30 Corps. LO will report 24 hours before the day on which the group is expected to move.
- (d) TCP at SP has authority to pass through onto the route groups of NOT more than 10 vehicles as and when opportunity offers.

(Sgd) XXXXXXXXXXXXXXXXXXXX

Brigadier,
General Staff.

ANNEXURE 1 to
APPENDIX 'G' to
PART II

GROUPING OF FORMATIONS AND UNITS FOR MOVEMENT - OPERATION
'GARDEN'

Formation or Unit responsible for Group	Additional Troops under Command or under Command for movement	Serial Numbers	Destination	Approximate number of vehicles	Approximate time past point	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)
5 Guards Armoured Brigade		A 1	ARNHEM and NORTH	888	180	
One Squadron 2 HCR		A 2	do	40	8	Under command 5 Brigade for move
2 HCR less 4 Squadrons		A 3	do	40	8	
Guards Divisional Headquarters	8 CA vehicles	A 4	do	158	30	
AP		A 5	do	20	4	
94 LAA Regiment less detachments		A 6	do	40	8	
Reconnaissance Party 100 AA Brigade		A 7	do			
One Squadron 2 HCR		A 8	do	40	8	
32 Guards Brigade		A 9	do	876	180	
84 Medium Regiment less 2 Sections		A 10	do	170	30	
100 AA Brigade elements		A 11	NIJMEGEN	81	15	
148 Field Park Squadron		A 12	ARNHEM	50	10	
11 Field Company and Bridging		A 13	do	113	20	

Formation or Unit responsible for Group	Additional Troops under Command or under command for movement	Serial Numbers	Destination	Approximate number of vehicles	Approximate time past post	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)
Air OP		A 14	ARNHEM	16	4	
2 HCR (Squadron) and A Echelons		A 15	do	282	55	
Squadron 2 HCR and RASC		A 16	do	440	90	
Headquarters 30 Corps TCBs		B 200	Various	60	12	
15/19 H	Battery 86 Field Regiment, Squadron ROYALS	C 220	EINDHOVEN	300	60	
44 RTR	SP Battery. Squadron ROYALS Detachment 27 LAA	D 230	VEGHEL	350	70	
SRY	Battery 147 Field Regiment. Squadron ROYALS Detachment 27 LAA	E 240	GRAVE	375	75	
123 LAA Regiment (less battery)		G 260	NIJMEGEN	108	20	
Y GOR		G 261	do	9	2	
Headquarters 100 AA Brigade		G 262	do	14	4	
165 HAA Regiment less one troop		G 263	do	124	25	
Seaborne Tail 'A'		H 270	ARNHEM	517	100	
43 Reconnaissance Regt. 12 KRRC	Squadron Armoured Regiment	K 301	ARNHEM and NORTH	350	70	
Reconnaissance and Harbour Parties		K 302	do	15	3	
130 Brigade Group		K 303	do	719	140	Incl 100 DUKWS and 46 RASC

Formation or Unit responsible for Group	Additional Troops under Command or under command for movement	Serial Numbers	Desti- nation	Approx- imate number of veh- icles	Approx- imate time past post	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)
Tac 43 Division Tac 8 Armoured Brigade	Troop 236 Anti- Tank Battery	K 304	ARNHEM and NORTH	49	10	
64 Medium Regiment 112 Field Regiment	Survey Troop R.A.	K 305	do	351	70	Incl 70 RASC
43 Divisional RE Group		K 306	do	110	25	
Reconnaissance and Harbour Parties		K 307	do	18	2	
214 Brigade Group	Armoured Regiment 8 Armoured Brigade	K 308	do	675	135	Incl 100 DUKWS and 22 RASC
RN Brigade		K 309	do	330	65	
Divisional Headquarters and Head- quarters 8 Armoured Brigade	Troop 236 Anti- Tank Battery 15 FDS	K 310	do	238	50	
179 Field Regiment 94 Field Regiment 419 Heavy Battery	RN Artillery 48 Survey Battery	K 311	do	442	90	Incl 100 RASC
129 Brigade Group	Armoured Regiment less Squadron	K 312	do	592	120	Incl 100 DUKWS and 25 RASC
Bridging Platoon 207 Field Park Company		K 313	do	16	3	
61 Recon- naissance Regiment	Detachment 508 Company RASC	L 500	ARNHEM	177	35	
5 E YORKS Group		L 500	do	273	55	Bridgehead Detachment
113 LAA Regiment less Battery		M 501	do	114	25	
'X' GOR		M 502	do	11	2	
One Troop 557 SL Battery		M 503	do	20	2	
3 CCS		J 300	ARNHEM and NORTH	70	15	

Formation or Unit responsible for Group	Additional Troops under Command or under command for movement	Serial Num- bers	Desti- nation	Approx- imate number of vehicles	Approx- imate time past point	Remarks
(a)	(b)	(c)	(d)	(e)	(f)	(g)
10 CCS		N 510	ARNHEM and NORTH	70	15	
Seaborne Tail 'B'		C 511	ARNHEM	195	40	
69 Brigade Group	86 Field Regi- ment less 3 batteries Battery 7 Medium Regiment	P 530 to P 537	ARNHEM and NORTH	754	150	
Main Head- quarters 50 Division Group		P 540 to P 544	do	275	55	
151 Brigade Group	7 Medium less one battery	P 560 to P 565	do	882	180	
Rear Head- quarters 50 Division Group	7 Medium Regi- ment Artillery Platoon	P 570 to P 579	do	819	165	incl 1 HAFPS
231 Brigade Group		P 580 to P 583	do	630	125	
Rear Head- quarters 30 Corps	Air Troops Headquarters Reconnaissance 162 FMC	Q 700	do	350	70	
Seaborne Tail 'C'		S 800	ARNHEM	202	45	
US Airborne Tail		U 1000	?	1000	200	
162 FMC		T 830	?	300	60	
Guards Armoured Division Administra- tive Group						
43 Division Administra- tive Group	B echelon 110 LAA Regiment	K 900 to K 949	?	850	170	
50 Division Administra- tive Group	Battery 75 anti- Tank Regiment	P 950 to P 955	?	171	35	
165 HAA Regi- ment	123 LAA Regiment 113 LAA Regiment 324 Company RASC	V 1100 to V 1103	?	200	40	All B echelon

The following serials will be phased in as required according to progress of operational and tactical situation.

Formation or Unit responsible for Group (a)	Serial Numbers (b)	Approximate number of vehicles (c)	Approximate time past post (d)	Remarks (e)
Main Headquarters 30 Corps	F 250	370	75	
RE Group HARRY	R 733-741	878	180	
JIM	R 742-746	483	95	
MICHAEL	R 747-754	380	75	
PETER	R 755-760	536	105	
RICHARD	R 761-768	766	150	
MAURICE	R 769-775	1110	220	
GEORGE	R 776-778	566	115	
SPIKE	R 779-784	1486	300	
JOHN	R 785-790	1146	230	
TOM	R 720-722	300	60	
FRED	R 720-722	300	60	
BILL	R 723-726	419	85	
BERTRAM	R 723-726	419	85	
REGGIE	R 727-728	109	25	
BASIL	R 729-732	316	65	

ANNEXURE 2 to
APPENDIX 'G'

TRAFFIC AND MOVEMENT CONTROL ORGANISATION FOR
OPERATION 'GARDEN.'

ORGANISATION OF MOVEMENT

1. Control of movement will be exercised through 30 Corps Traffic Office. This Office will be established initially at Main HQ 30 Corps, passing to Rear 30 Corps when Main 30 Corps moves forward.

When Rear 30 Corps moves forward, Traffic Office will remain at 30 Corps Adm Post until ordered forward.

2. The organisation within HQ 30 Corps for calling forward of movement groups is as follows :-

- (a) G (SD) Branch will control priorities for movement on the Main Axis and will give necessary instructions to the Traffic Office.
- (b) Traffic Office will issue necessary movement orders and make all arrangements for the implementation of the move.

ORGANISATION OF TRAFFIC CONTROL

3. Traffic Control will be exercised through regulating HQ's and TCP's.

4. Regulating HQs' will each be in charge of a certain sector of the Main Axis and will control certain TCPs.

The location of these is as follows :-

- (a) Regulating HQ No. 1 - Bridge over MEUSE - ESCAUT Canal.

TCPs - A MEUSE - ESCAUT Canal Bridge
B VALKENSWAARD
C EINDHOVEN

- (b) Regulating HQ No. 2 - VEGHEL

TCPs - D ST OEDENRODE
E VEGHEL
F rd June ESCHAREN E 6251

- (c) Regulating HQ No. 3 - ARNHEM

TCPs - G NIJMEGEN
H ARNHEM

TCP COMMUNICATIONS

5. See diagram at Sketch 'A' to this Annexure.

6. No. 2 Regulating HQ at VEGHEL will act as control station for all Regulating HQs and will be in communication with Main and Rear Corps.

7. Line communication will be laid to Traffic Office Rear 30 Corps from No. 1 Regulating HQ at ESCAUT Bridge through HECHTEL cross roads K 3483.

