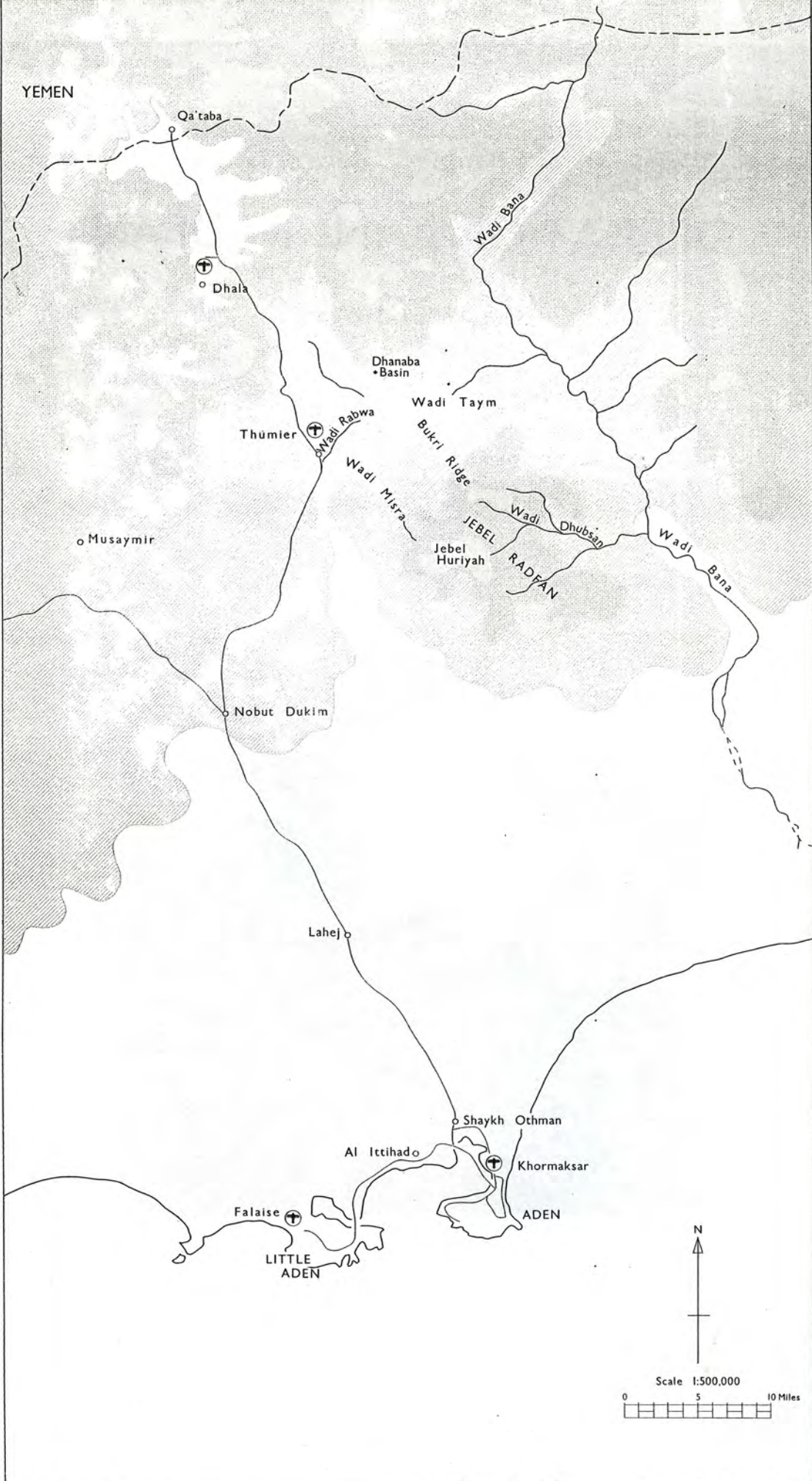


OPERATIONS IN RADFAN

14Apr-30Jun64





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to Declass. Level. Conf
July 67. WJ*

MIDDLE EAST LAND FORCES

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MIDDLE EAST LAND FORCESREPORT ON OPERATIONS IN RADFAN 14 APR - 30 JUNFOREWORD

Many years before the birth of Christ, trade started to move north from Aden into the Yemen and on into Palestine and Europe. From Zanzibar, Socotra and India came perfumes, frankincense and myrrh and many spices which were carried on camel caravans to Petra, Damascus and from there they were taken on to Constantinople, Rome, Paris and London. Caravans moved out of Aden through the forest and fertile basin of Lahej and wound their way through the mountains to Dhala and on into Qataba, well inside the Yemen border. Throughout Mohammedan history, pilgrims have used this road to Mecca and it is therefore sacred. However, this has not prevented tribesmen from menacing the route from the high mountains on its flanks, and for centuries they have swept down on travellers, pilgrims and merchants with their camel trains and held them to ransom.

The mountains of Radfan lie to the east of the road and the whole area remains unadministered. They are dominated by fierce and turbulent tribesmen who pay little respect to their own Sheikhs and none to the Federal Government. During the past three years many have made their way to the Yemen and sold their services for a rifle, ammunition and a few grenades. After a few month's training they return to the Radfan having been promised more arms and ammunition if they justify the outlay by attacking the forces of law and order in South Arabia. This fighting role comes naturally to the tribesmen and they find one of the easiest ways of meeting their commitment is to shoot up Federal Guard posts and attack the motor and camel traffic which moves up and down the sacred road.

Radfan is about sixty miles on a direct route north of Aden and is very rugged country. It is a complex of jagged peaks and sheer cliffs rising to 5,500 ft and even the valleys are seldom less than 3,000 ft above sea level. In the latter half of June and much of July damp cloud shrouds many of the peaks in sharp contrast to the humid heat of Aden.

Blood feuds and personal grudges have characterised the Radfani tribes in their fiercely independent history. It is a land of blood where man will kill man instantly in a disagreement over a small patch of land and where the traveller must always be on his guard against ambush and extortion.

This is the background to the Dhala Road operations, 14 Apr to 30 Jun 64 which are covered in this report. It has been produced quickly in order to bring the valuable lessons which we have learnt to the notice of the Army as a whole without delay. For this reason much of the detailed account has been printed without the considered editing which would have delayed publication. It is suggested that those not concerned with the details of operations or administration should read the summary of the lessons which have been brought out in Part II.

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MIDDLE EAST LAND FORCESOPERATIONS IN RADFANINTRODUCTION

1. This report describes the RADFAN operation from 14 Apr - 30 Jun 64. Operations are still in progress, but by 30 Jun the initial aim of the operation, to restore freedom of movement on the THUMIER - DHALA road, had been achieved. By this date, British and Arab troops were occupying all of the significant parts of the RADFAN, most of which have never before been explored or governed.
2. Part I. The first part of the report consists of an operational narrative written from the Commanders' point of view, supported by an account of administration.
3. As far as possible, Grid References have been excluded to make for easy reading. A map is to be found in the pocket at the back of the book which has been specially overprinted to include all names and nicknames mentioned in the report. This map is Edition 3 of the RADFAN Intelligence Overprint which was published after the period covered by this report. During the period 14 Apr - 30 Jun, the two earlier editions were in use and specimens of these editions are included in Annex H, Survey. The first edition of the map was virtually blank, the second was a considerable improvement and this was the one most generally used. All the sketch maps in the report relate to Edition 2 and when compared with Edition 3 anomalies will be found; certain villages and features have changed places. Virtually all the information contained in Edition 3 was gathered by survey parties with unit patrols and air photography during the period covered by the report. Some place names have been spelled phonetically, in other cases the commonly accepted version has been used. 92
4. Much detailed information is included in the Annexes which form Part III of the report. Most of the Annexes cover particular subjects in more detail than in the narrative in Part I. No attempt has been made to refer to Annexes in the text of Part I; reference to the Index will enable the reader to turn to the appropriate Annex for further information.
5. Part II. This contains the lessons of the operation and is therefore the most important part of the report. Some general comments on equipment performance have been included in the Administrative Lessons. There has not yet been time to analyse the effects of the operation on all types of equipment used in RADFAN. A comprehensive technical report is to be published in due course.
6. Part III. This consists of a series of Annexes, supported where necessary by Appendices, which amplify the narrative in Part I. The Accounts of Particular Operations are of special interest and are illustrated by sketch maps. The Annex dealing with the Army Air Corps could well have been larger, for the performance and employment of the Scout helicopter was a major feature of the operation; a detailed report on the Scout has been prepared and is being issued separately.
7. Production. The report was edited by G Branch, Headquarters, Middle East Land Forces and printed by 13th Field Survey Squadron RE

At the outset the guerilla opposition proved to be stronger, better organised and more courageously led than we had expected. Once the full fighting strength of two Infantry Battalions had been deployed with close support from the Royal Air Force, an RHA Battery, an Armoured Car Squadron, a Troop of Royal Engineers and a Light Aircraft Squadron Army Air Corps, we were able to drive the enemy from his positions on the highest peaks near the road and so work our way east and south-east from mountain to mountain until, at the end of June, he was driven out of the operational area. It is stressed that this was, from the planning stage, a joint operation by MELF and AFME. On 25 May, HMS CENTAUR landed a squadron of Wessex helicopters, thus completing a strong tri-service force, which had, from the start, been reinforced from England and Singapore with most impressive speed by sea and air.

Middle East Land Forces.

Aden

1 Aug 64

- 1 -

MIDDLE EAST LAND FORCESPART ISECTION IOPERATIONAL NARRATIVE 14 Apr - 30 Jun

1. Background. A road runs north from ADEN across the desert through LAHEJ and on to NOBAT DUKIM, where it meets the foothills of the mountains which rise to the Yemeni border. From NOBAT DUKIM it winds through the mountains to THUMIER and on to DHALA. This road, hardly better than a track, is the only vehicle route between ADEN and the western States of the South Arabian Federation. It is therefore a most important economic and political link.
2. The RADFAN area lies east of THUMIER, bounded on the north by the high mountains of HALMAYN and in the east by the Wadi BANA. The southern limit is the desert which stretches down to the sea and the western edge is the road. The territory is dominated by the peaks of the Jebel RADFAN massif.
3. From the air, RADFAN country looks arid and unproductive. In fact, there are two comparatively fertile areas, the DHANABA BASIN and the Wadi TAYM. These two areas, together with innumerable smaller wadis which radiate from Jebel RADFAN itself, are densely cultivated and support a remarkably large population. The smaller wadis and plateaux are ingeniously terraced and cultivated; most of them contain wells and water cisterns carved out of the rock, but apart from these cultivated areas there is no water. The ten tribes which constitute the Radfanis live either in small villages or in isolated stone houses scattered throughout the area. The ridges are topped by well sited watch-towers and every tribal area seems to have been selected with an eye to defence. In spite of the barren desolation the impression grows that every move is watched.
4. THUMIER lies at about 2,000 feet, the Wadi TAYM is about 500 feet higher and the peaks of the Jebel RADFAN rise to nearly 6,000 feet. The ground is so cut about with wadis and gorges that a distance of one mile on the map generally represents at least three miles on foot. At the time of the operation the average maximum non-shade temperature was about 46°C, (115°F) but fortunately there was a considerable drop at night so that sleep came easily. It was not humid but the reflected heat off the rocks must have exceeded 49°C; in these conditions even fit men tired quickly.
5. The Radfanis have a long history of feuding and violence. Every man but the poorest peasant is armed, for possession of a rifle is the badge of maturity. No doubt there are bad shots amongst the Radfanis but they have not been evident. Generally the tribesmen shoot straight at remarkably long ranges. Traditionally, the Radfanis have been 'agin the Government' - one is reminded of eighteenth century Highlanders. So long as their pugnacity was limited to inter-tribe affairs the situation was tolerable, for the area has never been administered. Indeed, much of RADFAN territory had never before been visited by Europeans. A tale is told of an FRA expedition in Jan 64, when in a remote part of RADFAN an elderly tribesman approached an officer and said, 'Surely you must know my old friend Colonel Wahab?' The officer regretted that he had not had the pleasure. Subsequent investigation revealed that the Colonel had been a member of the 1901 Anglo-

- 2 -

6. The Yemeni Republican regime casts covetous eyes at the States of the South Arabian Federation: it sees the 'revolting Radfanis' (a Yemeni adjective) as a ready made guerilla force, well placed to disrupt the peace and economy of the young Federation, for Jebel RADFAN is only fifty miles from the ADEN base. Many Radfanis are attracted to the YEMEN where they are given military training and serve as mercenaries in the Republican army. Every few months groups of Radfanis return home bearing arms, ammunition and mines. These men are pledged to wage war on the Federal Regular Army (FRA) and the Federal Government, and every successful action against the government is rewarded with a fresh supply of arms. The THUMIER - DHALA road is an obvious and easy target for such dissidents and in Jan 64 they began to give it their undivided attention. In Jan the FRA made a successful expedition into RADFAN territory but the effects of the operation were short-lived. The main role of the FRA is to protect the long border with the YEMEN and no troops could be spared to garrison the areas won. In Feb 64 the FRA was withdrawn and the situation steadily deteriorated.

7. Dissident activity along the THUMIER - DHALA trade route, in the form of mining, sniping and armed hold-ups, increased. Intelligence reports showed a rapid and marked build-up of reinforcements, both of men and materials, crossing the frontier and moving into the RADFAN area. The Federal Government requested the aid of British troops to keep open the ADEN-DHALA road and to assist in quelling the dissident activity.