8. Code signs, frequencies, etc, will be issued by CSO 30 Corps.

COMPOSITION OF REGULATING HQ and TCPs

9. (a) Regulating HQ - Personnel One senior officer
One NCO
Three wireless operators
- Equipment One wireless vehicle
Jeep or Car.
- (b) TCPs - Personnel One officer
One senior NCO
Three wireless operators
Two regimental DRs
Half Section Provost
Cook
Recovery Personnel
- Equipment One wireless vehicle, with two
banks of batteries and charging
set.
Four gallons clear petrol
One 15 cwt domestic vehicle
One Recovery vehicle
Provost motor cycles
Cooking facilities

POSITIONING AND MOVEMENT OF TCPs AND REGULATING HQs

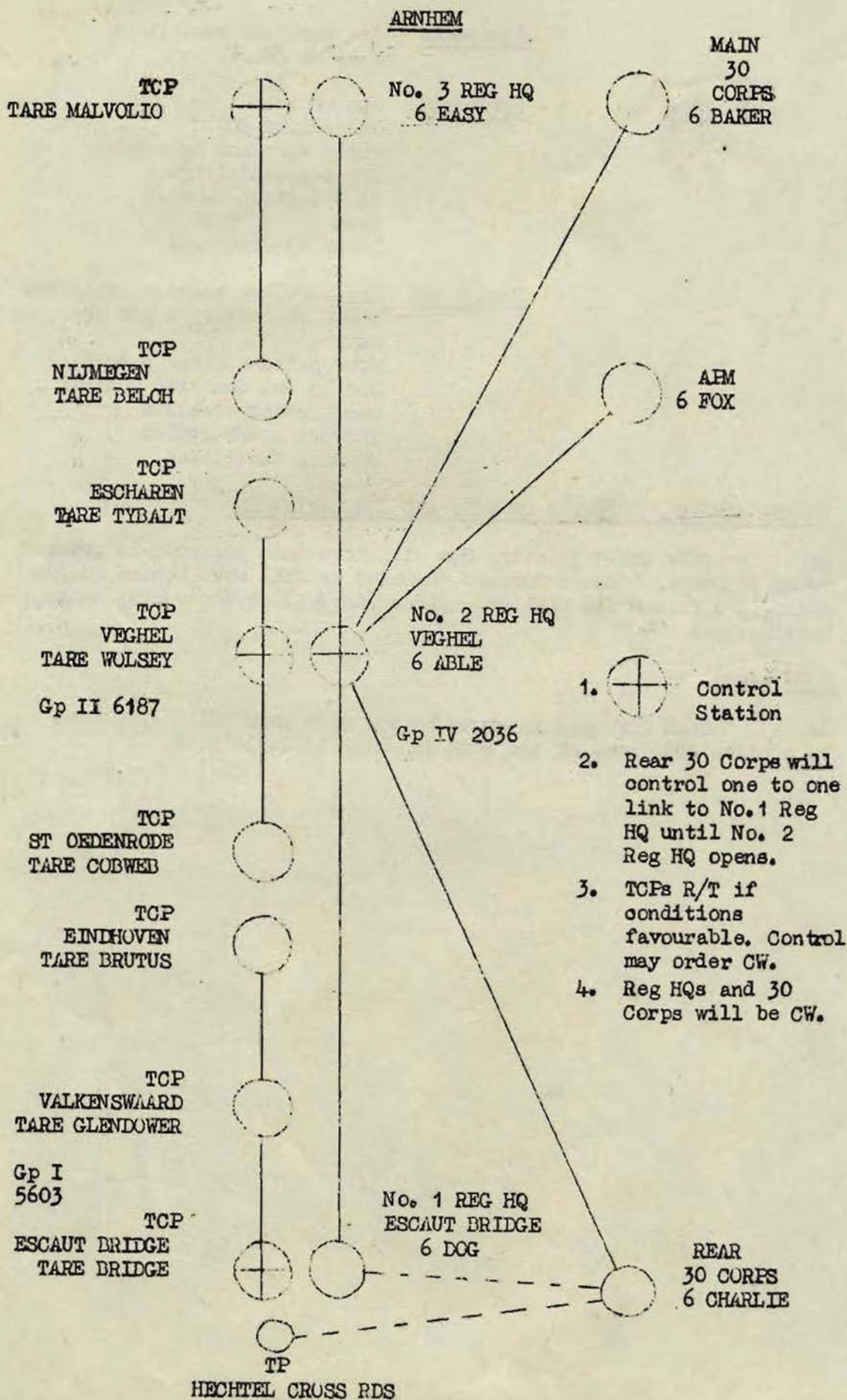
10. TCPs and Regulating HQs will move into position as ordered by HQ 30 Corps. Those forward of Corps SP will move behind Guards Armoured Division and will drop off on arrival at their respective destinations.

CODE NAMES

11. Each TCP will be known by the code name 'TARE' followed by a place code name of the town in which it is located.

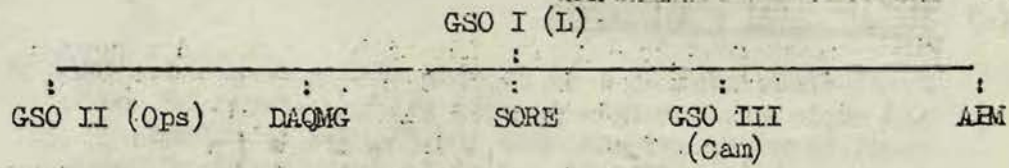
SKETCH 'A' TO ANNEXURE 2
TO APPENDIX 'G' TO PART I

TRAFFIC CONTROL NET



APPENDIX 'H'
to PART II

HQ 30 CORPS TRAFFIC AND MOVEMENT CONTROL ORGANISATION



1. Responsibilities

- GSO I (L) - (a) Co-ordination of movement and traffic control.
- (b) Availability of routes.
- (c) Liaison with Ops.
- GSO II (Ops) (a) Operational situation.
- (b) Information on anticipated operational moves.
- (c) Priority of movement.
- (d) Details of routes under Corps control.
- DAQMG - (a) Co-ordination of movement and issue of move orders to all administrative units.
- (b) Planning and execution of TC organisation.
- (c) Liaison with provost.
- SORE - (a) Advice on state of routes and route maintenance.
- (b) Information on bridges, bridge classifications etc.,
- GSO III (Cam) - (a) Issue all executive movement orders for operational units.
- (b) State road availability.
- ARM - (a) Implementation of movement instructions.
- (b) Co-ordination of Corps Provost resources.
- (c) Provision of Provost resources for TC organisation.
- (d) Establishment of necessary diversions in conjunction with RE.

2. GSO I (L), DAQMG, and GSO III (Cam) will be established at Traffic Office Main 30 Corps.

TOPOGRAPHICAL APPRECIATION OF THE AXES OF ADVANCE
AND OF RIVERS WAAL AND NEDER RIJN

WESTERN AXIS

1. (a) ESCAUT Canal - EINDHOVEN

First class road 25 - 30 ft wide with a tarmacadam surface and ample grass verges in most places. Parts of the road, however, are embanked and flanked by ditches. Deployment is difficult except in sandy woodland areas immediately on either side of the road between VALKENSWAARD and EINDHOVEN. This stretch is also suitable for the dispersal of vehicles, as there are many wooded stretches which also are most suitable for the defence.

(b) EINDHOVEN

Except for the main NORTH - SOUTH road, the streets are tortuous and narrow.

(c) EINDHOVEN - GRAVE

Shewn as first class road, width 20 - 30 ft, but in places the road surface is very bad. Deployment possible along most of its length except between ZON 4426 and ST OEDENRODE 4232 where the surrounding country is peaty, and in the neighbourhood of GRAVE where the road is embanked with ditches on either side.

The bridge over the WILHELMINA Canal is a class 40, but can only take single line traffic. That over the ZUID WILLEMS VAART Canal at 4736 is shewn on a German map, corrected to March 1943, as having a maximum load capacity of 16 tons.

The loop at ST OEDENRODE can be by-passed by a new road, (not shewn on the 1:100,000 maps), from 424317 to the cross roads at 427322.

(d) GRAVE to NIJMEGEN

First class road with concrete surface, 20 - 30 ft wide, and two cycle tracks, 5 ft wide, flanked by broad grass verges.

From GRAVE to 6459 the road crosses the MEUSE valley polders which are intersected by hedges, trees and ditches, except for a stretch on an embankment half-a-mile each side from the MEUSE bridges. From 6459 the road follows the railway through country dotted with clumps of trees or bushes, and villas. Almost the whole of the road is dominated by the high ground SOUTH and EAST of NIJMEGEN. Between GRAVE and NIJMEGEN there are firm dry soils except for two belts of wet clay, one for two miles NORTH of GRAVE and the other a mile long at 652600.

(e) NIJMEGEN to ARNHEM

The old road via ELST 7070 varies from 20 ft to 40 ft in width. The surface is concrete for most of the way, though parts are of rolled clinker.

.../The road

The road crosses the WAAL river by a new bridge, 716631, to IENT 7164, and traverses the open cultivated plain to the lower RHINE through flat open fields lined with deep ditches, and small scattered orchards near the villages. The road is raised about 4 to 6 feet above the surrounding country. Firm dry, sandy soil. Trees along the roadside and the orchards afford the only cover as far as ELST, whilst deployment is limited to several secondary roads.

At 715737, a new road leads to ARNHEM via a new bridge over the lower RHINE at 748767. The road is believed to be still under construction. It should be capable of taking tracked vehicles, but these would have to by-pass two incomplete "fly-over" bridges.

EASTERN AXES

2. (a) VALKENSWAARD - ILENDE 4807 - GELDROP 4816.

First class road, but deployment very difficult, except for a short stretch between ILENDE and HEEZE 4911, owing to peaty nature of the ground. Limited deployment just WEST of road HEEZE to GELDROP.

(b) GELDROP to HELMOND 5522 :

First class road with Class 40 bridge over the EINDHOVEN Canal. Deployment poor as far as MIERLO 5216, but fair from there to HELMOND.

(c) HELMOND - BAKEL 6124 - GEMERT 5780 - VOLKEL 5640 - MILL 6445 - ESCHEREN 6151.

Secondary road, in several places fit only for single line traffic. Surface generally good, and suitable for heavy loads, except for a stretch midway between VOLKEL and MILL where the subsoil is peat.

One Class 40 and two Class 24 bridges over the ZUID WILLEMS VAART at HELMOND.

Deployment possible along most of the road, though there are bad stretches WEST of the road at 6026; on either side of the road between VOLKEL and MILL, and for a couple of miles NW of MILL.

Note:- See Appendix 'B', PART I for routes used.

RIVERS

3. Data on the Rivers MAAS, WAAL and NEDER RIJN where the main axis bridges cross them is as shown hereunder:-

RIVERS MAAS, WAAL, AND NEDER RIJN

(a) RIVER MAAS

Dimensions GRAVE

Depth : 6 $\frac{1}{2}$ feet
Width : 800 feet

Current

The MAAS rises and falls very suddenly after heavy rains, sometimes 13 feet or more within a few days.

.../Banks

Banks

The banks are flat over a considerable stretch; they are covered with gravel and peat; the fields and heaths which back the banks offer little cover; woods seldom approach within 550 yards of the bank; on the left bank there are concrete casemates at every 220 yards.

(b) RIVER WAAL

General

The River WAAL is the most important shipping channel of the RHINE by which ships can reach the RUHR area from the estuary ports of the NETHERLANDS. The river flows through polderland, which gives place to river terraces in the upper reach near NIJMEGEN. The river has a constant seasonal variation which is felt along the whole stretch, as there are no locks. Low water is in September - October.

Dimensions

Width (at normal low water) : normally 850 feet.

Depth varies according to the seasonal levels of the RHINE.

Banks

Normally dyked along each bank, except at points where there is a quay, loading stage, or port.

(c) RIVER NEDER RIJN

Dimensions

Width at ARNHEM approximately 300 feet. In winter the width of the river may increase to 1640 feet.

Depth 3 - 14 feet.

Current

The tide is noticeable as far as CULEMBORG (E 27).

Banks

The river is fairly constricted between dykes along the river banks. These dykes are normally of earthen construction, reinforced at intervals by stone setts.

There is normally a towpath along one bank, though the path frequently changes from one bank to the other.

There is little cover on either bank of the River EAST and WEST of ARNHEM.

MAIN EXTRACTS GDS ARMD DIV OO NO 12

OP "GARDEN"

SECRET

INFORMATION

15 Sep 44

INTENTION

5. Gds Armd Div will adv at 'H' hr at maximum speed to area ARNHEM and, by-passing APELDOORN, will dominate the area from incl NUNSPEET to excl APELDOORN.

METHOD

6. Grouping and Order of March

Grouping and Order of March are shown at Annexure 1.

7. Air Sp

(a) Allotment of Tentacles

- (i) One contact car under direct div control for Phase I then passing to 2 HCR
- (ii) One tentacle to 32 Gds Bde
One tentacle to Div HQ
- (b) 30 Corps will maintain a Fwd Control Post in order to monitor all calls for air sp so that should appeals from ourselves or the Airborne Corps conflict or endanger the other, a veto can immediately be imposed.

(c) Ground to Air Recognition

Will be necessary during this op. During the rapid adv, cerise fluorescent panels will be displayed wherever available. Their use may be suspended at the discretion of comds as and when the tactical situation demands it.

- (i) Between H minus 15 mins and H hr yellow smoke will be burned when friendly aircraft are seen. NOT more than 50% of stocks held will be burned. The other recognition aids will be used in accordance with previous instrs.
- (ii) The very limited air effort which the enemy may make is likely to be directed against the airborne force and it is most improbable that our tps will be attacked by enemy aircraft during the period of the drop. Therefore, for the period H minus 1 hr to H plus 2 hrs, SA fire will NOT repeat NOT be opened on any aircraft whatsoever.
- (iii) Retaliatory fire against friendly aircraft who are attacking our own tps will have only one effect - to confirm the pilot's belief that he is attacking Germans.

8. AA

Separate orders will be issued by CRA incl instrs for 100

.../AA

AA Bde for their anti-river craft role at NIJMEGEN. Fwd tps will give every assistance to enable this det to get into action at the earliest possible moment, beginning on D Day, and continuing until further orders.

9. Airfds

The airfds at EINDHOVEN 4218 and VOLKEL 5640 are urgently required by RAF. Tps from whichever Bde reach these airfds first will pass a report on their condition with the highest priority.

Arrangements for taking over will then be made with all speed.

10. RE

CE 30 Corps will control all bridging ops, sufficient eqpt being carried initially to provide crossing over the canals, up to and incl R MAAS, and ferries for the rivers WAAL and NEDER RIJN,

It is possible that DUKWs and DDs will also be employed on these crossings should bns not be available.

11. Div Tasks

Gds Armd Div will carry out its task in two phases:-

PHASE I

- (a) On the afternoon of D Day, Gds Armd Div with 5 Gds Armd Bde leading will capture VALKENSWAARD 4108.
- (b) The adv will be preceded by full arty sp as coord by CRA
- (c) As the adv outsteps the range of arty sp this will be taken up by TYPHOONS on a pre-arranged plan.
- (d) Two bns 50 (N) Div will move forward behind leading tps, astride the main axis, to protect the flanks and subsequently take over VALKENSWAARD.
- (e) Leading tps will pause on the bound 'JUDAS' until ordered fwd by GOC to make contact with 101 US Airborne Div in area EINDHOVEN.
- (f) The Div may conc SOUTH of EINDHOVEN in areas of the CL preparatory to further adv.

PHASE II

- (a) The Div will continue the adv two up, as ordered by GOC, at first 1st D + 1 and will go through to the final objective.
- (b) At GRAVE 6253, where the CLs converge, the bde which reaches this pt first will continue the adv, while the other bde will wait for the tail to clear.
- (c) If 32 Gds Bde should lead, it is probable that Div HQ will pass through 5 Gds Armd Bde and take sta between the two bdes.

.../ADM.

ADM

12. Necessary adm instrs will be issued separately.

INTERCOMN

13. Location of HQs

Div HQ will be located in the area of the Factory 3695 before the commencement of Phase I, thereafter will move by LEFT CL.

14. LOs

- (a) 2 HCR will provide LO with WT set to report to HQ 101 US Airborne Div as soon as contact is made. He will remain until such time as relieved by LO from HQ 30 Corps.
- (b) 2 HCR will also provide LOs with 82 US Airborne Div and 1 Brit Airborne Div from the time contact is first gained until such time as the tail of the main body of Gds Armd Div has passed through their area.

15. ACK

NOTE : Orders were also written on Recognition and Passwords between Airborne Forces and Ground Troops.

Time of signature 2359B hrs

Method of despatch SDR

ANNEXURE 1 to
APPENDIX 'L' to
PART II

GROUPING AND ORDER OF MARCH

1. (a) SP - JOES Br 3596
 - (b) Speed - Best possible
 - (c) Density - 60 vtm
 - (d) Halts - When considered essential by Bde Comd, who will inform this HQ
 - (e) Lts - Full, at discretion of comds.
 2. (a) Div will move on one CL as far as VALKENSWAARD 4108, subsequently on two CLs until GRAVE 6213, when Div will again move on one CL.
 - (b) Order of March and Grouping for RIGHT and LEFT CLs and Order of March on one CL are att at Annexures 1A and 1B respectively. Order of March on one CL is liable to alteration by GOC should the op situation demand.
 3. As the preliminary adv is dependent on ops to be carried out by 5 Gds Armd Bde, it is impossible to give timings across SP. As a result of this, and with the exception of 5 Gds Armd Bde, no unit will leave its present harbour area until ordered through this HQ. Each unit will send an offr to the unit preceding it on the order of march in order to
 - (a) Give warning of move of preceding serial (should this HQ order several units to follow each other), and
 - (b) Ensure that there is no blocking of rd to SP
- This offr will have WT set.
4. APM will arrange TOPs at X rds 3493, X rds 3595 and when the op situation warrants, at X rds 415083.
 5. 19B/73 A tk bty will be under comd 2 HCR and will be allotted to the two sqns of 2 HCR responsible for the protection of A Ech 5 Gds Armd Bde and 32 Gds Bde, and RASC vehs.