MOUNTING PHASE

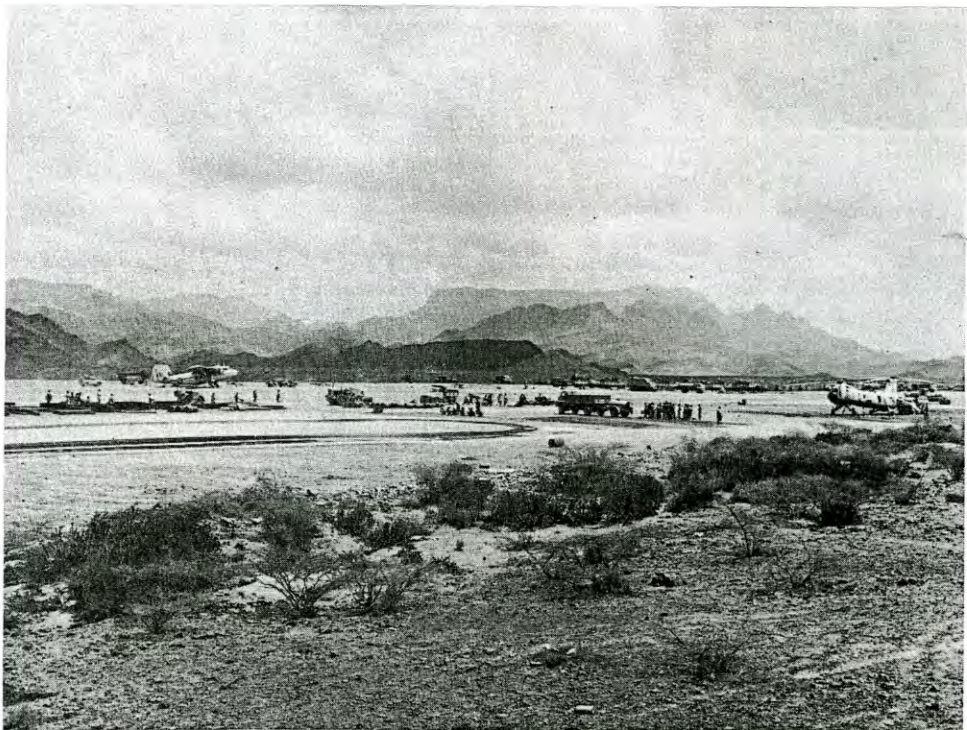
8. On 14 Apr the GOC, Maj Gen J.H. Cubbon, appointed Brig R.L. Hargroves, Comd ADEN Garrison, to command a specially constituted RADFAN Force, of two bns FRA and 45 Cdo RM, which was augmented with one company 3 PARA. J Bty 3 RHA, which was affiliated to the FRA, together with elements of the FRA armoured car squadron and 4 RTR were to provide artillery and armoured car support. The nucleus of the Force HQ was formed by extracting three staff officers from HQ Middle East Command and ADEN Garrison; they became the Brigade Major, the DAA & QMG, and the GSO 3 (GD). The Royal Air Force called for an experienced BASO from Kenya; air support was to be provided by Royal Air Force Hunter GA aircraft, Belvedere helicopters and Beaver, Auster and Scout aircraft of 653 Light Ac Sqn. The task given to the Force Commander was to end the operations of dissidents within the RADFAN area.

9. Planning was hampered by lack of intelligence. A good deal of information was available on the RADFAN tribes and their genealogical history, but very little of this could be defined as military intelligence. In working out his concept of operations the Force Commander drew advice from two main sources: the Federal Regular Army and the office of the British Agent and High Commissioner at AL ITTIHAD, near ADEN.

10. Six limited areas were drawn on the map, each of which was believed to be a base or origin of dissident activity. It was proposed that while the FRA group would be responsible for the security of the DHALA Road, 45 Cdo group, moving by helicopter, would carry out the vertical envelopment of selected parts of these areas, with a view to bringing the enemy to battle on ground of our own choosing. Such was the concept of operations which was presented to the GOC by the Force Commander on 17 Apr. With the limited number of helicopters which were available, this was a bold concept which was accepted by the GOC with the proviso that a trial



Up convoy passing through LAHEJ



THUMIER airstrip, early days

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The movement and logistic support of troops in the mountains would depend entirely on helicopters. The Royal Air Force forecast an availability of three or four Belvedere helicopters a day with six operational flying hours each; this obviously limited the potential to concentrate troops swiftly in the selected operational area. Since speed and surprise would be essential to successful deployment, the helicopter situation was a grave weakness.

11. During the planning stage, from 14 - 20 Apr, Force HQ had been created. OC 254 Sig Sqn became the Force Sigs Officer and elements of his unit formed the Force Sig Sqn. 1 E ANGLIAN provided its IO and intelligence section to help to staff the operations room, and a rifle company to provide a defence and employment element. Sqn HQ and two flights of 16 Field Sqn RAF Regiment joined the Force to undertake the defence of THUMIER airfield.

12. Operations were due to begin on 27 Apr and the Force began to concentrate at THUMIER during the preceding week. A reconnaissance had been made and communication factors dictated that the HQ must be sited in a dusty area some three hundred yards north of THUMIER airstrip. The camp-site was along-side the THUMIER - DHALA road and was overlooked from both east and west by low hills. Fortunately, 1 FRA was already in situ and had established permanent picquets on the predominant features which were within small arms range of the camp. This unit gave the Force Commander and his staff much useful background information and help in liaison with the local community over the use of wells.

13. On 20 Apr, mammoth convoys, the like of which had never before been seen in the territory, began to leave ADEN for THUMIER. THUMIER airstrip could not take Bevelley aircraft so virtually everything had to be shifted by road, a round trip of some twelve hours. By 26 Apr, the Force was ready for operations. The previous week had been one of intense activity for the Q Staff at HQ Middle East Command and for the Ordnance Depot in ADEN.

14. On 24 Apr, A Sqn 22 SAS arrived in THUMIER to join the Force. This squadron had been due to visit ADEN for one month's training from 25 May but their visit had been brought forward so that they might take part in the operation. On 24 Apr, the Force consisted of:-

- Joint Force HQ, including BASO and Political Officer
- D Sqn 4 RTR
- J (Sidi Rezegh) Bty 3 RHA, less one sect
- elements of 12 Field Sqn
- elements 254 Sig Sqn
- one coy 1 E ANGLIAN
- 45 Cdo RM
- one coy 3 PARA
- one sqn 22 SAS
- elements 653 Light Ac Sqn
- two tps FRA Armd Car Sqn
- 1 FRA
- 2 FRA

The composition and size of the Force changed frequently during the operation and it is not intended to record changes in the ORBAT in this narrative. (Details are shown in Annex D.)

15. While the Force Commander made his reconnaissance and the staff began detailed planning, units were able to carry out some useful training. Emphasis was placed on improving the standard of FACs, observer-target fire control, mountain warfare tactics and physical fitness. An air assault exercise was held on 24

- 4 -

16. Operations were due to start on 27 Apr, but for a variety of reasons this date was put back. The extra time gained was valuable; additional training was done and the ad hoc HQ, which had been so hastily thrown together was able to devise and practice the drills and procedures which are accepted as normal in any established HQ. Few of the British troops and staff officers in the Force had any experience of the area, and the additional time for training and acclimatisation was welcome. In the Joint Operations Room, originally two tents joined together, the Brigade Major, the Battery Commander and the BASO sat at adjacent tables with their respective communications at hand. This system gave good co-ordination and control. Occasionally during the ensuing operations an armoured car force undertook tasks separate from the main battle and it was found best to control such forces on the armoured car sqn net by parking a vehicle outside the Joint Operations Room with a jumper lead to the Brigade Major's table.

Initially, some difficulty was found in co-ordinating the defensive fire around THUMIER base. Aircraft were flying in the vicinity of THUMIER strip throughout the daylight hours and a system was developed to control DF. Since DF might be called for by the camp picquets while the attention of Force HQ was directed at operations further afield, a Defence Co-ordinator was appointed to control such fire and he had telephone communications to the Joint Operations Room and all mortar base plate positions.

17. On 25 Apr, Brig M.E.M. McWilliams, DSO, MC, TD, the newly appointed Commander FRA arrived at THUMIER to visit 1 FRA. One of the vehicles carrying some FRA officers and soldiers struck a mine at Milestone 25 on the THUMIER - DHALA Road. One British officer was killed, two injured and two Arab soldiers were slightly injured. One of the injured British officers subsequently died of his wounds.

18. From 26 to 28 Apr, A Sqn 22 SAS carried out familiarisation patrolling in the area south of the Wadi RABWA. One patrol returning to base ambushed a rebel supply caravan, killing and capturing some camels. It is not known whether any of the enemy were hit in this minor incident but subsequent intelligence reports showed that the enemy regarded it as significant. Until now the enemy had had freedom of movement at night; henceforth they would be more cautious. During their familiarisation period the SAS gained useful information on enemy movement in the area.

19. During the preparatory phase it was possible to study the practicability of the original concept of operations. Until now there had been no chance for the Commander to see the ground. Little real intelligence was available, although there was a mass of advice and opinion, much of it conflicting. It was only after his arrival in THUMIER that the Commander was able to get a balanced assessment of the local situation from the Political Officer attached to the Force and from the officers of the resident FRA battalion. They were able to describe in detail the Federal Regular Army operation of Jan 64 and to give valuable information about the ground. The practical assistance given to Force HQ by HQ FRA, particularly in regard to intelligence, was of great value and it is no reflection on the FRA to say that intelligence was scarce. The main factors which adversely affected the supply of intelligence were:

- a. That the territory had never been administered and therefore there was no resident police or special

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officers generally to be found in ex-Colonial territories or Protectorates.

- b. That only a small part of the area has ever been visited by Europeans.
- c. That the enemy had imposed an effective security blanket over the area.

20. The available information suggested that the main enemy stronghold was in the Wadi DHUBSAN, in the remotest part of the Jebel RADFAN and that he had advanced bases nearer the road, particularly in the MAHLA-DA'IRI area - commonly called DHANABA BASIN.

PHASE I

21. The more the Force Commander studied the ground, the available intelligence and the severely limited helicopter lift, the more convinced he became that the first objective must be the high ground which dominates the DHANABA BASIN and the Wadi TAYM. Accordingly, the original concept of operations was abandoned and planning began afresh with the aim of capturing this objective. FRA experience in Jan 64 had shown that DHANABA itself was a stronghold and an attack here was most likely to bring the enemy to battle and incidentally to relieve the pressure on the road.

22. The two main peaks of the objective area were nick-named GIN SLING and CAP BADGE. Reconnaissance showed that there were two possible routes to this high ground. The first followed the caravan track from THUMIER north east up the Wadi RABWA and thence across either the Wadi TAYM or the DHANABA BASIN. This was the obvious route; it had been used by the FRA in Jan and a Landrover/Scoutcar road had been constructed through the RABWA PASS. Since the withdrawal of the FRA in Feb the high ground to the south of the Wadi RABWA had been re-occupied by the enemy, the RABWA PASS had been prepared for defence and the road destroyed and mined. The second possible route struck north east from the THUMIER - DHALA Road at milestone 27 and followed a valley to the Wadi BORAN which leads south east into the DHANABA BASIN. Two particularly lofty features flank the route and give observation east across the DHANABA BASIN and south to the Wadi RABWA; they were nicknamed COCA COLA and SAND FLY.

23. A major operation would have been needed to clear the first route up the Wadi RABWA involving large numbers of troops to picquet the heights on the southern flank. Furthermore the road was known to be mined and the degree of damage to it in the RABWA PASS was unknown. If helicopters were to be available for troop movement, it was essential that vehicles should reach troops in the DHANABA BASIN and the Wadi TAYM as soon as possible after they reached their objectives. The second route was believed to be only lightly held by the enemy and air reconnaissance showed that it would be possible to construct a vehicle route along the wadi beds, at least as far as the DHANABA BASIN and possibly into the Wadi TAYM. The Force Commander therefore decided to use the second route, but to mislead the enemy into believing that the main advance would be up the RABWA.

24. Accordingly, a Rabwa Task Force was formed of two heavy and two light armoured car troops 4 RTR, the guns of J Bty 3 RHA, the assault pioneer and a rifle platoon of 1 E ANGLIAN together with a det of 12 Field Sqn RE. Its task was to advance up the Wadi RABWA on 30 Apr and to establish a gun position from which support

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In so doing, the enemy would be deceived into thinking that this operation was to be a repetition of the FRA advance in Jan.