ORDER OF MARCH AND GROUPING

<u>LEFT CL</u>			<u>RIGHT CL</u>		
	<u>From/Unit</u>	<u>No of Vehs</u>		<u>From/Unit</u>	<u>No of Vehs</u>
One sqn 2 HCR		40	One sqn 2 HCR		40
5 Gds Armd Bde Gp, (less 1 Armd COLDM GDS)		461	32 Gds Bde Gp		344
<u>with under comd.</u>			<u>with under comd.</u>		
3 IG -		125	1 Armd COLDM GDS		127
-153 Fd Regt, <u>plus</u> one sec 84 Med Regt		130	2 Armd Recce WG		127
Two btys 21 A tk Regt (one SP,			55 Fd Regt, <u>plus</u> one sec 84 Med Regt		116
one tractor drawn)		63	21 A tk Regt, (less two btys, one SP		
19 Lt Fd Amb		40	and one towed)		60
<u>with in sp</u>			128 Fd Amb		38
14 Fd Sqn, incl br lorries		64			
2 HCR, (less four sqns)		40	<u>with in sp</u>		
Div HQ, (4 Ech, to incl 8 Civil Affairs vehs)		158	615 Fd Sqn, (incl 14 br lorries)		64
AP		20			
-84 Med Regt, (less two secs)		170			
94 LAA Regt, (less dets)		40			
Recce Party 100 AA Bde					
Elements 100 AA Bde		81			
148 Fd Pk Sqn		50			
11 Fd Coy, (incl 72 br lorries)		113			
AOP (Portee)		16			
One sqn 2 HCR with, <u>under comd for mov and protection,</u>					
4 Ech 5 Gds Armd Bde, 32 Gds Bde, 2 HCR and RA		282			
One sqn 2 HCR with, <u>under comd for mov and protection,</u>					
RASC vehs		440			

One Bty 73 A tk Regt will be sub-allotted to these sqns by CRA and will come under comd.

ANNEXURE 1B to
APPENDIX 'L' to
PART II

ORDER OF MARCH ON ONE CL

Ser No	Form/Unit	No of Vehs	Time Past Point (incl 50% Margin)	REMARKS
1	5 Gds Arm'd Bde complete	888	120	
2	One sqn 2 HCR	40	6	Under cond 5 Bde for mov
3	2 HCR, (less four sqns)	40	6	
4	Div HQ	158	20	Incl 8 CA vehs
5	AP	20	4	
6	84 Med Regt, (less two secs)	170	22	
7	94 LAA Regt, (less dets)	40	7	
8	Recco Party 100 AA Bde			
9	One Sqn 2 HCR	40	7	
10	32 Gds Bde Gp complete	876	125	
11	Elements, 100 AA Bde	81	10	
12	148 Fd Pk Sqn	50	7	
13	11 Fd Coy	113	14	Incl 73 bridg-ing vehs
14	Air OP (Portee)	16	3	
15	One sqn 2 HCR with, <u>under cond for move and protection</u> A Ech's 5 Gds Arm'd Bde, 32 Gds Bde, 2 HCR and RA	282	36	
16	One sqn 2 HCR with, <u>under cond for move and protection</u> RASC vehs	440	55	

~~SECRET~~

16 September 1944

APPENDIX 'M'
to PART II

MAIN EXTRACTS

50 (NORTHUMBERLAND) DIVISION OPERATION INSTRUCTION NO 36

OPERATION "GARDEN"

INFORMATION

X X X X X X X X X X X X X X X

INTENTION

9. 50 (N) Division will :-
- (a) Send detachment to secure a crossing over R IJSSEL at DOESBURG E 9081.
 - (b) Advance and secure high ground to the NORTH of ARNHEM keeping contact with the Northern troops of 1 British Airborne Division.
 - (c) Be available as Corps reserve.

METHOD

10. Grouping

- (a) 50 (N) Division will be grouped for the advance in accordance with Appendix 'D' (Not included).
- (b) Grouping will commence as soon as possible and will be completed by 1800 hrs 13 September as far as the tactical situation permits.

11. Order of March

The anticipated order of march within the Division and the probable date of movement is as follows:-

61 Recco Regiment	D + 2
Bridgehead Detachment	D + 2
69 Brigade Group	D + 3
Main Divisional Group	D + 3
151 Brigade Group	D + 3
Rear Divisional Group	D + 3
231 Brigade Group	D + 3
50 (N) Divisional Administrative Group	D + 4

12. Movement

- (a) The Division will move on the Corps Main Axis by groups. Details will be issued later.
- (b) Serial Numbers are allotted as shown in Appendix 'D'. (Not included). They have been allotted to all groups, and to units, the movement priority of which it is considered it may be necessary to change from one group to another. Group Serial Numbers will be whitewashed on the windscreen and tailboard of as many vehicles as

.../possible.

- possible. Loading and rear vehicles must be marked with Group Serial Numbers. Serial Numbers allotted to units within groups will NOT be marked on vehicles unless the unit is ordered to move separately from its group.
- (c) Rate of movement depends on tactical situation but it is hoped to be at approximately 35 vtm and 10 mih.
 - (d) Night movement. There will be NO movement on the main axis during the hours of darkness, except:-
 - (i) Where it is a tactical necessity.
 - (ii) When a Group Commander is satisfied that his group can complete its move, without disrupting traffic arrangements, within two hours of last light.
 - (e) Leaguering. Groups leaguering for the night will probably have to do so on the main road owing to the nature of the ground, though it may be possible for them to pull off into adjacent fields. If units leave the road to leaguer they will leave a representative on the road to indicate the point where the tail of the column was when it started to leave the road. Following serials will NOT pass this point except under provision of (d) above.

In any case it is essential that all serials start to move again punctually at 0600 hours. If this is NOT done the order of march will be disarranged and chaos is likely to ensue.

- (f) Lights. NO lights will be permitted and no open fires will be lit by night.
- (g) Rearward traffic. No rearward traffic other than the barest minimum for command and local maintenance will be permitted on the main axis.
- (h) March Discipline. The success of the operation will depend upon the speed of the advance, strict march discipline and adherence to movement orders. The contents of 50 (N) Division Standing Operation Instruction No. 4 will again be impressed on all ranks.

13. Task of Bridgehead Detachment.

The Bridgehead Detachment, as constituted in Appendix 'D' (not attached), will, on arrival at ARNHEM, proceed immediately and take over the bridgehead at DOESBURG from troops of 43 Division.

14. RE

RE 50 (N) Division may be called upon to carry out tasks under direction of CE 30 Corps. Field Companies are therefore grouped under brigades for movement only and remain under the command of the CRE.

ADMINISTRATION

15. Maintenance

On arrival in the ARNHEM area, 50 (N) Division and troops under command will be based on 162 FMC, which is opening D plus 3. Location and times for drawing will be notified to all concerned later.

.../16. Supplies and POL

16. Supplies and POL

All units will carry four days rations, and full tanks plus 200 miles reserve POL in unit transport.

17. Ammunition

Full first line of all natures will be carried less those natures detailed by formation commanders.

18. Replenishment

- (a) As there will be no backward movement in the initial stages of the operation, units will eat down supplies and POL carried in unit transport until the divisional supply, petrol and ammunition point is established.
- (b) CRASC will attach to the bridgehead detachment second line transport carrying 50 miles POL, one load of mixed ammunition, and 180 rpg 25 pounder ammunition. An officer representative will report to HQ 69 Brigade for movement orders 0900 hours 18 September. In addition, two loads POL and one of ammunition will be attached to 61 Rocce Regiment. Transport will report, loaded, to HQ 61 Rocce Regiment 1200 hours 18 September.
- (c) Units will make their first replenishment from the vehicles attached as in paragraph 18 (b) above, so that the transport will be immediately available to return, when ordered, on reaching the destination.

19. TCVs

TCVs will report to brigades under arrangements CRASC by 1200 hours 18 September, as under:-

One platoon 20 Company RASC to 69 Brigade
One platoon 90 Company RASC to 69 Brigade
Two platoons 90 Company RASC to 151 Brigade
Two platoons 20 Company RASC to 231 Brigade.

20. Medical

- (a) Field Ambulances will move under command brigades as under:-

186 Field Ambulance under command 69 Brigade.
149 Field Ambulance under command 151 Brigade.
200 Field Ambulance under command 231 Brigade.

- (b) 'B' Platoon 111 MAC, will move under command 48 FDS at the rear of the Divisional Administrative Group.
- (c) All casualties will be carried forward by Field Ambulances and 48 FDS and evacuated to the CCS on arrival. Field Ambulances will be prepared to evacuate casualties from airborne units on route.
- (d) Field Ambulances and 48 FDS will each detail a section CCP for attachment, under arrangements ADMS, one at each of the following TCPs :-

Crossing ESCAUT Canal	3695
EINDHOVEN	4218
VEGHEL	4837
GRAVE	6253

.../These sections

These sections will be prepared to hold casualties and sick for a period of up to 3 days.

- (e) 3 CCS will be established ARNHEM 7577.

10 CCS will be established NIJMEGEN 7162.

- (f) One section of 163 Field Ambulance is establishing a staging post at ST OEDENRODE 4332.

- (g) A CCS will be established at BOURG LEOPOLD as a staging post.

21. ORD

A detachment of 50 (N) Division Ord Fd Pk will travel with Rear HQ 50 (N) Division and will be located in the area of Rear Division. All indents on the Ord Fd Pk will be put through this detachment.

22. REME

- (a) Recovery sections from brigade workshops will remain under command respective brigades.
- (b) Vehicles which break down will, if possible, be towed forward to final destination. Should this not be possible, the vehicles will be pulled off the road and the location reported to CREME at Rear 50 (N) Division.
- (c) 69 Brigade Workshops only will move forward with the division. All units will be notified of its location when established at the final destination.

23. Civil Affairs

The three Corps Detachments are moving under command Guards Armoured Division and will be established as under :-

222 CA Detachment	-	APELDOORN	Z 70
213 CA Detachment	-	ARNHEM	E 77
214 CA Detachment	-	NIJMEGEN	E 76

24. PW

- (a) PW taken whilst on the march will be handed over to the nearest TCP.
- (b) The divisional PW cage will be established at the Supply Point on arrival final destination.

INTERCOMMUNICATION

25. Place Code Names

- (a) Attached at Appendix 'C' (not included) is a list of place code names for use in operation 'GARDEN'. These place code names come into force 1200A hours D Day at which time all previous place code names are cancelled.

.../(b) A supplementary

- (b) A supplementary list of place code names will be issued for distribution NOT below Brigade HQ, to be taken into use if the list at Appendix 'C' becomes compromised. This supplementary list will be taken into use and the present list cancelled on receipt of code word 'BRAKESPEARE A hours.'

ACKNOWLEDGE

Time of signature 2305 hrs
Method of issue - Normal.

(Sgd) X X X X X X X X
Lieut-Colonel,
General Staff,
50 (Northumbrian) Division

APPENDIX 'N' to
PART II

Appendix 'B' to 30 Corps
Operation Instruction No.
24 of 15 Sep 44.

MAIN EXTRACTS

1 AIRBORNE CORPS OPERATION ORDER FOR OPERATION 'MARKET'

1. British Airborne Corps is under command Second British Army. It is commanded by Lieut-General F.A.M. BROWNING. It consists of 1 British Airborne Division and 82 US Airborne Division.

2. 101 US Airborne Division is being dropped under arrangements British Airborne Corps, but on landing comes under command 30 British Corps.

3. Missions assigned to the Airborne Divisions are in general terms as follows:-

(a) 1 British Airborne Division

to land and capture the bridges over NEDER RIJN at ARNHEM with sufficient bridgeheads to facilitate the passage of 30 Corps.

(b) 82 US Airborne Division

To seize and hold the bridges over R MAAS at GRAVE and over R WAIL at NIJMEGEN so as to facilitate the passage of 30 Corps. The capture and retention of the high ground between NIJMEGEN and GROESBEEK 7554 is considered imperative for the accomplishment of this task.

(c) 101 US Airborne Division

to seize canal and stream crossings in area EINDHOVEN, ZON, and VEGHEL in order to facilitate the advance of 30 Corps to R MAAS.

4. A heavy air support effort is being carried out by 8 United States Army Air Force in support of this operation directed chiefly against FLAK in DZ areas.

5. Details of plan and composition of 1 British Airborne Division are as follows:-

(a) Commander - X X X

(b) Order of Battle -
1 Parachute Brigade
4 Parachute Brigade
1 Air Landing Brigade
1 Polish Parachute Brigade

(c) DZs, LZs and objectives of Brigades are as shown at Appendix 'B' to Part I.

6. Details of plan and composition of 82 US Airborne Division are as follows:-

(a) Commander - X X X

.../(b) Order of Battle

(b) Order of Battle - 504 Parachute Infantry Regt
505 Parachute Infantry Regt
508 Parachute Infantry Regt
352 Glider Infantry Regt

(c) LZs, LZs and objectives of Regimental Combat Teams are as shown at Appendix 'B' to Part I.

7. Details of plan and composition of 101 US Airborne Division
are as follows:-

(a) Commander - X X X

(b) Order of Battle - HQ 101 US Airborne Division
501 Parachute Infantry Regt
502 Parachute Infantry Regt
506 Parachute Infantry Regt

(c) LZs, LZs, and objectives of Regimental Combat Teams are as shown at Appendix 'B' to Part I.

8. HQ British Airborne Corps lands with first Glider lift in area 82 US Airborne Division and will be established initially in area 7454. It will move later to area EAST of MAAS/WAAL bridges on main axis GRAVE - NIJMEGEN.

9. Recognition and Passwords.

, X

10. Timings.

(a) H hour is the time at which the first parachutists (less Pathfinders) are dropped. This will probably be 171300h hours.

(b) This timing is subject to confirmation. Postponements would each be for a period of exact 24 hours or multiple thereof.

(c) Approximate timings for dropping in each Divisional area will be as follows -

H minus 30 minutes - Pathfinders

H to H plus 1½ hours - First lift (parachutists)

Later D Day - First Glider lift

There will be no drop during the night D/D plus 1.

The next lift will be early on D plus 1 and will include both gliders and parachutists and also possibly supply dropping.

Appendix 'O'
to Part II

~~SECRET~~ SECRET

23 Sep 44

30 CORPS OPERATION INSTRUCTION NO. 25

(To be read in conjunction with 30 Corps Operation Instruction No. 24)

INFORMATION

Own Troops

1. 8 and 12 Corps are continuing with present tasks.

2. British Airborne Corps

British Airborne Corps with under comd R. Netherlands Bde, SRY Gp less one sqn, 52 Recce Gp, (wef 0900 hrs 24 Sep), is :-

- (a) Continuing to hold present posns with 1 Br Airborne Div, 82 and 101 US Airborne Divs and R Netherlands Bde.
- (b) Relieving 69 Bde Gp by 1400 hrs 24 Sep of responsibility for close protection NIJMEGEN brs and also taking over responsibility for brhead from FORT 7264 - GROOT WIEL 6965.
- (c) Assuming responsibility for protection landing ground sites in area WEST of GRAVE.
- (d) Assuming responsibility for the following recce tasks :-
 - (i) WEST flank from excl R WALL as far SOUTH as Canal VEGHEL - s'HERTOGENBOSCH. (HCR may also be op in this area while 32 Gds Bde is SOUTH of GRAVE).
 - (ii) EAST flank from R WALL SOUTH to 40 Northing Grid.

INTENTION

3. 30 Corps, in conjunction with British Airborne Corps, will continue with op "GARDEN."

METHOD

4. Tasks 43 Div

43 Div will :-

- (a) Secure the RIGHT flank of 30 Corps from incl ELST, (after capture), to incl SOUTH bank NEDER RIJN at the pt where brhead is being est.
- (b) Ensure that Polish tps now in area SOUTH of NEDER RIJN pass over to join 1 Br Airborne Div during night 23/24 Sep.
- (c) Pass two coys over NEDER RIJN night 23/24 Sep to link up with WEST flank of 1 Br Airborne Div.

.....(d) When

(d) When 129 Bde is released from present task by action of Gds Armd Div, (see para 5(a) below), be prepared to pass this Bde over NEDER RIJN with the object of widening brhead.

(e) Carry out reconnaissance WEST between WAAL and NEDER RIJN as far as 50 Easting Grid.

5. Tasks Gds Armd Div

69 Inf Bde Gp comes under comd Gds Armd Div at 1400 hrs 24 Sep, (after relief from present tasks by 82 US Div).

Gds Armd Div will :-

- (a) Protect the RIGHT flank of 30 Corps from incl BEMMEL 7367, (which will be captured), to excl ELST.
- (b) Clear and keep clear the main rd NIJMEGEN - ELST.
- (c) Retain one armd regt gp in res NORTH of R WAAL.
- (d) Continue to op with present force in area excl VEGHEL to excl GRAVE to secure 30 Corps L of C.

6. Tasks 69 Inf Bde Gp

69 Bde Gp will :-

- (a) Continue with present recce task WEST between MAAS and WAAL until 1200 hrs 24 Sep.
- (b) Continue with remaining present tasks until relieved by 82 US Div 1400 hrs 24 Sep.
- (c) Come under comd Gds Armd Div at 1400 hrs 24 Sep.

7. ACKNOWLEDGE.

(Signed) X X X X X X X X X X X X
Brigadier,
General Staff.