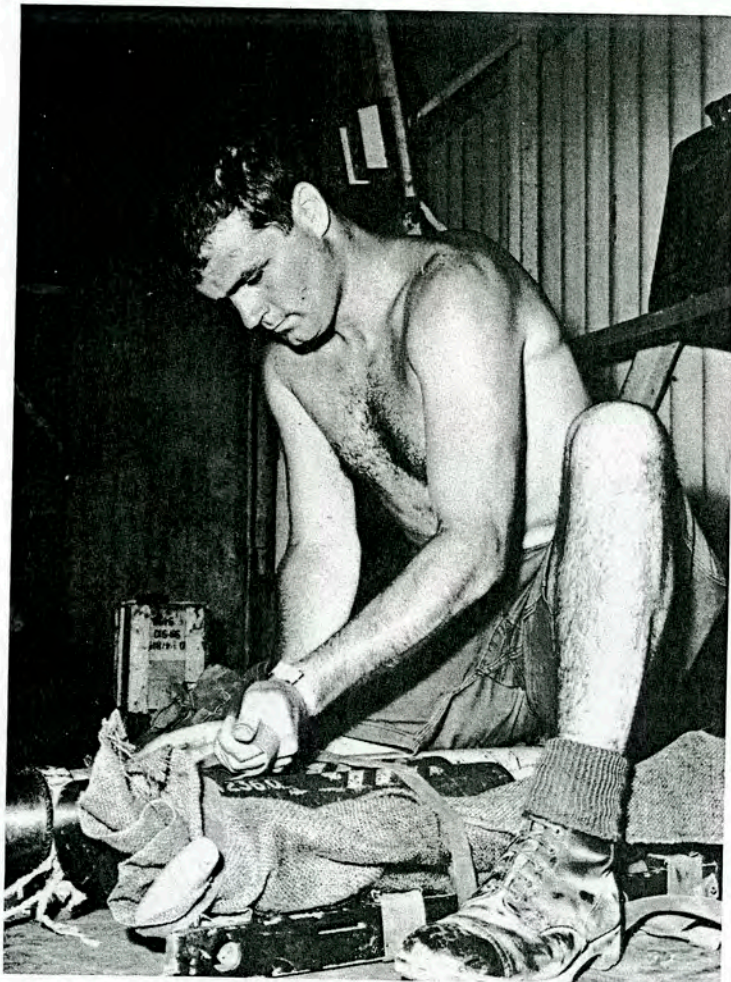
25. 45 Cdo RM were to move north from THUMIER in transport to an assembly area at milestone 27. At last light 30 Apr they were to advance on foot so as to capture the high ground on the north side of the DHANABA BASIN by first light, 1 May. The commando objective was nicknamed RICE BOWL. At 2359 hours 30 Apr, B Coy 3 PARA, based in ADEN, were to drop on a DZ in the Wadi TAYM to capture CAP BADGE by first light 1 May. At first light on 1 May the FRA group were to capture COCA COLA and SAND FLY, already by-passed by 45 Cdo RM the previous night, so as to dominate the western part of the DHANABA BASIN and to pose a threat to the RABWA PASS from the north. In due course, 45 Cdo's route to the DHANABA BASIN was to be developed into a vehicle track. 3 Tp A Sqn 22 SAS was given the task of securing and marking the DZ in the Wadi TAYM for the drop on the night of 30 Apr/1 May. The remainder of A Sqn 22 SAS was to operate in the area east and south of the RABWA PASS to intercept and interdict enemy movement.

26. At last light 29 Apr, the SAS DZ marker party was lifted in three Scout helicopter sorties to an LZ in the Wadi RABWA. The landings were covered by artillery firing HE and smoke and was so timed that the patrol's move from the LZ (8698) was covered by darkness. They infiltrated into the area south of the Wadi RABWA near SHAB TEM escarpment during the night 29/30 Apr with the intention of lying up during the day 30 Apr and moving off to the DZ at last light. By chance, their position (909980) was discovered by a shepherd at 1100 hours 30 Apr. Very soon the SAS patrol was surrounded and was sniped at throughout the rest of the day. The enemy, who increased to over one hundred during the day, were held at bay by small arms fire, GA aircraft and artillery fire. The latter was directed by the SAS using observer-target technique. The patrol was in communication with A Sqn HQ at THUMIER, which in turn had a telephone link to BASO at Force HQ. By holding a telephone in one hand and a microphone in the other, BASO was able to direct Hunter aircraft with great accuracy onto targets very close to the SAS patrol. This form of air control is not to be recommended but it was necessary because the amount of water, ammunition and marking equipment, which the nine man patrol had to carry, precluded all but the essential command radio. At dusk the enemy launched an attack with some ninety men. When it was clear that the position was going to be over-run the troop commander led an assault to break out. One trooper, the radio operator, had been killed by a sniper's bullet just before this assault, and three other men, including the troop commander, were already wounded. The troop commander was killed by a burst of machine gun fire during the break out but the remainder of the patrol fought their way out and ambushed three enemy who attempted to follow them in the darkness. The remaining seven men of the patrol did not return to THUMIER until first light 1 May and no information had been received of the patrol since the radio operator had been shot.

27. It was clear that this patrol would be unlikely to achieve its mission of marking the DZ in the Wadi TAYM by 2359 hours 30 Apr. An alternative plan was therefore made for a further troop of SAS to be flown by Scout helicopters to a landing place a few hours march east of the DZ before last light. Accordingly, two Scout helicopters set out at 1815 hours 30 Apr with a troop of SAS aboard. Both helicopters were engaged by enemy machine guns firing tracer as they passed over the north west edge of the DHANABA BASIN. The SAS personnel returned to the THUMIER area at first light 1 May.



Wadi TAYM, from area of GIN SLING



helicopters were hit and had to return to base. The DZ would not be secured or marked. This was discouraging but not disastrous, for the RAF and the parachutists announced that they were fully prepared to find and drop on the unmarked DZ.

28. This was not the first, nor the last time in the operation that aircraft had been damaged by enemy small arms fire. Enemy fire had been very effective against our aircraft and many were hit. Visual air reconnaissance was therefore restricted, much to the indignation of the pilots who were strangely eager to hazard their lives and who had to be given strict orders to avoid doing so.

29. Meanwhile, on 29 Apr, Rabwa Task Force had advanced up the Wadi RABWA and by 1300 hours 30 Apr, the guns were in position and able to support operations in the CAP BADGE area. They were sniped all along the route and had casualties. Artillery, armoured car and air support helped them to get established, although at one stage the guns were engaging snipers on the mountain sides over open sights. By 1630 hours the enemy withdrew, but the Force was sniped from long range throughout its stay in the RABWA.

30. By 1900 hours 30 Apr, the situation was as follows:-

- a. Rabwa Task Force, including the guns of J Bty 3 RHA were in position in the Wadi RABWA.
- b. The SAS marker party were believed to be still surrounded in the SHAB TEM area.
- c. The helicopters bearing the alternative DZ marker party had been damaged by enemy fire and had returned to THUMIER.
- d. 45 Cdo RM had begun its long night march to its objective, RICE BOWL.

31. At 1930 hours the GOC ordered the parachute drop to be cancelled. The reason for cancellation was not that the DZ would almost certainly be unmarked. Latest intelligence had revealed that the Wadi TAYM and the DHANABA BASIN contained a far stronger enemy force than had at first been supposed. If 45 Cdo RM encountered strong enemy opposition during their march to RICE BOWL they might have been prevented from securing their objective by first light, leaving B Coy 3 PARA unsupported on CAP BADGE. The Force Commander was faced with a difficult decision. 45 Cdo RM was on the way to its objective and was confident of reaching it on time. Although nothing had been heard of the SAS marker party since its radio went off the air, there was still a possibility that it might reach the DZ; it was impossible to tell the patrol that the drop was cancelled. Any SAS who reached the DZ would be left isolated in the heart of enemy country at daybreak 1 May. 45 Cdo RM could be ordered to continue its march to RICE BOWL and attempt to link up with the SAS marker party at dawn, but this would have ruled out the possibility of achieving surprise in any subsequent attack on CAP BADGE.

32. The decision was made at 2235 hours and the Marines' task was changed: they were ordered to continue their advance down the Wadi BORAN to capture the limited objectives COCA COLA and SAND FLY by first light 1 May. The FRA were to secure the route from milestone 27 to COCA COLA and B Coy 3 PARA were ordered to move from ADEN to THUMIER by road, arriving at THUMIER by 0200 hours 1 May. A Beverley aircraft was tasked to drop water, ammunition, a radio set and medical supplies on the DZ for the marker party.

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At 0018 hours 1 May the pilot reported drop completed, but that there was no sign of SAS recognition lights on the DZ. Hunter aircraft were tasked to patrol the area of the DZ at first light either to support the SAS or to destroy the supplies dropped if it seemed that they would fall into the wrong hands.

33. By 0400 hours 1 May, 45 Cdo RM secured COCA COLA and SAND FLY without opposition; the Commander's deception plan had apparently succeeded. The difficult climb up the cliffs of COCA COLA had taken longer than anticipated. In the early days of the operation there was a general tendency to over-estimate the distances that troops could cover in the difficult terrain and climate. In retrospect, it is doubtful if the Marines would have achieved their original objective, RICE BOWL, by first light 1 May, particularly if they had met opposition. If they had not done so and if the parachutists had dropped as planned, B Coy 3 PARA would have been in a difficult situation at dawn. Their resupply would have been particularly hard as helicopters would have been very vulnerable from snipers on the surrounding hills.

34. At 0545 hours 1 May, picquets near THUMIER base camp reported sighting three British soldiers limping down the Wadi RABWA; a few minutes later four more figures were seen. They could only be the SAS. A great sense of relief spread round the HQ. Although they had not succeeded in their mission of marking the DZ, theirs had been fine achievement against great odds.

35. It was clear from the unopposed capture of COCA COLA and SAND FLY that the advance by the Wadi BORAN had caught the enemy by surprise. The experience and observation of the SAS showed that the enemy was concentrated in the SHAB TEM - BAKRI RIDGE area, probably in anticipation of an advance up the Wadi RABWA. The deployment of Rabwa Task Force had encouraged this belief and the presence of SAS patrols in the SHAB TEM area had confirmed it. In addition false rumours of the Force Commander's intention to advance up the RABWA had carefully been put about and these undoubtedly reached enemy ears.

36. If advantage was to be gained from this situation it was important that CAP BADGE and GIN SLING should be captured as soon as possible. By 2 May, 1 KOSB started to arrive in ADEN and they were able to assume the duties of 1 E ANGLIAN in ADEN while getting acclimatised. The GOC was therefore able to send the balance of 1 E ANGLIAN to THUMIER. Thus reinforced, the Force Commander ordered that the FRA group were to continue to hold the road and the route east to COCA COLA and the Tac HQ and two companies 1 E ANGLIAN were to relieve 45 Cdo RM on the evening of 4 May. 45 Cdo RM, less one company to remain in the COCA COLA area, and with B Coy 3 PARA under command was to advance during the night 4/5 May to capture CAP BADGE and GIN SLING by first light. A diversionary attack up the Wadi RABWA was to be carried out by one company 1 E ANGLIAN on the evening 4 May to reinforce the impression that the main attack was to be carried out in that sector.

37. Meanwhile, the Task Force had been withdrawn from the Wadi RABWA at 1615 hours 1 May. Throughout their stay in the RABWA the gun position and the resupply convoys from THUMIER had been sniped. With the cancellation of the operations planned for the night 30 Apr/1 May there was no point in keeping them there. An alternative gun position had been found in the Wadi BORAN, west of COCA COLA, from which 45 Cdo group could be supported onto CAP BADGE and GIN SLING.



Men of 3 PARA in the area of CAP BADGE



38. On the afternoon 1 May, the BAKRI RIDGE, east of SHAB TEM was bombed. The experience of the SAS marker party had shown that this was an enemy concentration area. Great care was taken to avoid hitting villages to minimize the risk to women and children. It is appropriate here to explain the steps which were taken throughout the operation to avoid inflicting casualties on innocent civilians. Before troops entered any area leaflets prepared by the political authority were dropped. In general, these warned the inhabitants that a specific area was to be subject to military control operations. All innocent folk were instructed to leave the area within a specified time if they wished to avoid becoming involved in military operations. In addition to this warning, no targets were engaged unless they were clearly hostile. These steps obviously limited the degree of tactical surprise which could be achieved but they are essential in this type of campaign. Hardship was involved for those people who had to leave their homes at short notice but this was preferable to inflicting unnecessary casualties.

39. Since their arrival on COCA COLA and SAND FLY 45 Cdo RM had been relying on helicopter resupply. By midday 1 May a vehicle route had been proved to the foot of COCA COLA but this did not materially affect the situation, for the climb to the summit was too long and arduous to be practical, except in emergencies. High winds on the summit limited the number of helicopter landings which could be made and strict water rationing had to be enforced.

40. Throughout this period the FRA and 1 E ANGLIAN had been patrolling the THUMIER area and the main road. During the night 1/2 May an FRA ambush had a successful contact with what was probably an enemy mine-laying party in the area of milestone 27. On the night 2/3 May a strong patrol of B Coy 3 PARA carried out a fighting reconnaissance of the Wadi RABWA calling down artillery fire on enemy targets. During the period 2 - 8 May, A Sqn 22 SAS working in mutually supporting four man groups again infiltrated the high ground overlooking SHAB TEM. Their task was to observe and direct fire on to enemy movement. During this operation up to five targets a day were engaged with accurate artillery fire and air attacks and the enemy soon began to disperse and to move with far greater caution than before. Many casualties were inflicted by this observed fire and enemy morale must have suffered accordingly. Two air drops of food and water were made to the SAS during this operation, both of them at dusk; several dummy drops were made to confuse the enemy as to the precise location of the SAS patrols.

41. By 1420 hours 4 May, two sections of JEBty 3 RHA were established in a new gun position on PAIL MALL, the nickname given to the vehicle route along the Wadi BORAN. Later that afternoon 1 E ANGLIAN relieved 45 Cdo RM as planned and all was ready for the capture of CAP BADGE and GIN SLING. On the map the approach was only $4\frac{1}{2}$ miles but this was an extremely arduous night march over difficult country. The troops were heavily laden with water and ammunition and the final approach to the objectives involved climbing sheer cliffs. X and Y companies of 45 Cdo secured the heights of CAP BADGE and GIN SLING without opposition but at first light B Coy 3 PARA, on the longer eastern approach through the Wadi TAYM, were engaged near a village at the foot of the eastern face of CAP BADGE. This village was later nicknamed PEGASUS. Enemy snipers were in well prepared positions on the steep slopes in dead ground to the marines who had already reached the summit. A battle developed which continued into the afternoon in which the parachutists lost two dead and ten wounded and killed at least six enemy. Close support was given by Hunter aircraft, strikes being

called down only 150 yards from B Coy's positions. PEGASUS was just within artillery range, but the closeness of the enemy to B Coy and the difficulties of observation prevented safe artillery support. By midday 5 May, Z company 45 Cdo RM had had been ferried by helicopter from COCA COLA to the summit of CAP BADGE and an attack was then made by this company down the slopes of CAP BADGE to link up with B company 3 PARA and to allow the evacuation of casualties by helicopter. This was successfully accomplished and by 1900 hours 5 May the entire Cdo and B Coy 3 PARA were secure on the summits of CAP BADGE and GIN SLING. Some idea of the country can be gathered from the fact that from the parachutists position at the foot of the escarpment to the top of CAP BADGE appears as only 1000 yards on the map, but with heavy loads it took two hours to climb, and represented the consumption of two water bottles a man. The route between CAP BADGE and GIN SLING was equally difficult. These were tired men who had already carried out a difficult night march and they had only the water they could carry with them, but these yardsticks are typical of operations in the RADFAN.

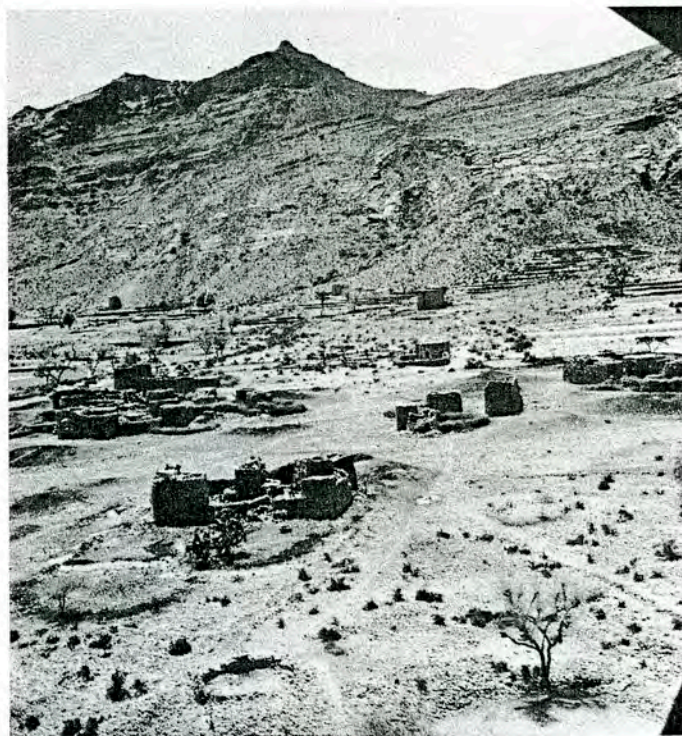
42. Throughout 5 May, all available helicopters put in a maximum effort. Z company 45 Cdo RM had been ferried from COCA COLA to CAP BADGE, the commandos' support weapons, rations and water had been flown in; simultaneously, two companies 1 E ANGLIAN had to be resupplied on COCA COLA and SAND FLY and a section (two guns) of J Bty 3 RHA with its ammunition was lifted to the top of COCA COLA to give extra range and observation. It had been a long day but by the evening the Commander had reason for satisfaction. The objective had been secured and the initial resupply problems had been solved. The only disappointment was the delay in the completion of the vehicle route into the DHANABA BASIN; unexpected difficulties in the shape of huge boulders in the wadi bed had been met and the route was not finally cleared until 11 May. In the meantime, all resupply to 45 Cdo group had to be by helicopter.

43. On 6 May, 45 Cdo group and 1 E ANGLIAN began to impose military control in the DHANABA BASIN. Food stocks were destroyed and some arms and ammunition were recovered but no enemy were encountered. Patrolling continued on 7 May without significant incident apart from some sniping at aircraft and long distance sightings of small groups of the enemy. During the evening of 7 May, emissaries of the HUJAILI tribe arrived in THUMIER to discuss peace terms. These men turned out to be unimportant members of the tribe and nothing came of the discussions. However, they did volunteer information that the enemy had vacated the RABWA PASS and this was confirmed by other information and by SAS observation. The following day therefore a force consisting of one heavy and two light troops 4 RTR, one rifle company FRA and an engineer detachment advanced up the RABWA and by 1150 hours 8 May took the RABWA PASS and the GIBRALTAR feature without opposition. The road was found to be badly damaged and blocked by rubble and trenches, and all engineer effort was therefore concentrated on PALL MALL route which was the easier task. Only one mine was found on the road and this confirmed reports that the enemy had taken his mines with him when he withdrew.

44. By 9 May, 1 E ANGLIAN had relieved 45 Cdo group on CAP BADGE and GIN SLING, the FRA had taken over COCA COLA and SAND FLY, were securing PALL MALL and were holding GIBRALTAR. Military control operations had been started in the Wadi TAYM and one section I Bty 7 RHA was deployed in the DHANABA BASIN to support these operations. On 10 May the land rovers of 1 E ANGLIAN reconnaissance platoon were lifted by Belvedere helicopter to the



OP on CAP BADGE



PEGASUS village with CAP BADGE in background

1 E ANGLIAN patrolling base at PEGASUS village, the scene of the parachutists battle on 5 May. These vehicles greatly assisted movement in the Wadi TAYM and increased the area of influence.

45. At 2020 hours 10 May, one of the KOSB section picquets guarding THUMIER camp was attacked by about twenty enemy. This was a well planned and determined attack. Trip flare wires around the picquet position had been skilfully cut and the enemy crept close to the position before opening fire. The attack was beaten off by small arms fire and mortar DF after a sharp thirty minute engagement. Two enemy were reported killed but their bodies were not recovered. Throughout the operation the enemy went to great lengths to remove their dead.

46. The ad hoc Force HQ had borne the brunt of the initial, perhaps the busiest period of the operation. The G staff consisted of two staff trained officers and an intelligence officer, and the AQ staff finally had two. Together with the Bty Comd and the BASO, this small staff had been in control for the first three weeks of the operation and were engaged in planning and preparation from 14 Apr. The Headquarters had worked well but it was clear that such a limited staff could not continue to work properly indefinitely. On 2 May, Headquarters 39 Infantry Brigade Group in N. IRELAND had been placed at 72 hours notice to emplane for ADEN, and on 4 May the Brigade Commander, Brig C.H. Blacker, OBE, MC and an advance party deplaned there, followed on 7 May by the main party. After a period of acclimatisation the headquarters assumed command of the British and Arab forces operating in the RADFAN on 11 May, and Brig R.L. Hargroves and his staff returned to ADEN. With the arrival of HQ 39 Inf Bde Gp a system of reliefs for the overworked BASO was arranged, but the Bty Comd, and indeed, all ranks of J Bty 3 RHA, had to continue in the operational area with only very brief and occasional rest periods. On 11 May the composition of the Force was as follows:-

- D Sqn 4 RTR
- J (sidi Rezegh) Bty 3 RHA, less one sect
- one sect (3 guns) I Bty 7 RHA wef 10 May
- one tp 12 Field Sqn RE
- dets R Sigs
- 1 E ANGLIAN
- one coy 1 KOSB wef 6 May 64
- 45 Cdo RM
- one coy 3 PARA
- 1 FRA
- 2 FRA
- elements FRA Armd Car Sqn
- one flt RAF Regt

47. It was clear to the new Commander that the armoured car strength was insufficient to compete with the many roles likely to be demanded of it and that no offensive use of armour could be contemplated until it was reinforced. This was done and CO 4 RTR with his regiment less one squadron assumed control of all armoured operations from 15 May.

48. No attempt will be made to describe the fluctuations in the strength of the force, nor the rotation of units. From 15 May, by which time 4 RTR less one squadron, 3 PARA, A Sqn 22 SAS and one sect 170 Med Bty, had arrived in the RADFAN, the force was at its strongest; from 29 May the strength began to decline as operational opportunities in the RADFAN diminished, and as units were withdrawn for roles elsewhere.

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49. By 11 May the first phase of the operation was drawing to a close. British and FRA troops, based mainly on the COCA COLA and CAP BADGE features, were in control of the DHANABA BASIN. British troops were beginning to take over the Wadi TAYM. The FRA controlled the RABWA PASS from positions based on GIBRALTAR.

50. The dissidents were active on the northern and southern fringes of the Wadi TAYM. They were in some strength in front of GIBRALTAR and on the BAKRI RIDGE; the Wadi MISRA was also used as a base for a number of active dissidents. The rebels at the time usually wore a basic form of uniform, and were frequently seen in parties of ten to a dozen. Morale, though probably not as high as during the early stages of the operation, was still strong; the rebels remained in an aggressive and reasonably confident mood.

51. The demands of the first phase of this operation had placed a considerable strain on the supply system, and it was clear that no serious advance or engagement could be contemplated until this strain was eased and a solid administrative basis achieved. The first essential was to reduce the SRT helicopter lift for badly needed maintenance and for rest of the crews, but this could only be partially achieved until roads could be driven through into the Wadi TAYM and the DHANABA BASIN. However, through use of camels, construction of airstrips, and by reduction in the numbers of forward troops some easement was effected. This was the most critical supply requirement, but a variety of other administrative stresses and shortcomings of hardly less importance were by now manifest. Few of these could quickly be put right and all presented considerable problems in the growing base at THUMIER, in which conditions of dust and heat were severe, and in Headquarters Middle East Command.

Within these administrative limitations the best the Commander could do for a period was to ensure that by aggressive patrolling, and by rapid air and artillery reaction to any dissident activity, the initiative was retained. This, and the improvement of the supply system, became two of his three initial aims. The third was the enforcement of the measures for 'military control' on the DHANABA and TAYM.

52. The Political Directive addressed to the Commander on 29 Apr laid down these measures. The tribal area marked out for proscription - as it was then called - was marked on a map. Leaflets were then dropped in it telling the tribesmen to remove themselves. Detailed instructions were then to be given to the troops who occupied these areas, who were required to 'confiscate property, burn fodder, destroy grain, grain stores and livestock'. Standing crops were also to be destroyed.

53. It was not found practicable to carry out these instructions to the letter. Grain stores wherever found were burnt, and so were the thorn fences behind which livestock were kept. Livestock were either slaughtered humanely and eaten, or as far as possible driven away to areas in which there was food and water. The inhabitants were firmly excluded from the controlled areas. No permanent damage of any kind was done to buildings, wells or agriculture, unless our troops had been fired on from the area in question in which case installations there were of course subject to the risks of battle.

54. The DHANABA BASIN had by 11 May been cleared of all its inhabitants, and was being controlled by 2 FRA. On this day, too, the PALL MALL route was through to the DHANABA BASIN. 1 E ANGLIAN were responsible for the Wadi TAYM, and by 17 May the area was reported clear of enemy and tribesmen. This operation was carried out swiftly and thoroughly against sporadic opposition which grew less as the rebels began to appreciate the vigour with which British troops were operating. By 17 May, the Royal Engineers had reopened the RAB A PASS to quarter-ton trucks, though the DHANABA and the TAYM were as yet unconnected with each other by anything other than camel tracks.

55. It appeared possible that supplies from the YEMEN were still reaching the rebels from the Wadi BANA via the routes running south from the eastern end of the Wadi TAYM. A report on enemy movement in this area seemed likely to be of value, and on 13 May, A Sqn 22 SAS was introduced into a lying up area south of the extreme eastern end of the Wadi TAYM, about 4,000 yards short of the Wadi BANA.

56. During the period 13 - 19 May, A Sqn observed that dissidents were withdrawing towards the BANA and that such camel trains as travelled south were usually empty and on their way to collect families and belongings. The Sqn conducted several ambushes, and one civilian prisoner of apparent importance was snatched and evacuated by Scout helicopter. The result of these operations was to denude the area completely of dissidents. By 19 May, when A Sqn withdrew, patrols of 1 E ANGLIAN were able to move unopposed down the eastern TAYM to a position overlooking the Wadi BANA. There, for political reasons, they had to stop.

57. Meanwhile, 1 FRA had been patrolling energetically into the SHAB TEM area east of their positions round GIBRALTAR. On 14 May, one of their patrols in this area discovered two decapitated bodies in British uniform. At almost the same time the patrol was engaged by twenty enemy in sangars, who were shortly after joined by five more from the direction of the Wadi MISRA. Artillery fire was promptly brought down and a sangar received a direct hit, killing or wounding four of the enemy. At the conclusion of this successful engagement the two decapitated bodies were recovered and sent to ADEN.