METHOD OF ISSUE By LO and SDR

TIME OF SIGNATURE 2015 A

Appendix 'P'
to Part II

~~RESTRICTED~~

239/G

25 Sep 44

30 CORPS OPERATION INSTRUCTION No. 26

INFORMATION

1. (a) 1 Airborne Div brhead over NEDER RIJN is no longer tenable owing to casualties and shortage of sups.

Necessary rfts and sups can only be provided on a limited scale by night with assault boats, etc, each effort will amount to a major op since the enemy dominate the narrow crossing place from the high ground NE and NW.
- (b) The area in which 1 Airborne Div have their present brhead is NOT suitable for development as a Corps brhead owing to difficulties of expansion and the impossibility of building and maintaining a br in this area.
- (c) It has therefore been decided to evacuate 1 Airborne Div from the brhead night 25/26 Sep.
2. British Airborne Corps are at present responsible for the close def of NIJMEGEN brhead, for ops between WAAL and MAAS and for close protection of GRAVE brhead.
3. 8 Corps are directed on CUYT 7149, 12 Corps are directed on SCHIJNDEL 4138.

INTENTION

4. 30 Corps will arrange evacuation of 1 Airborne Div night 25/26 Sep and will continue present ops.

METHOD

5. Ops will be carried out in three phases :-
 - A. Evacuation and reception of 1 Airborne Div.
 - B. Temporary re-adjustment.
 - C. Preparation for future ops.

...../Evacuation

EVACUATION AND RECEPTION OF 1 AIRBORNE DIV

6. (a) 43 Div will carry out the evacuation of 1 Airborne Div incl deception plan and backward lift of personnel to the SOUTH bank of NIJMEGEN rd br.
- (b) All elements 43 Div on NORTH bank of NEDER RIJN will also be withdrawn and rejoin the main body of the div.
- (c) CCRA will co-ord fire plan to cover withdrawal; for this purpose all 25 pr arm less 50 rpg may be used.
- (d) All dets of Poles NORTH of NIJMEGEN will be withdrawn under orders 43 Div. 43 Div will arrange with 1 Airborne Corps direct into what area Poles should be concentrated.
7. DA & QMG 30 Corps, in conjunction with Br Airborne Corps, will arrange reception 1 Airborne Div in NIJMEGEN area.

TEMPORARY RE-ADJUSTMENT

8. Tasks Gds Armd Div

- (a) Proceed with capture of BEMMEL.
- (b) Continue to hold secure EAST flank of 30 Corps from R WAAL to excl ELST.
- (c) Continue to operate with 32 Gds Bde SOUTH of GRAVE to keep the Corps axis clear. This will incl positioning one regt gp in area 5851.
- (d) Continue with present recce tasks SE, SOUTH and SW of GRAVE, SOUTH of R MAAS.

NOTE :- This task is being taken over by British Airborne Corps at a time to be notified later.

9. Tasks 43 Div

- (a) Proceed with capture of ELST.
- (b) Hold secure the EAST flank of the Corps from incl ELST to incl SOUTH bank NEDER RIJN.
- (c) Protect the WEST flank of 30 Corps between R WAAL and NEDER RIJN reconnoitering as far WEST as 50 Easting Grid.
- (d) Hold one Bde Gp, (incl one armd regt), centrally placed in res.

...../PREPARATION

PREPARATION FOR FUTURE OPERATIONS

10. Gds Armd Div will continue to op in NE direction with a view to pushing the enemy out of range of NIJMEGEN br and with a view to further ops NE of NIJMEGEN.

11. 43 Division will proceed with recce and planning for a possible river crossing op between RENKUM 6276 and WAGENINGEN 5776.

12. Bdy between Gds Armd Div and 43 Div.

Incl Gds Armd Div LENT 7164 - REEK 6968 excl Gds Armd Div
ELST 7071 - ELDEN 7375.

13. ACKNOWLEDGE

(Signed) X X X X X X X

METHOD OF ISSUE BY LO

Brigadier,
General Staff.

TIME OF SIGNATURE 1545.

APPENDIX 'Q'
to PART II

EXECUTION 30 CORPS SIGNAL PLAN

BEFORE DROPPING OF AIRBORNE CORPS

1. The two links to Airborne Corps in UK, (A9 and A11), were established satisfactorily by afternoon September 14 and worked throughout 24 hours.

AFTER DROPPING AIRBORNE TROOPS AND BEFORE THE
MOVE OF MAIN HQ 30 CORPS

2. No contact was made with 101 US Airborne Division until 0830 hours 18 September. Contact for a short time was made with Airborne Corps evening 17 September, but this was not satisfactory until about 0830 hours 18 September. One HP set was taken off A11 to work on C8. False contact was made with the Phantom detachment with 101 US Airborne Division at 1800 hours 17 September. Three cipher messages were received in the Corps Signal Office from that link. They looked like book cipher but did not work out and were initially assumed to be corrupt. It was then discovered that they were Phantom messages and the true identity of the outstation was confirmed. The Phantom detachment with 101 US Airborne Division had been allotted the same link sign as 101 US Airborne Division on C5 and Corps Ciphers held no details of Phantom ciphers. On 18 September, Main Second Army could not work at any time to Airborne Corps on C8. 30 Corps was given priority on that net as it was not possible to take over control because of the confusion of code signs that would have been caused at Airborne Corps. Conversely, there were periods by day when 30 Corps could not work Airborne Corps on C5 and Main Second Army could. Particular attention was necessary to ensure the most expeditious routing of traffic which could always be cleared if necessary through Rear Airborne Corps in UK.

The US detachment sent to work on C14 had no contact. A HP set was put on to this link with no results.

30 CORPS ON THE MOVE

3. The link to Airborne Corps in UK was maintained throughout the move. As far as EINDHOVEN, the move was by night and rod aerals only could be used. Contact was lost with 101 US Airborne Division and 1 Airborne Division by midnight and traffic was routed via Rear Airborne Corps in UK or Main Army. Until Main HQ Corps was NORTH of EINDHOVEN there was no contact on C14. Early on 19 September perfect contact was made with 82 US Airborne Division. On the move, cipher traffic reached 10,000 groups over a period of 24 hours. That was made possible by the addition of the extra 3-ton cipher office at Corps HQ. As soon as Main HQ 30 Corps was established in MAIDEN, line was laid to Airborne Corps and 82 US Airborne Division.

ARTILLERY

4. With 101 and 82 US Airborne Divisions artillery communications were generally satisfactory. No contact was made with RA representative 1 Airborne Division under the arrangements made. On 21 September, a set from 1 Airborne Division came up on 64 Medium Regiment Command net. This was authenticated and a set put on the same net at Main HQ 30 Corps. 64 Medium Regiment was at the time firing in support of 1 Airborne Division

.../and it

and it was not advisable to attempt to change frequency to produce a one-to-one link CCRA 30 Corps - CRA 1 Airborne Division. Communications with RA 1 Airborne Division were through 64 Medium Regiment Command net until the relief of 1 Airborne Division on night 25/26 September.

CONTACT DETACHMENTS

5. The SCR.300 sets were the most satisfactory. When 1 DORSETS were given the task of crossing the NEDER RIJN and patrolling for some distance to the NORTH, there was no British Army pack set available which would guarantee communications through thick country to a distance of three or four miles for patrols which had to cross a river and travel as light as possible. Five SCR.300 were loaned from 82 US Airborne Division and produced perfect communications for the task.

P A R T III
SECTION 11
IMPORTANT LESSONS

GENERAL

1. In attempting to summarize the main lessons of this operation, it is appropriate to realise that a deep thrust of some 60 miles was made into country occupied and held by a stubborn enemy, that five major water crossings were successfully negotiated in the face of strong opposition, and that the plan as originally conceived was 90% successful.

WEATHER

2. The weather will always be an over-riding factor both in planning and in executing an operation of this nature. During this particular operation, the weather had a definite effect on the course of operations, and there is every reason to suppose that the operation would have been 100% successful, as distinct from only 90%, if the following conditions had been fulfilled :-

- (a) If the weather had permitted the 1 Polish Parachute Brigade to be accurately dropped on D + 2, and 352 Glider Regiment on D + 2, as planned, and thereby enabled the 1 Airborne Division to obtain its quick and vital build-up.
- (b) If the weather had permitted the normal scale of air support available.
- (c) If the weather had permitted the air supply as planned.

3. Reference to the attached Appendix 'R', which shows the forecast and actual weather conditions, indicates the effect the weather had on this operation. In summary, the weather did not permit those essential requirements shown above, and therefore the 1 Airborne Division portion of the operation did not achieve full success as originally planned. This statement in no way detracts from 1 Airborne Division's magnificent fight in the ARNHEM area, as without this action, the following ramifications would have been felt by the remainder of the US forces undertaking the operation. Had 1 Airborne Division not clung on to its bridgehead in the ARNHEM area the enemy might well have concentrated superior forces against us in the NIJMEGEN bridgehead, and impeded our reorganisation within that bridgehead during the period when air support and air supply were made impossible by the weather.

From the above it follows that under Northern European climatic conditions at this time of the year, an airborne plan which relies upon linking up airborne forces dropped on D Day and dropping additional forces at D + 1 is risky, since the weather may frustrate the plan.

PLANNING

4. The planning of the operation was achieved by the visits of :-
- (a) The Commanders of the Airborne Formations
 - (b) A number of staff officers from Airborne Corps and Div HQ
 - (c) Representatives of Troop Carrying Command.

.../In addition

In addition, an LO from Airborne Corps HQ was attached to HQ Second Army.

5. It is considered that it would have been a great advantage to have had a planning and advisory staff from Allied Airborne Army at Army HQ. The functions of this staff would be to become fully acquainted with :-

- (a) The ground Army Plan for the ground forces
- (b) The ground Army Plan for the Airborne Forces after landing
- (c) The Airborne Army Plan for the initial dropping and subsequent build-up of the Airborne Forces.
- (d) The Transport Command's Plan for the initial fly-in and re-supply, and
- (e) To advise the ground force commander on all aspects of sub-paragraphs (c) and (d) above.

To do this, it is essential for this staff to have excellent communications with HQ Airborne Army and the rear echelon of the senior formation carrying out the operation. This staff should be large enough to provide representatives on the Continent and in the UNITED KINGDOM both during the planning and after the operation has taken place, until the build-up by air has finished.

Provided sufficient staff is available, it is considered that the attachment of certain officers of Airborne Formations to Army and other headquarters prior to the operation would be of value, so that staffs can get to know each other prior to and not during an operation, when events are moving very quickly.

This is particularly desirable when applied to officers who are handling close air support and intelligence.

6. In planning the operation, the build-up of the enemy's AA must be taken into consideration because a rapid concentration can vitally affect the air supply and reinforcement of the Force. At the same time, the possibility of providing counter flak artillery fire should be considered.

7. An operation of this nature may force us to make deep narrow penetrations, which demand the elimination of all vehicles which are NOT essential. A point to bear in mind when planning, therefore, is to investigate the possibility of using special adaptations of "assault" or "light scales" of transport, which may ease the traffic problem.

8. In considering the artillery plan, long range artillery and HAA artillery must be moved well forward in the ground Army columns to be in a position to provide ultimate support for the Airborne Forces and their landing strips at the first possible opportunity.

USE OF AIRBORNE TROOPS

9. There is one outstanding strategical lesson. Airborne troops must be used in mass, and the rate at which they are built up must be extremely rapid. From the moment that airborne troops land, they are faced with two conflicting tasks :-

- (a) The accomplishing of the mission assigned to them - a task which becomes progressively more difficult as the enemy recovers from his initial surprise, and,

...(b)/The

- (b) The continual protection of the landing zones, without which operational and administrative build-up collapses.

The simultaneous execution of these two tasks demands dispersion, which can only be compensated for by concentrating the full effort of large airborne forces upon a small number of tasks. Dispersion of airborne troops is just as unsound as is the dispersion of effort of normal ground forces.

10. The Dropping Zone of the 1 Airborne Division was too far from their objective, i.e. eight miles from ARNHEM; this was because the terrain and flak made it impossible to land the Division close to ARNHEM. Information before the operation was also to the effect that landings SOUTH of the River NEDER RIJN were also impossible owing to the terrain. In view of this, it was decided to drop and land the Division on the NORTH bank of the River NEDER RIJN. The net result of these factors was that the leading troops of 1 Airborne Division did not arrive in ARNHEM for four hours, by which time the enemy defence scheme had been put into effect.

11. The policy of landing airborne troops to secure vital points along the axis of advance of the ground troops was a great success. The strengthening of these garrisons with Army Troops was sound. Their tasks should include wide patrolling and the maintenance of a hard hitting reserve to deal with any enemy threat before it reaches the L of C axis.

12. Immediately the main forces of the leading corps have passed through the corridor, consistent with circumstances existing at the time, it is desirable that the responsibility for the protection of the L of C should pass to a separate commander and none of the leading troops should be required to turn-about. In the particular circumstances under review, the course of diverting ground troops back to deal with enemy activity against the Corps L of C was inevitable. In addition, the existing routes were fully committed with the follow-up fighting troops and supporting arms; thus it would not have been possible to pass additional troops up the axis for the protection of the L of C.

COMMUNICATIONS

13. (a) The operation proved that excellent communications must be provided between the various headquarters a considerable time before the operation is planned to take place, so that postponements or last-minute changes of plan can be quickly communicated, and information between the staffs working within the theatre and Airborne Base quickly passed.
- (b) It was difficult to find out what units had landed and what the build-up and re-supply intentions were from day to day. The planning of this was done at Airborne Base and the scale of communications provided did not permit of the information being passed in time to Second Army. This made it impossible to gauge at Army Headquarters the fighting capacity from day to day of the Airborne Formations being employed. In future, it is considered that messages from Airborne Base regarding build-up should be repeated direct to Army, to save the necessity for retransmission from Airborne Base. Cipher delays could be reduced by pre-arranged codes for passing information indicating troops and weapons landed.

...(c)/On the

- (c) On the Corps level during the planning stage, the greatest care was taken to arrange a sound system of communications between elements of 30 Corps and Airborne Corps, but it is clear from results that further training and improved wireless sets are essential in order that communications between airborne troops and ground troops following them up become more efficient. Communications with 1 Airborne Division were almost non-existent, as were communications between 1 Airborne Division and 1 Parachute Brigade.
- (d) Air support communications must be provided by expert air support tentacles and parties, and British tentacles must be suitable for carrying by glider. In this case, US air support parties were formed at the last moment, but the Air Corps operators had not reached a reasonable standard of wireless operating.
A modified Forward Control Post (FCP) should also be provided at Airborne Force HQ in the field in order to provide VHF Communication to reconnaissance and support aircraft as well as communication on the normal ASSU network.
- (e) Fool-proof communications must be arranged between the Airborne Forces and the main body of the Army. Without these communications adequate artillery support cannot be provided. Liaison Officers with wireless sets, preferably crystal controlled, should be attached from the Airborne Forces to the artillery scheduled to support them. Liaison Officers must be sufficiently senior to act as representative of the CRA Airborne Division if necessary.

EFFECTING THE BREAK-OUT

14. When ground troops are co-operating in such an operation as "MARKET GARDEN", the first essential is to make sure of the "break-out." In this operation, meticulous care was taken to produce a really powerful support plan including artillery and air forces. In the circumstances, the enemy was in considerably greater strength than had been anticipated; but for the weight of this support and for the magnificent fighting qualities of the breaking-out troops, the junction with the Airborne troops might well have been delayed for a number of days.

ORGANISATION AIRBORNE CORPS

15. The organisation of Airborne Corps HQ is NOT entirely satisfactory. The problem is now under study.

AIR SUPPORT

16. The close air support given to the Airborne Formations by 83 Group RAF was seriously curtailed by the fact that 83 Group was not allowed to operate during the various flying-in operations. Owing to the fact that these took place, for obvious reasons, during the periods of good weather and such periods as have already been noted were very limited, this meant that on certain days Airborne Formations, and in particular 1 Airborne Division, received practically no close support at all.

It is considered that some alternative system should be devised whereby ground forces should not be deprived of air support at vital periods.

CONFLICT BETWEEN AIR SUPPORT AND AIR SUPPLY AIRFIELDS

17. A conflict of interest was experienced between the provision of forward airfields for air supply and the requirements for fighter and fighter bomber formations of the RAF Group supporting the Army. As always, in this type of operation, there will be a number of ruling factors ; the main ones are :-

- (a) Availability of airfields and suitability of country for quick construction.
- (b) Amount of support that fighter or fighter bombers can give from operational airfields already in use.
- (c) Priorities as between Fighter Bomber Support and emergency maintenance requirements.

There may be areas where fighter and supply strips can be made in sufficient numbers to accommodate both fighter and transport aircraft.

Nevertheless, regardless of how far the above factors will be relevant, normally the conflict of interests referred to above will usually require that priority be given to the RAF Group supporting the Army.

Where it is essential to fly-in vital maintenance requirements, it is considered that the landing of supplies by vulnerable aircraft in forward areas should not be forbidden solely because casualties are expected ; in fact, the scale of plane casualties should be balanced against the value of the supplies imported.

ADMINISTRATIVE LESSONS

GENERAL

18. Before attempting to draw any conclusions from the administrative aspects of the operation, it is necessary to examine the administrative situation which was existing in Second Army at that time. Second Army had just concluded an advance of some 400 miles. The Army was still being maintained from the RMA at BAYEUX, supplemented from DIEPPE, and the available road transport was much over-strained. The French and Belgian railways were in course of being put into operation, and their capacity was limited by the existence of rail breaks which had to be covered by road transport, and the difficulties inherent in operating a liberated railway.

Having regard to the administrative background outlined above, the achievement of 30 Corps in maintaining their formations in the face of extreme difficulty is worthy of note, and points to the fact that with an experienced 'Q' staff at Formation Headquarters concerned, it is possible to accept administrative risks which otherwise might be disastrous.