58. The Wadi MISRA, clearly still the base for a number of rebels, was a good target for aggressive patrolling. An armoured reconnaissance in force was ordered and responsibility for this operation was given to CO 4 RTR. The area was not yet controlled and this inhibited action to a certain extent. The aim was 'to make a display of armed force down the Wadi MISRA destroying sangars and suppressing resistance'. C Sqn 4 RTR, one troop 16/5 L, and one FRA troop comprised the force.

59. On 19 May, this operation was launched and, despite various mechanical disasters to the tanks, was carried out with dash and skill in the face of some opposition and a rainstorm which forced a withdrawal before the final objective had been reached. Though on the whole a success, the decision was registered that on the next occasion the Wadi MISRA would be fully taken over in a major operation, and that there would be no early withdrawal which might be misinterpreted by the enemy as being a result of their opposition.

60. 3 PARA, at two company strength, had come under command on 16 May, and this for the first time gave the Commander an infantry force which was not tied to a particular piece of ground and which could be used for offensive operations.

61. When planning an offensive operation in the RADFAN, it was wise to assume that few rebels would in the event be killed or wounded. It was the moral effect on them rather than the physical, which counted. It was axiomatic therefore that no operation involving risk to the lives of British soldiers, and to valuable equipment such as helicopters, was worth carrying out unless its success would significantly strike a blow at enemy confidence and will to fight. It had too, to be borne in mind that British casualties, even if accompanied by heavier enemy losses, would tend to raise enemy morale unless at the same time a telling psychological blow had been struck. The examination of the aim of any offensive plan thus had to be particularly carefully carried out. On the other hand, to confine British military action to patrolling, and to abandon all thought of offensive action for fear of the risks, seemed out of the question. In that event it would not have been long before the enemy concluded that we were a 'paper tiger', and regained confidence and initiative; the effect on British troops, who after all are trained to fight the enemy and not merely to observe him, can also be imagined.

62. The Commander considered that offensive action must in general have as its aims:-

- a. To penetrate into the heart of the enemy's country, and to invade his most inaccessible and most cherished military areas.
- b. By so doing prove to him that if we so wished we could go anywhere in the RADFAN we chose, and
- c. to provoke him to fight, thus enabling us to inflict casualties on, and lower the morale of, the enemy hard core.

PHASE II

63. The BAKRI RIDGE was the area chosen for the next major advance. It is a dominating feature with a sheer cliff running the length of its eastern flank, sloping comparatively gently up from SHAB TEM below GIBRALTAR, through HAJIB, up and on to its culmination at a 5,000 ft feature which was later known as ARNOLD'S SPUR. Below this is a very steep drop of 2,000ft to the Wadi DHUBSAN itself, said to be one of the main bases and headquarters of the dissidents. The BAKRI RIDGE is some ten miles in length as the crow flies, but despite its comparatively gentle slope the terrain is difficult and inhospitable to cross on foot. Nothing other than a bad camel track exists as far as HAJIB, after that nothing at all. There is no water. It was on the lower slopes of the BAKRI RIDGE that A Sqn 22 SAS had sustained their casualties against ninety dissidents on 30 Apr, and the escarpment had always seemed likely to hold fairly large enemy concentrations - as 1 FRA's recent patrol engagement had confirmed.

64. Although 3 PARA were ready for operations on 18 May, there had been no intention of advancing up the BAKRI RIDGE until 815 Naval Air Sqn had become available with its Wessex helicopters to assist 26 Sqn RAF and its Belvederes on 25 May. The Belvederes and their crews were not unnaturally feeling the strain, and were in no position to support a major advance without this reinforcement of SFT lift. It was therefore decided to hand the BAKRI RIDGE over to control operations by the RAF from 21 May until such time as the ground forces were in a position to begin the advance.

65. By 17 May, however, a definite change was noticeable in the enemy confrontation. Energetic action by 1 E ANGLIAN and A Sqn 22 SAS in the TAYM, vigorous patrolling by 1 FRA round SHAB TEM and above all the accuracy and aggressiveness of the RAF and the Royal Artillery, had undoubtedly produced a softening of resistance. 1 FRA patrols on the lower slopes of the BAKRI RIDGE were now for the first time meeting no opposition. It seemed profitable to use 3 PARA immediately as a reconnaissance in force in the direction of HAJIB.

66. The decision was taken without prejudice to the original plan for air control on 21 May, and a subsequent ground advance from SHAB TEM about 25 May. What changed the situation, and indeed advanced the whole plan by a week, was the amazing resourcefulness of 3 PARA gp in the field of supply. The CO had been told by the Commander that the depth of this reconnaissance would be governed by the supply factor, and that no Belvedere lift at all could be made available for at least two days, if then.

67. On the night of 18 May, CO 3 PARA turned one company into porters and advanced with the other. At first light two Scout helicopters lifted the portered supplies and water further forward still to the leading troops. This took the battalion halfway to HAJIB, having encountered no opposition. By 20 May, using the same tactics, they were in HAJIB, having had one brush with the enemy. Half the BAKRI RIDGE, hastily evacuated by civilians and dissidents alike, was in their hands.

68. The Commander now realised that there was a lack of liaison with the RAF about his future intentions. Despite the magnificent work of the BASO at Bde HQ, there was no direct contact between the Force Commander and the policy level of the RAF in ADEN. This led to two misunderstandings.

69. The first was the very reasonable RAF view that the arrival of 815 Naval Air Sqn meant that 26 Sqn RAF could stand down for a much needed period of rest. The Commander, whilst appreciating the need for a partial stand-down of Belvederes, had always regarded the arrival of the Wessex as an opportunity for increasing the tempo of ground operations. He knew that 3 PARA would leave his command on 29 May, and that the tempo would then inevitably have to be reduced through lack of troops. To make the best use of this period some of the Belvederes were required as well as the Wessex, and this fact had not been made known to the RAF. In the end agreement was reached that for a week from 1 Jun there would be a complete Belvedere stand-down, and that meanwhile, support would continue on a reduced but adequate scale.

70. The second misunderstanding arose from the effect of 3 PARA's rapid and unexpected advance. On 21 May, air control operations were due to start along the whole BAKRI RIDGE. Targets had been selected and much planning done. Now ground forces occupied half the target area and had found this half deserted. The Commander requested urgently that 3 PARA should not be required to withdraw as planned, but that their success should be exploited as soon as possible along the whole ridge. Agreement was eventually reached that the battalion should not withdraw and that air control would go into operation on 21 May, in the area south of the 98 northing.

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71. These misunderstandings, neither serious, pointed a lesson which was at once learnt. A senior RAF officer, at first a Wing Commander and later a Group Captain, was appointed Air Commander at Bde HQ and from then on all possibility of confusion and lack of liaison ceased. None of the two misunderstandings described above had any effect on the unswerving co-operation and loyalty which the Force always received from the RAF, but they could have been avoided with the system later adopted.

72. On 23 May, the Commander gave out orders for further operations; these were:

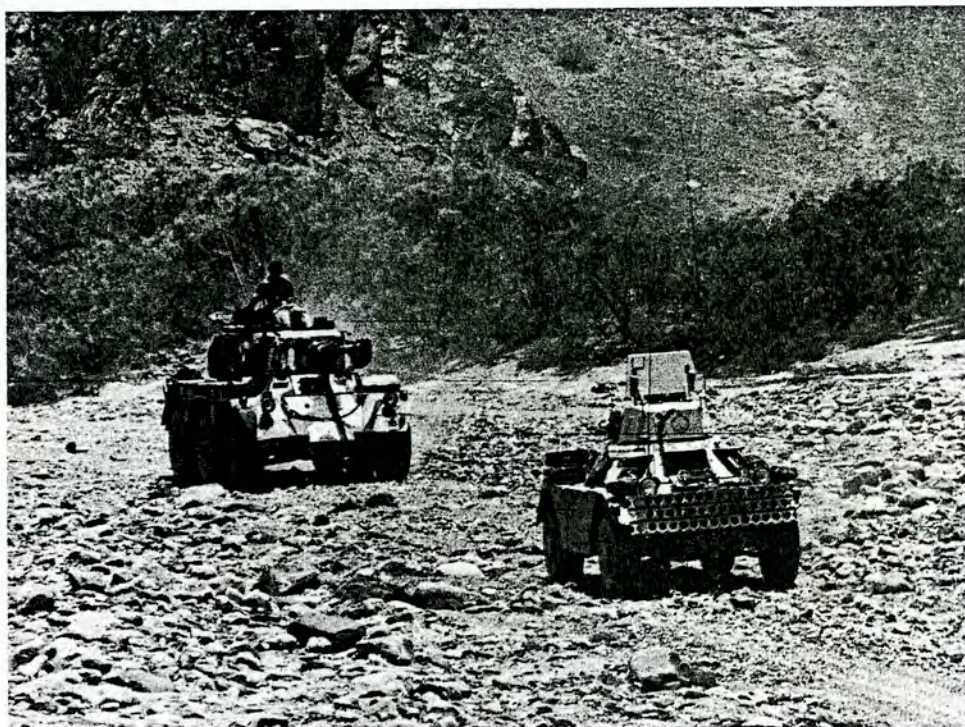
- a. An armoured reconnaissance in force by 4 RTR from south to north into the RADFAN commencing 25 May.
- b. A slow, methodical advance up the Wadi MISRA by 45 Cdo RM less one company and 2 FRA, with final objective Jebel HURIYAH, commencing last light 25 May.
- c. A raid on the Wadi DHUBSAN on 26 May by 3 PARA Gp with one company 45 Cdo under command. To withdraw by last light 27 May.
- d. Assumption of control in the TAYM, DHANABA and GIBRALTAR positions by 1 KOSB.

73. The task of the armoured reconnaissance, known as WATFORCE, was to dominate the areas of the Wadis NIAF and NAKHALAIN by aggressive patrolling, in particular operating against camel trains which were thought to be bringing supplies from the YEMEN into the RADFAN through this area. In addition, as part of the overall plan to bring pressure to bear on the rebels in the RADFAN, CO WATFORCE was ordered to push north to the head of the Wadi NAKHALAIN, commencing 25 May.

74. This operation was extremely well carried out and was successful. The value of the NAKHALAIN reconnaissance was borne out when a similar force, then SHEPFORCE, repeated the operation as part of a diversion during the eventual capture of the Jebel HURIYAH on 10 Jun. Although no camel trains bearing supplies were intercepted by WATFORCE, it is likely that the news of armoured cars operating in the area virtually brought to an end the use of this route from the YEMEN. No reconnaissance, air or ground, since that date has seen any definite signs of its use for arms supplies.

75. In the event, the Wadi MISRA advance was postponed. On the afternoon of 25 May, heavy rains flooded the Wadi RABWA with the temporary loss of several vehicles. A RN Wessex helicopter pilot flying along the RABWA saw two soldiers standing on the turret of a Ferret scout car with the water rising fast. Luckily he had a winch and strop fitted to the aircraft and was able to lift the soldiers to safety. A little further on he found another vehicle in the same case and again rescued two men. Further on again he picked up yet another pair of marooned men, this time Royal Marines. 2 FRA was effectively stuck in the RABWA PASS, unable to reach its start line; the attack was postponed 24 hours. By then 45 Cdo RM were under orders to return immediately to ADEN to reconstitute the theatre reserve. The attack was again postponed until 1 E ANGLIAN could be brought from ADEN to replace 45 Cdo RM.

76. On the afternoon of 23 May, just as CO 3 PARA was returning from the Commanders Order Group, his leading company were moving to secure their start for the final advance up the BAKRI RIDGE to ARNOLD'S SPUR. About forty rebels fought determinedly to



Armoured cars in the Wadi MISRA



Flood recovery in the Wadi RABWA

They were armed with five LMG's, and sustained severe and accurate attacks from Hunters and artillery without flinching. It was clear that our advance into this sensitive area had at last, as we hoped, provoked the rebel hard core to fight. Three enemy were observed dead but 3 PARA sustained no casualties. After three hours, darkness fell, the enemy disappeared and 3 PARA took ARNOLD'S SPUR unopposed. Daylight revealed a remarkable view over the whole RADFAN from this position, with in the foreground the Wadi DHUBSAN, two thousand feet down in a steep sided valley.

77. The hazards of this operation were at once evident. The weather was becoming unpredicable, with low cloud over high ground in the morning followed by turbulent winds which made helicopter flying difficult and often, for the Belvederes, impossible. The depth and narrowness of the wadi were such that a helicopter landing zone, other than for a Scout, was probably out of the question.

78. One tactical feature existed however which made the operation feasible - the Jebel HAQLA. This was a large flat topped hill, somewhat lower than ARNOLD'S SPUR and about a mile away on the right flank of an advance down the mountain face. This was the anchor on which we could lay hold in a crisis. Picquets on this feature could cover the advance down to the wadi, and could provide a covering force through which the battalion could retire. Its flat top, dominated only by ARNOLD'S SPUR, was a perfect helicopter LZ. Provided Scout helicopters could land on the bottom of the wadi - as we found they could - albeit with some difficulty - casualties could be extracted. In an emergency, supplies could be dropped by Beaver aircraft into the wadi - again, it was found, with some difficulty.

79. Local opinion held that the rebels would violently oppose an invasion of the Wadi DHUBSAN, hitherto unentered by Europeans and regarded in the RADFAN as an impregnable stronghold. For this very reason it was decided to go ahead with this operation, which was to take the form of a large scale raid. CO 3 PARA was ordered to neutralise enemy resistance, search for arms, ransack the houses of leading dissidents for documents, destroy foodstuffs, and generally take over the wadi until it was time to retire.