PLANNING ASPECTS

19. When an operation involving the maintenance of airborne formations, together with those of ground formations, is being planned, the following factors should receive consideration :-

- (a) Firstly, when airborne formations are to be dropped, and subsequently employed in a ground role in conjunction with the leading ground forces, the leading ground Corps must be administratively responsible for those Airborne formations

.../as soon as

as soon as the ground troops join up. This will be necessary because, the airborne Corps Headquarters does not, at present, in the early phases of this type of operation, possess the facilities or knowledge of local conditions to exercise executive administrative control and provision.

- (b) Secondly, if there is any uncertainty as to the length of time which may elapse before the ground and airborne forces unite, maintenance of the Airborne force by air will be inevitable. This will be a very important factor when making the operational plan for the Airborne force. For, if maintenance by air is to succeed the Airborne Forces dropped must be large enough to hold a perimeter of such size that supplies can be dropped accurately within it without undue loss from enemy fire.
- (c) Thirdly, the maintenance requirements of airborne formations for the time whilst they are operating with ground forces should be assessed on the basis of requiring a minimum of one month's maintenance. This is necessary to ensure that administrative provision will not be lacking should the airborne forces have to be employed in a ground role longer than originally anticipated. This applies particularly when US Airborne Forces are operating in front of a British L of C and vice versa.

RESERVES

20. The value of ordering formations to carry the maximum possible reserves was amply demonstrated when the L of C was cut, the first time from D + 5 to D + 6 and the second time from D + 7 to D + 9. Due to operational priorities, it had been impossible to get more than the minimum essential ammunition, petrol, oil and lubricants forward.

Formations were thus forced to make the fullest use of their reserves and the larger reserves of divisions were used to help the more needy Corps and Army troops.

USE OF AIR TRANSPORT

21. Once ground contact has been established with airborne troops, their maintenance should be carried out in the normal manner as for ground troops, and air transport should be relied on only to bring to the theatre such items of special nature as are unobtainable in the theatre, because air dropping or air landing of supplies depends on the weather plus air superiority, plus availability of transport aircraft.

22. Finally, when planning operations of this nature, it is imperative to appreciate that the employment of an allied Airborne Formation has no administrative objections, but by doing so the administration overheads are greatly increased.

The essential feature will be the early establishment of a complete chain of Liaison Officers and Administrative Signals of the same nationality as the Airborne force at successive HQs along the L of C.

OPERATION "MARKET GARDEN"

Appendix 'R' to Part III

Serial No (i)	Day and Date (ii)	Summary of Final Weather Forecast (iii)	Time of Issue and Period (iv)	Summary of Actual Weather (v)	Repercussions (vi)	Notes (vii)
1	D - 1 16 Sep	Period 17-20 Sep suitable for airborne ops with fair weather apart from morning fog. Light winds.	1630 hrs.			Lt-Gen BRERETON decided to proceed with op MARKET
2	D 17 Sep	Fog over bases clearing by 1000 hrs with moderate amounts cumulus 3000 ft thereafter and good visibility. Light winds.	0708 hrs. 0800-1800 hrs	Similar to forecast	Op proceeded according to plan	On advice given to Lt-Gen BRERETON at 1800 hrs of fog on morning 18 Sep, it was decided to postpone take-off till 1030 hrs. Thick cloud, base 600 ft or less, had been moving slowly NORTH from FRANCE towards target area all night 17-18 Sep. Advice given by Met that NORTHERN route via DUTCH islands should definitely be adopted. This was done and conditions were even better than forecast. Had SOUTHERN route been adopted many gliders would have been lost in cloud.
3	D + 1 18 Sep	Fog at bases clearing shortly after 1000 hrs, visibility becoming good. Well broken cloud 3000 ft over bases becoming 8-10/10 sea and target area base 15/2000 ft but some patches 7-800 ft in occasional rain. Rain dying out, cloud lifting during afternoon. Wind light variable.	0800 hrs. 1000-1900 hrs	Bases as forecast but cloud well broken base 2500-4000 ft over sea and target. Weather over the airfields and and battle area was bad.	Ops proceeded according to plan, but NORTHERN route only used. Take off around 1030 hrs. Ground troops did not get such essential close support from the air as they did on the previous day.	

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
4	D + 2 19 Sep	Extensive area of low cloud base 500-1000 ft MIDLANDS, lifting and dispersing 1100-1200 hrs. Elsewhere well broken cloud base 2000-3000 ft. Hazy, visibility 2-5 miles. Light EAST - SE winds.	0900 hrs. 1000 - 2000 hrs	As forecast except for two pts - 1. Low cloud remained in GRANTHAM area, persisted all day. Base 600-1000 ft. 2. Patches of low cloud 500-1000 ft were encountered along and near coast of LOW COUNTRIES.	Most planes in GRANTHAM area were unable to take off despite postponement 1130-1400 (i.e. gliders of USA troops and 1 Polish Para. Bde). 38 and 46 Gp and GREENHAM COMMON took off on time - 1130 hrs. 12% of gliders lost mainly it is believed because of patches of low stratus near BELGIAN coast. Over 2/3 made the DZ. Rest landed in friendly BELGIAN territory.	Lt-Gen BRERETON was advised at 0900 hrs that NORTHERN route better than SOUTHERN with practically cloudless conditions. He adopted SOUTHERN route for two reasons. It appears from scanty observations there was little or no low cloud on the NORTHERN route.
	NOTES: Attached summary gives actual weather on route at pts where RADAR was provided. No flying on 22 Sep.					
	D + 3 20 Sep	Fog and low stratus, base 500-1000 ft lifting and dispersing by midday at SOUTHERN bases and by 1500 - 1600 hrs at NORTHERN bases becoming broken cumulus base 2000-3000 ft afternoon. Stratus over SOUTHERN NORTH SEA and Continent lifting above 1000 ft early afternoon and breaking around 1600 hrs. Winds light variable.	0900 hrs. 1000 - 2000 hrs	Similar to forecast.	In view of the slow clearance of low cloud at NORTHERN bases, decided to put on paratp (1 Polish Para Bde) and re-sup missions only. These carried out. Tac/R could produce little information, and this enabled the enemy to concentrate EAST and WEST of 30 Corps axis of advance with a view to disrupting traffic on it.	GRANTHAM area take-off postponed from 1030 - 1400 hrs awaiting lifting of low cloud. 38, 46 Gps and GREENHAM COMMON area - take-off as planned 1130 hrs.

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
6	D + 4	Extensive mist and low cloud below 800 ft clearing by 1100 hrs in SOUTH. 1200 hrs in NORTH. Then visibility 2-8 miles and overland, thereafter 4-8/10, cumulus base generally 2-3000 ft but below 1000-1500 ft at times in showers. Small amounts cloud at 2000-3000 ft over sea. Winds light variable.	0900 hrs. Stratus persisted 1000 - base 600 - 1000 ft 2000 hrs tops around 2000 ft over EASTERN ENGLAND, few patches over sea. No showers encountered. Otherwise as forecast.		In view of low cloud conditions and moderate visibility decided to send re-sup planes only. Tac/R limited and prevented additional information from being obtained about the enemy's operations against the L of C axis. 30 Corps agreed unusual procedure of <u>strafe</u> on recognition.	GRANTHAM areas take off postponed until 1400 hrs. 38 and 46 Gps and GREENHAM COMMON areas took off as planned at 1100 hrs flying over low stratus in EASTERN ENGLAND.
7	D + 5	Widespread mist or fog together with low cloud below 1000 ft over ENGLAND with cloud base improving to over 1000 ft during early afternoon. Visibility improving 1500 yds or more by noon except in NORTHERN bases where 1000-2000 yds to 1500 hrs. Over sea and target area well broken cloud 2000-3000 ft but local rain likely, cloud lowering to around 1500 ft.	0900 hrs. 1000 - 2000 hrs		Ops cancelled at 1300 hrs. Reason appeared to be glider work not possible in view of low cloud, and no re-sup or paratps required although this could have been done.	Met briefing of Gen STEARLY FAAA at 1715 hrs:- Explained that clearing cold front would pass area on 23rd giving good conditions for glider work behind it provided it did not become stationary over target area, as seemed possible at the time.

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
8		Forecast amended at 1200 hrs. Rain out out but some other intermittent rain spreading from WEST to affect all bases by evening. Cloud 1000 ft or better.		Similar to forecast.		
9	D + 6 23 Sep	Cold front clearing target area by 1400 hrs giving very good conditions behind. Visibility 8 + miles. Cloud 5-8/10 2000- 3000 ft. Wind Westerly 10-15 mph increasing 15-20 mph over land.	0800 hrs. 1000 - 2000 hrs	Conditions as fore- cast apart from one slight shower in target area with cloud base 1500 - 2000 ft.	All gliders sent over from GRANTHAM that had been waiting to go since 19th. Op MARKET concluded.	Time over DZ fixed at 1600 hrs to give front good chance to move by.