80. By first light on 26 May, 3 PARA with X Coy 45 Cdo under command had descended the two thousand feet from ARNOLD'S SPUR into the Wadi DHUBSAN. The Jebel HAQLA was firmly picqueted and held, thus securing the right flank for the early stages of the advance and for the eventual withdrawal. For the first three hours there was no sign of opposition and the first 1,500 yards of the advance were unopposed. CO 3 PARA went forward in a Scout to where he understood his leading company to be, for some reason over-shot it, and was brought down in his helicopter by enemy fire. The occupants escaped and rejoined our lines, but the damaged helicopter remained for the time being under enemy control, an unexpected and unwelcome hostage to fortune.

81. A severe engagement - at least by the standards of the RADFAN - was then fought for some four hours. Rebel positions were on rather higher ground and were very hard to deal with. Despite the steep sides of the wadi, Hunter aircraft performed remarkable and effective feats of flying, and medium artillery intervened to good effect. 3 PARA and X Coy 45 Cdo RM fought determinedly and at the cost of one dead and seven wounded, killed six rebels and wounded an unknown number. By 1400 hours the rebels withdrew

No further shots were fired at them, and they proceeded to carry out their orders undisturbed.

82. The helicopter was now examined and found to be repairable. Spares and two fitters were at once flown in, and work proceeded all night by torchlight. At first light the Scout rose in the air and flew back over the cliff behind, to the relief of all. Late that afternoon 3 PARA Gp withdrew to the Jebel HAQLA unopposed and as planned. Most of the battalion were evacuated by Wessex direct to THUMIER and X Coy 45 Cdo RM were left in control of the BAKRI RIDGE until relieved by 2 FRA on 28 May. 3 PARA then withdrew from the theatre of operations, leaving behind them the memories of a very fine feat of soldiering.

83. 1 KOSB, enforcing control measures in the Wadi TAYM, had several brushes with the enemy in the course of which five men were wounded. So vigorous were the measures employed by this battalion that within a very few days the whole area was comparatively quiet and the enemy very much on the defensive.

84. On the nights of 29 and 31 May, the picquets of the 1 RS surrounding the THUMIER Headquarters were subjected to attacks for some two hours by up to twenty five rebels. These attacks were pressed home with unusual resolution in view of the normal Radfan unwillingness to fight at night, and it was only due to the steadiness of A Coy 1 RS that the attacks were repulsed without casualties to us or the loss of a picquet position.

85. The Royal Engineers had by the beginning of Jun made notable progress with route construction. For the first time in recorded history the DHANABA and the TAYM were connected with the outside world, and to each other, by routes which would take heavy vehicles. Together with airstrips already completed, and with an aerial ropeway to the CAP BADGE feature, all troops in this area were, for the first time, independent of helicopter supply. Pumps - intended to be left permanently on site after hostilities ended - had been installed in several wells. Amenities, such as showers, at THUMIER had also made their appearance thanks to the efforts of the Royal Engineers, to whom the arrival of 3 Indep Field Sqn had provided welcome reinforcement and help in co-ordinating direction.

PHASE III

86. It was time to turn our attention seriously to the Wadi MISRA. Not only was it, as an evident base for dissidents, a desirable objective in itself, but it offered the shortest route to the Jebel RADFAN. Crowning the RADFAN, from a height of about 6,000ft, was the Jebel HURIYAH, the dominating feature of the whole area and a prestige position which, like the Wadi DEUBSAN, had never been occupied by Government troops. Expeditions up the Wadi MISRA had been made in the past, but these had never penetrated into the Jebel RADFAN area itself, still less to HURIYAH.

87. The Wadi MISRA is fertile and comparatively wide, but narrow enough to make picqueting of the ridges on either side a pre-requisite of any advance up it. The operation had inevitably to be slower in tempo than had the advance along the BAKRI RIDGE, which was itself dominating ground and unsuppliable except by helicopter. The MISRA required picqueting accompanied by the preparation of a route forward up the wadi bed for movement of artillery and supplies.

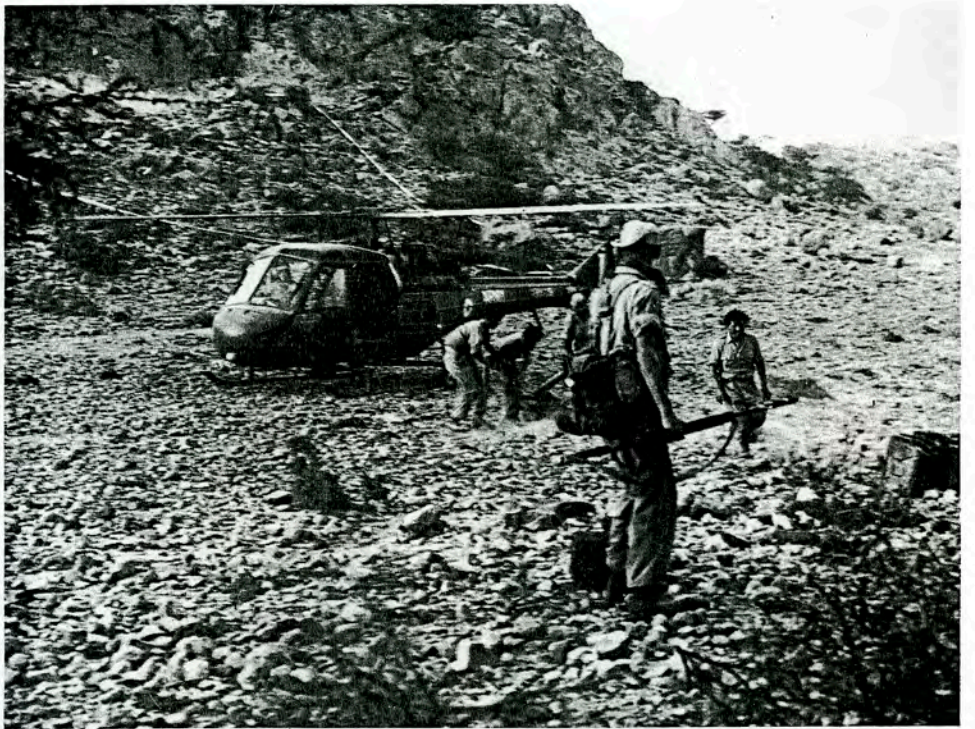


Pilot and REME fitters with recovered helicopter





Wadi MISRA, with Jebel HURIYAH in the distance



Resupply by Scout on FRA Ridge

88. This route could only be used for some six miles. At this point the valley split into two much narrower wadis, both dominated by jagged peaks at the head of the MISRA which were themselves the approach to the RADFAN. The key peak was in the area of SHAAB SHARAH. East of this a comparatively easy slope for troops - though not for vehicles - led some four miles upwards to the Jebel HURIYAH. It was a question of picqueting the MISRA, advancing down it with artillery and supplies until the wheeled route could go no further, assaulting the feature west of SHAAB SHARAH, establishing an administrative and tactical base east of it, and then advancing to HURIYAH. As in the case of the Wadi DHUBSAN local opinion held that we should encounter fierce opposition on the approach to HURIYAH and on the feature itself. Plans were therefore based on this assumption; thought was given to diversion and deception in the later stages, and every care exercised to remain tactically and administratively balanced at all times - at the expense if necessary of speed and surprise.

89. No major air supply commitment could be undertaken until 7 Jun, the end of the Belvedere stand down. Meanwhile, we had the services of three Wessex, flown with the Royal Navy's usual dash and skill. Their tasks were mainly to extract 2 FRA from the BAKRI RIDGE, which was handed over to RAF control on 3 Jun, and to supply such picquets as the early stages of the Wadi MISRA operation might require. These tasks proved well within their powers.

90. By 31 May, 1 E ANGLIAN had established the first picquet on the south ridge of the Wadi MISRA. During the next four days, after some formidable climbs, they pushed their picquets forward down the south ridge and advanced in step down the wadi bed, clearing the route as they went. Opposition was very light, though one landrover was destroyed on a mine which had probably been laid some months previously.

91. On 4 Jun they were joined by 2 FRA who initially took over the north ridge only. Here they met opposition from about ten dissidents in the Wadi BIGAIR. After overcoming this they pushed on rapidly down the ridge, and by 6 Jun, in accordance with the plan, had taken over the picquets on both sides of the MISRA from 1 E ANGLIAN, who were concentrating for the final advance on HURIYAH. Armoured cars from 4 RTR had pushed down each side of the wadi fork and had seen a few enemy.

92. 2 FRA had now to establish themselves on the peak dominating SHAAB SHARAH, so that 1 E ANGLIAN could move forward by night to their firm base position some 4,000 yards below HURIYAH. The approaches to this peak, later known as FRA RIDGE, were extremely steep and difficult, and far more suited to the FRA than to British troops.

93. On 7 Jun 2 FRA began their climb, and by 1100 hours were under heavy fire from enemy installed above them on the top of FRA RIDGE. The enemy were estimated to be some twenty strong, armed with rifles and LMGs, and operating in three groups. This force was later reinforced until it probably totalled fifty. It seemed likely that the enemy had realised our objective and had been provoked to come out and fight.

94. If so, it was an error on their part to come forward out of their sangars and concentrate in the way they did. From 1100 hours until about 1600 hours on 7 Jun the fire fight continued,

and under excellent observation by FOOs and FACs the artillery and air hammered the enemy continuously throughout this period. It is not known what casualties were inflicted, and none were received by the FRA, but it is at least probable that this was one of the decisive battles of the whole operational period. Before the end of the day the dissidents had retired, and by 14 Jun at least had not reappeared in anything other than sniper strength.

95. On 8 Jun, 2 FRA occupied FRA RIDGE and by the afternoon had taken over the firm base position for 1 E ANGLIAN. By last light the leading British company had arrived, and by first light 10 Jun the whole battalion was concentrated for the final assault on HURIYAH that night.

96. During 9 and 10 Jun, an administrative build up in the firm base continued. The reasons for these precautions were:-

- a. In the best case it would take some hours before a safe and suitable Belvedere LZ could be established on HURIYAH. Supplies and water positioned only 4,000 yards away could rapidly be moved in at first light by Scouts. It was the practise on these occasions to give the CO concerned two Scouts for ninety minutes at first light for this purpose.
- b. In the worst case the battalion might have been held up short of the objective, and stocks nearby instead of back in the Wadi MISRA would have been valuable, if not essential.

97. On 10 Jun, an armoured force on the lines of WATFORCE advanced from the south up the Wadi NAKHALAIN towards HURIYAH. This was SHEPFORCE, mainly FRA with half a squadron of 4 RTR Saladins under command. This acted as a diversion and penetrated as far north as armoured cars could go. It met light opposition and withdrew at last light having achieved its aim in a most praiseworthy way.

98. CANCELLED.

99. At 0100 hours on 11 Jun, 1 E ANGLIAN began the final advance. They were assisted in direction-keeping by flares dropped some eight miles beyond HURIYAH by a Shackleton, for at this time there was no moon.

100. They reached their objective without opposition and by first light the flags of 1 E ANGLIAN and 2 FRA were flying from the dominating peak of the RADFAN. 2 FRAs part in this advance has been described, but 1 E ANGLIAN in fact played the main role from 31 May when the first picquet climbed to its eminence over the MISRA, until 11 Jun when the battalion took the final objective. Its feat had been a fine example of resolute and intelligent soldiering.

101. On 12 Jun a platoon was flown by Scout helicopters a mile east of HURIYAH to the edge of the escarpment overlooking the whole of the GHAZZALI area. The whole platoon together with ammunition, water and supplies for 72 hours was landed in two Scouts in thirty minutes.



J Bty (Sidi Rezegh) 3 RHA in action



5.5 inch gun in the Wadi MISRA

- 21 -

102. This concluded PHASE III of the operations. In the best sense it was a combined operation, between Army, Navy and RAF, between FRA and British, between all arms, administrative and tactical.

103. On 14 Jun, Brigadier C.H. Blacker, OBE, MC, handed over command of 39 Inf Bde Gp to Brigadier C. Blair, OBE, MC. At this time, 1 RS with D Coy 3 PARA under command were carrying out military control operations in the Wadi TAYM, exploiting east to the junction of the Wadi TAYM and SHAAB LASHAB. 1 RS were also holding GIBRALTAR, CAP BADGE and the DHANABA BASIN. 1 E ANGLIAN had just completed consolidation on the top of Jebel HURIYAH, while 1 FRA occupied the Wadi MISRA and were picqueting the heights up to the Jebel HURIYAH. 1 E ANGLIAN were due to be relieved by 1 KOSB during the period 18 - 20 Jun and it was clear that certain redeployment was necessary.

104. The Bde Commander's immediate aim was to prevent tribesmen from re-entering Wadi MISRA, Wadi TAYM and DHANABA BASIN. On 17 Jun the necessary orders were issued. During 18, 19 and 20 Jun, redeployment took place and responsibilities for military control were as follows:-

1 KOSB	Wadi TAYM
1 RS	CAP BADGE, GIBRALTAR, DHANABA BASIN
1 FRA	Jebel HURIYAH, Wadi MISRA

105. From 14 - 18 Jun, a reconnaissance in force was made south down the SHAAB LASHAB by D Coy 3 PARA and elements 1 RS. Opposition was light; on 15 Jun a group of about eight enemy sniped the force but were soon dispersed by artillery and air strikes.

PHASE IV

106. On 20 Jun the Bde Comd was told that 1 RS would be withdrawn to ADEN on 28 Jun without replacement. This meant that his force would be reduced to only two major units, one British battalion and one FRA battalion. This limited force would be fully committed in maintaining military control in the DHANABA BASIN, Wadi TAYM and Wadi MISRA areas. However, there would be time for a further advance at battalion strength between 21 - 26 Jun. The east Wadi TAYM was selected as the area most likely to bring the enemy into battle. Both the Wadi MUSUK and a wadi nicknamed PILGRIM'S WAY were considered as the axes of advance; the latter was finally chosen for tactical reasons. Work on a new air strip at TABLE TOP was started immediately and orders were issued on 21 Jun.

107. In bright moonlight, on the night 22 Jun, one KOSB company advanced to take the features nicknamed GEORGE, IAN, and MALCOLM. This was an advance across very difficult country with a sharp climb of more than 1,000ft to each objective. No opposition was encountered during the night march, but GEORGE was engaged the following morning by a small party of tribesmen with a LMG.

108. The operation during the night 22/23 Jun had been so successful that CO 1 KOSB decided to advance to ROBERT RIDGE and MAE WEST during the next night. A Coy 1 KOSB was to take ROBERT RIDGE, while D Coy 3 PARA's objective was MAE WEST. These advances were accomplished without incident. The advance to MAE WEST was particularly difficult; the point to point distance was 4 $\frac{1}{2}$ miles on the map, the climb was about 4,400ft and proved

109. On 24 Jun, the Bde Comd was informed that although 1 RS would still go to ADEN on 28 Jun, 45 Cdo RM would come under his command on 2 Jul. This meant that the operations in PILGRIM'S WAY could be extended and planning and reconnaissance for an advance to the top of Jebel WIDINA started. One company 1 FRA was moved to TABLE TOP from the Wadi MISRA on 25 and 26 Jun, and on the night 25/26 Jun a FRA reconnaissance patrol found a route up Jebel WIDINA. The Jebel WIDINA is a large flat-topped feature, with extremely difficult approaches. The lower slopes are rugged and very steep while the last one hundred feet or so are virtually sheer. It dominates the surrounding countryside and, most important of all, the Wadi DHUBSAN. On the night of 27/28 Jun the FRA company advanced up PILGRIM'S WAY, climbed the Jebel WIDINA and by first light the summit had been cleared to allow resupply by helicopter. There was no opposition except for two rather ill aimed shots in the night from the direction of Jebel SABABAH.

110. During this phase of the operation, use of helicopters was restricted to intercommunication and resupply to places where overland supply was impracticable. The road building programme continued and the following engineer work took place:-

- a. Building of OXFORD STREET and PARK LANE and opening of PILGRIM'S WAY as far south as 022977.
- b. Construction of airstrips at BLAIR'S FIELD and TABLE TOP.
- c. Improvement of wells and other routes.

111. From 14 Jun onwards, the enemy took no offensive action apart from long range sniping. He gave up Jebel WIDINA, a natural stronghold, with virtually no resistance and temporarily seemed to have lost the will to fight. The capture of WIDINA left the force well placed to re-enter the Wadi DHUBSAN and on 28 Jun planning began to send 45 Cdo RM into the Wadi DHUBSAN on two axes, from the Jebel WIDINA and Jebel HURIYAH via Jebel HAQLA. This operation is to take place on 5 Jul.



FRA relieve I E ANGLIAN on Jebel HURIYAH



Wadi TAYM with Jebel WIDINA in the distance

MIDDLE EAST LAND FORCESPART ISECTION IIADMINISTRATIVE NARRATIVE (14 Apr - 30 Jun)PLANNING PHASE (14 Apr - 19 Apr)

1. Opening Situation. The administrative units in the ADEN base are designed to meet only its internal needs, to support the units in it, and minor operations outside it. Thus it normally contains no field force administrative units, but does contain three units specifically for the support of minor operations; these are 2 Coy RASC, 'A' Air Sup Pl RASC, and 10 Bde Gp Med Coy. The presence of the two RASC units made the initial support of the operation possible, and the Medical Company, with RAF Medical Service assistance, provided the medical support required.
2. The remaining units are static units not normally established to undertake direct support of a field force. This applied particularly to the ADEN Sup Depot (a RAF unit), the Ord Depot ADEN, and to 52 Comd Wksp REME.
3. With two exceptions, stocks in ADEN at the start of the operation were good. Composite ration packs were some 20,000 rations down, due to turnover and expiry of warranty dates, and replenishment of these was anticipated in May. Battle batteries were not held in any quantity because the supply of these was on a monthly auto-maintenance system from the UNITED KINGDOM, and was only sufficient to meet the requirements of units in ADEN and BAHRAIN.
4. Apart from these two items, there were no shortages. Ninety days ammunition was held and the War Maintenance Reserves of Ordnance Stores and vehicles had just been brought up to correct holdings. The stockpiled G1098 for one battalion was intact and in good shape, with a second battalion's G1098 just starting to come into the Ordnance Depot. Peace operating stocks were close to the authorised holdings and tentage stocks and camp structures had just been brought up to scale. Stocks in BAHRAIN were also up to scale and, apart from 16,000 composite rations and some water jerricans, they remained intact.
5. Force HQ. The Force HQ set up on 14 Apr, initially contained only one administrative staff officer. A second administrative staff officer was soon found to be necessary and was provided from 1 May with the necessary clerical staff.
6. Time Table. Plans were presented to the GOC on 17 Apr, and the aim was to be in a position to start operations on 27 Apr. It was therefore planned to establish the operational base by 19 Apr.
7. The period 14-19 Apr was an exceptionally busy one for both units and staff, and included the initial planning, the reconnaissance of the base camp to be set up at THUMIER, the issues of stores by depots and their receipt by units, the initial movement of units and stores to THUMIER and the setting up of the base at THUMIER.

8. Principles of Administration. Due to the characteristics of the ADEN Base, already described, the administrative support system had to be designed specially for this operation, which later grew far larger than had been foreseen at the start and went on at an intense rate for much longer.

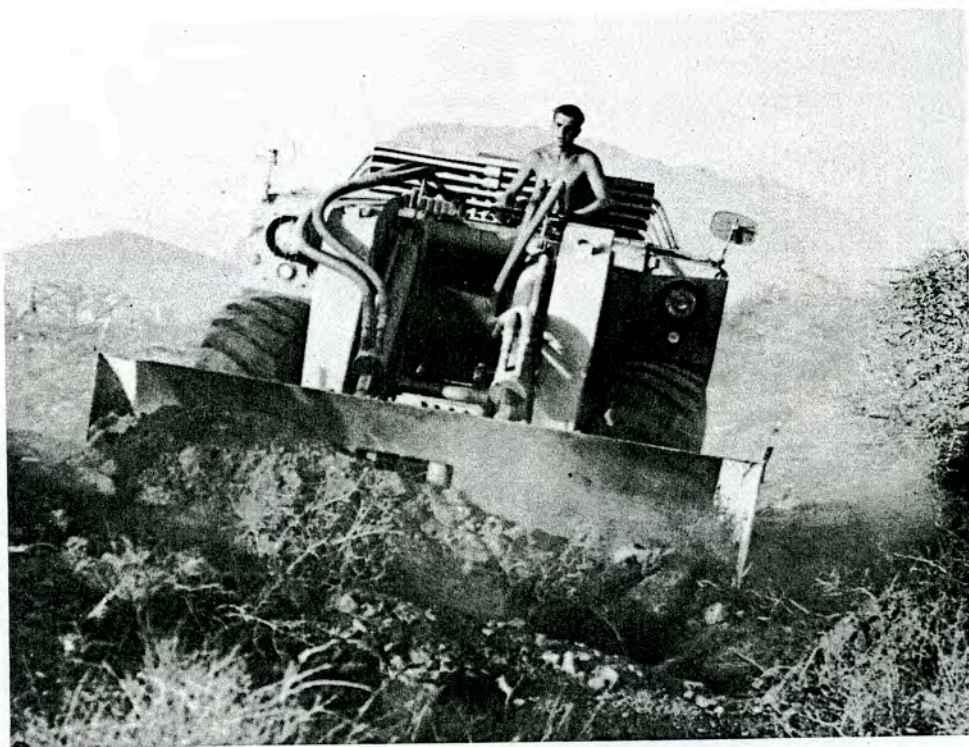
9. The basis of the administrative system was:-

- a. Each major unit was to leave a base party in ADEN, which would draw up the unit's requirements of rations, ammunition and ordnance stores.
- b. Minor units and Force HQ were affiliated to major unit base parties who would provide the same service for them.
- c. 2 Coy RASC was to establish a petrol point at THUMIER.
- d. 'A' Air Sup Pl was to establish an air supply detachment at THUMIER.
- e. 13 Armd Wksp and 52 Comd Wksp were jointly to establish a workshop detachment at THUMIER.
- f. 261 Postal Unit was to establish a Post Office at THUMIER which was given the address of 'BFPO 90'.
- g. Units were to use their first line transport supplemented by 2 Coy RASC, to move forward supplies and stores to THUMIER. All movement was to be in convoy, convoys running on alternate days. This was necessary as the road was bad and liable to interdiction, and the journey of 60 miles could take as much as 6 hours each way. The intervening day was required for maintenance and loading.
- h. Road convoys, and the allocation of loads to vehicles, were to be under the direct control of Q(Ops), HQ Middle East Command.
- j. Movement forward of urgent stores, mail and perishable items was to be by air, and controlled by Q(Ops), HQ Middle East Command.
- k. Forward of THUMIER the force was to be supplied by helicopter and fixed wing aircraft. Parachute supply missions were to be flown either from THUMIER or RAF KHORMAKSAR, preferably from the latter.
- l.. Resupply demands were to be cleared through Force HQ and then sent direct by units to their base parties and repeated to HQ Middle East Command.
- m. The base camp at THUMIER was to be set up and administered by 1 E ANGLIAN.

10. Instructions to implement this system were issued on 18 and 20 Apr by Q(Ops) HQ Middle East Command. Copies of the administrative instructions initially issued, together with a diagram of the system, are included as appendices to Section I of Annex M.



Requiem Mass



Airstrip construction at THUMIER

11. Reconnaissance. The reconnaissance of THUMIER was carried out on 16 Apr, and a camp site was selected on a small dusty plain on the northern end of the existing STOL airstrip. Two adjacent wells could produce an estimated 6,000 gallons of water daily, which was sufficient for the force, and THUMIER village was able to provide labour and some camels for transport.

12. Establishment of the Base. It was necessary for the administrative staff of the Headquarters in ADEN to decide on scales of rations, ammunition and equipment for the force and to arrange the issue of these commodities and stores to units. The Ord Depot ADEN, and 'X' Group RAF (joint ammunition depot) issued the vehicles, equipment and ammunition on a high priority, normal issues being entirely suspended. 52 Comd Wksp worked overtime to bring vehicles and equipment of units to a battleworthy condition, the normal proportion having been in unit LADs and in Comd Wksp for repair when the operation was ordered. A somewhat unexpected and welcome development was the wholehearted co-operation of the mainly Arab civil labour force in these establishments, whose efficiency and output has never been higher.

13. The major proportion of the issue load, and administration in this phase fell on 1 E ANGLIAN, who drew not only what they themselves required but also the stores for a 1000 man tented camp, water containers, rations and ammunition for most of the minor units.

14. 1 E ANGLIAN moved up to THUMIER on 19 Apr and immediately started to set up the Force Base Camp. The Force HQ staff moved up on the following day.

BUILD-UP PHASE (20 Apr - 29 Apr)

15. The main administrative concern during this period was to stock up the Base Camp, and to have the administrative machinery working smoothly and in adequate strength to support the operations due to start on the revised date of 29 Apr.

16. The Base Camp was sufficiently set up by the 23 Apr to receive the first supply convoy on that day. Resupply was planned at Force HQ at an administrative conference held daily at 1500 hours (later 1200 hours), which was attended by representatives of all units. Unit requirements and priorities for movement were vetted, and Force requirements added to major units' demands, and from this the resupply demands were sent to ADEN. HQ Middle East Command held a Priority of Movements conference at 0900 hours each day to plan each convoy on the basis of the resupply demands received and the first of these meetings was held on 21 Apr to plan the convoy for the 23 Apr. This convoy reached THUMIER without incident after a 7 hour run. The unloading of the 45 tons of commodities and stores was completed, and the convoy returned to ADEN very late the same day. Since then these daily meetings, and the alternate day convoys to THUMIER have continued without a break. Convoy loads have varied from a minimum of 30 tons to a maximum of 240 tons.

17. As a result, by 29 Apr, stocks of composite rations were built up to a four days' holding with units; units were brought up to two first lines of ammunition in selected natures; stocks of aviation and MT fuels were brought up to the agreed holdings, of which AVTUR was the greatest at 4,000 gallons (later raised to 8,000 gallons during the intensive phase of the operations).

18. It was soon apparent that more administrative support units would be needed; in particular an organisation was needed at THUMIER to receive, hold and issue rations, fuel and ammunition. The air supply potential was also too small. MOD (Army) were therefore asked for:

- one Comp Pl RASC of four sects
- one Air Sup Con Sect
- two Air Despatch Sects
- reinforcements for the existing Air Maint Sect
- one Ord Transit Sect
- two Sects, RPC

and these arrived on 7 May.

19. Other aspects of this period were:-

- a. Medical. Initially, cover was provided by the FRA Group in THUMIER, reinforced by the RAP of 45 Cdo RM when they arrived in THUMIER. This was not enough for active operations and, before these started on the 29 Apr, a combined Army/RAF medical unit (a CCP/EMU) was set up, which included facilities for the treatment of heat casualties.
- b. Repair. The workshop detachment had both MT and telecommunication repair sections. The MT repair load reached a climax with the arrival of each convoy, and the aim was either to repair a vehicle so that it could return with the 'down' convoy the same day, or, if spares had to be demanded from ADEN, in time for the next 'down' convoy. This was essential in view of the shortage of transport. Radio repairs became an increasing commitment; in particular, radios suffering from the overheating and rough treatment that was inevitable in the area of operations.
- c. Provost. Though not originally included in the order of battle, a Pro Sect was found to be essential at THUMIER for signing, traffic control and for manning the check point on the DHALA road. One was found from Command resources.
- d. Postal. The two man postal unit met all incoming aircraft for mails and newspapers, and despatched mail twice daily by air. All mail for units in THUMIER was redirected by Base parties in ADEN through 261 Postal Unit.

20. Force Levels. These increased steadily until by 29 Apr, the THUMIER Base was containing:-

- 45 Cdo RM
- J Bty (Sidi Rezegh) 3 RHA
- D Sqn 4 RTR
- 1 E ANGLIAN
- A Sqn 22 SAS

21. Air Supply. Regular air supply from KHORMAKSAR started on 28 Apr with a lift of 3,000lbs, using Twin Pioneer aircraft, and has continued since then at an average level of approximately 4,000 lbs per day. This air lift has been used for mail, bread, urgent stores, and later for fresh rations. The first parachute supply missions were flown from KHORMAKSAR on 27 Apr in support of patrols of 22 SAS and included one Beverley mission.

OPERATIONS (1 - 15 May)

22. General. During this period there were two major operations on 1 and 5 May, and the majority of the troops operating forward of THUMIER were supplied by helicopter. The Force increased in size considerably as two more companies of infantry, more armoured cars, guns and sappers all joined. Tac HQ of 653 Light Ac Sqn AAC moved to THUMIER, as did part of 5004 Airfield Construction Squadron RAF whose job was to improve the airstrip to take ~~Beaver~~ ^{Beaver} ~~loys~~. Towards the end of the period elements of HQ 39 Inf Bde Gp and its associated units began to arrive.

23. Resupply Forward of THUMIER. Helicopter resupply was planned daily at a conference at Force HQ at 2000 hours which agreed the detailed programme for the following day. This was attended by unit representatives, AAC, RASC and MAMS (Mobile Air Movements Section) and chaired by the administrative officer. The written programme was published and distributed by 0600 hours the following day. The helicopters were controlled operationally by BASO and their loading was organised by MAMS, while the RASC detachment received stores by programmed serial numbers from the unit echelons in THUMIER and packed them into 1-ton containers. All Army adjustments and urgent demands were channelled through the administrative officer and the flying programme adjusted in consultation with BASO.

24. The minimum resupply requirement for a 120 man company group was three Belvedere helicopter sorties, two of water and one of supplies and ammunition. During this period some 340,000 lbs of freight were lifted forward.

25. Guns, $\frac{1}{4}$ -ton trucks and support weapons were also moved forward and several troop lifts undertaken, in addition to the daily resupply sorties. The helicopters evacuated casualties and salvaged air supply equipment and water containers.

26. A number of operating factors affected the helicopters; the height, (some LZs were at 4,000ft) and heat reduced Belvedere payloads from 5,000lbs to 2,450lbs. A daily wind and thermals closed several of the LZs for up to half the daylight hours. Dust on the pads at THUMIER made operating difficult and increased wear on the machines.

27. AAC aircraft were tasked in the same way as the RAF helicopters and Army helicopters were generally used for the supply of urgent stores to small detachments and for casualty evacuation. Beaver aircraft were reserved for resupply drops in an emergency, or drops to isolated detachments where helicopters were not available. The Beavers were also used for casualty evacuation from THUMIER to KHORMAKSAR.

28. Air Supply. The initial air supply detachment of one NCO and six despatchers proved too small for the commitment. Their daily task was the loading of up to twenty 1-ton containers and slinging these under the helicopters, and they flew with the majority of sorties collecting salvage from the LZs. They supervised the loading of all internal loads, and, in addition they were called on to pack harness packs and despatch them from Twin Pioneer and Beaver aircraft during the engagement on 5 May and afterwards. On 7 May the strength of the detachment was increased to a full section.

29. Road Building. Intensive track construction and improvement started on 5 May, involving a heavy bill for several tons of plastic explosive. Two hundred local labourers were recruited by the Political Officer at a negotiated wage of ten shillings per day and transport and water containers were provided for them from unit resources.

30. As was to be expected, there were continual problems over the allocation of available transport at THUMIER. No second line detachment was available for stationing there and all available first line transport was pooled and controlled by the Staff.

31. Stock Holdings. Although stocks of supplies, ammunition and POL never ran out there was an AVTUR crisis on 7 May. The stock level of 4,000 gallons made up on 5 May, was insufficient for two full days flying by four Belvederes and two Scouts, and there was a danger that there might be no flying during the best flying hours of the forenoon of 7 May. This would have been serious and extra fuel had to be flown to THUMIER by Twin Pioneer.

32. Medical. All casualty evacuation calls came over the operational wireless net, and one Scout helicopter was kept in reserve at THUMIER to answer them. The pilot was briefed for each evacuation by BASO, and was accompanied by a medical staff officer on all flights when serious casualties had to be evacuated. The Scout did not normally fly straight back to KHORMAKSAR with the patient, as it had to come back to THUMIER to refuel, and accordingly the SMO decided whether to send the patient on in the Scout or transfer him to a Beaver or Twin Pioneer. RAF KHORMAKSAR were warned of the casualty evacuation through the RAF BASO net.

33. On 5 May, 3 PARA had 10 wounded men below CAP BADGE who could not be evacuated by any means until late afternoon when a Belvedere reached them and lifted them all direct to KHORMAKSAR in a very successful operation.

34. At night when aircraft could not be used, casualty evacuation from companies scattered on hill tops posed a nearly insuperable problem. In the event, it was better to keep a casualty, giving him treatment as advised by the doctor over the radio, until he could be evacuated by helicopter at first light.

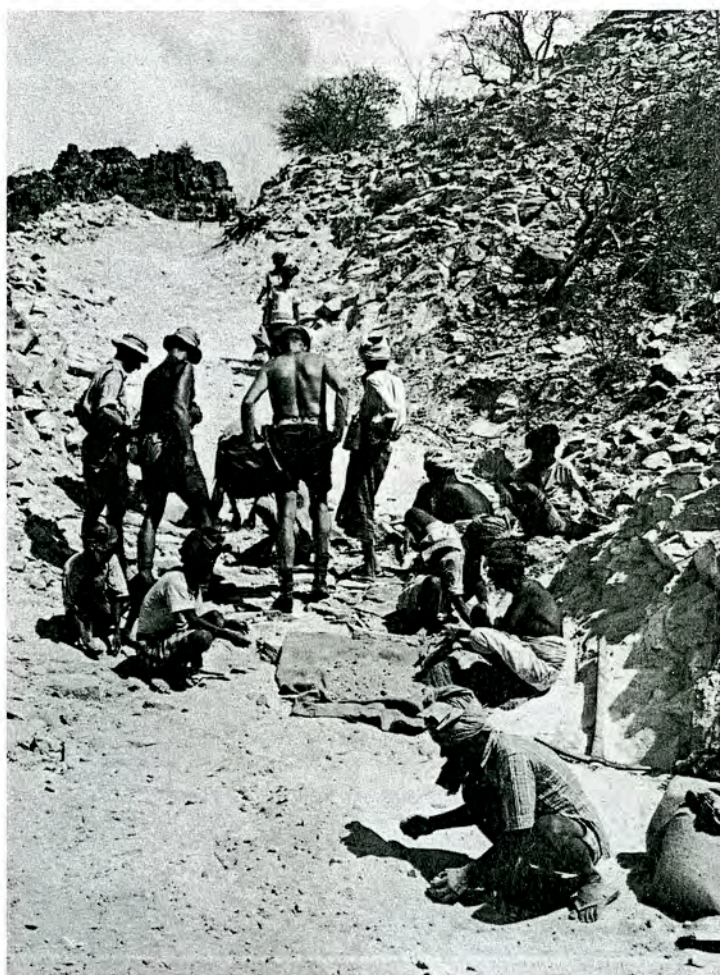
35. From 1 to 7 May there were a total of fifteen battle accidents, which included some shooting and burning cases, and several cases of men falling over cliffs or off hill-sides at night. Two of the latter resulted in serious spinal injuries.

36. The incidence of sickness was very low but there were a few cases of heat exhaustion. Between 1 - 7 May, only one heat case was evacuated and this was mainly because the man was in a forward position under fire and could not be efficiently treated on the spot.

37. Water. The SMO tested all water supplies including captured wells forward of THUMIER. His most practical, if not scientific test was the goat method. If the goats drank the water so could the soldiers. Only well water was used for drinking and bathing, because of the danger of bilharzia from surface water.



First Beverley lands at THUMIER



38. Stores. Of all the ordnance stores, battle batteries and water cans caused the most concern. Battle batteries were in short supply at the beginning of the operation, and stocks became so low that the use of radios in the forward area was restricted for a time. Centralised control was instituted but this was difficult to exercise because the stores could not be held centrally by a disinterested agent.

39. Water cans were also used in numbers far exceeding the original estimate of one per man forward of THUMIER. There was an initial drain on stocks to provide larger unit holdings within THUMIER to overcome the domestic distribution problem, and the stocks there were eventually built up to 2,500 which allowed $2\frac{1}{2}$ cans per man operating forward of THUMIER.

40. Chaplains. The Chaplain of 45 Cdo RM served the Protestants in the Force and the Roman Catholic Priest visited THUMIER for at least two days each week. While B Coy 3 PARA were under command of 45 Cdo RM, the Chaplain of 3 PARA visited THUMIER on several occasions, helped evacuate the wounded and organised the burial of the two dead on 5 May.

41. Burial. All bodies were eventually evacuated to ADEN for final burial.

42. NAAFI. A canteen opened in THUMIER in this period which relieved the pressure on unit canteens. NAAFI were able to provide a better service in cold drinks and variety of stock, and full credit must go to them for getting this canteen going. It was not possible to help them move their stores and stocks due to shortage of military transport, and they therefore moved everything to THUMIER under their own auspices by civil contract. They also instituted the supply of ice, again by civil contract. This system is still being used by arrangement with NAAFI for the supply of ice to cookhouses and messes.

43. Demand Procedure. The demanding procedure was centralised from 8 May, all Force demands being included in one signal. This system was not really satisfactory as the requirements could not be consolidated and the physical size of the signal was a handicap and further delayed the demand.

44. Reinforcements. The main reinforcements received during this period were:-

HQ 39 Inf Bde Gp
one sect T Bty 7 RHA
213 Sig Sqn
1 KOSB
B Coy 3 PARA (arrived 21 Apr)

45. Apart from the half battery of I Para Bty 7 RHA and B Coy 3 PARA, the remainder arrived at fly-in scales only. They had to be fully equipped with vehicles and, in the case of 1 KOSB, with their full G1098 scales. 1 KOSB drew up the stockpiled battalion G1098 including their full scale of vehicles, and HQ 39 Inf Bde Gp and 213 Sig Sqn were provided with vehicles and such equipment as they needed from our holdings of peace operating stocks and War Maintenance Reserves, the replenishment of which was immediately put in hand by the Ord Depot, ADEN.

No difficulties were experienced in this issue programme which, however, put a very great strain on the Ord Depot, ADEN, and in particular on the Vehicle Park, which nevertheless completed all issues in seven days.

46. HQ 39 Inf Bde Gp was accommodated in the ADEN Transit Camp whilst they were in ADEN, but were given the Command Arabic Language School as their HQ building. This plan proved satisfactory, and HQ 39 Inf Bde Gp have retained the Arabic Language School as their base in ADEN ever since. 1 KOSB were accommodated in Waterloo Barracks which had been partially vacated by 1 E ANGLIAN; accommodation was tight but no major problems arose partly because 1 KOSB had vacated these barracks as recently as Jan 64.

47. The reinforcements called for in late Apr (referred to in paragraph 18) arrived on 7 May. They were initially accommodated in the Transit Camp but immediately absorbed into the Service units with whom they were to work. The Air Supply units were operating in ADEN within 48 hours of arrival, as were the Ordnance reinforcements; the Ord Transit Sect was put into the Ord Depot ADEN to relieve the latter of the issue load which had become intolerable. 2 Coy RASC received 142 Sup Pl and both sections of pioneers moved to THUMIER on 11 May to set up a proper maintenance area there, and at the same time the air supply organisation at THUMIER was reinforced. This reinforcement and deployment enabled the normal field maintenance system for rations, fuels and ammunition to be put into effect, and this was done immediately HQ 39 Inf Bde Gp was fully operational at THUMIER on 15 May. It had not been possible to institute the change before this date because Force HQ did not have the necessary administrative staff to implement it.

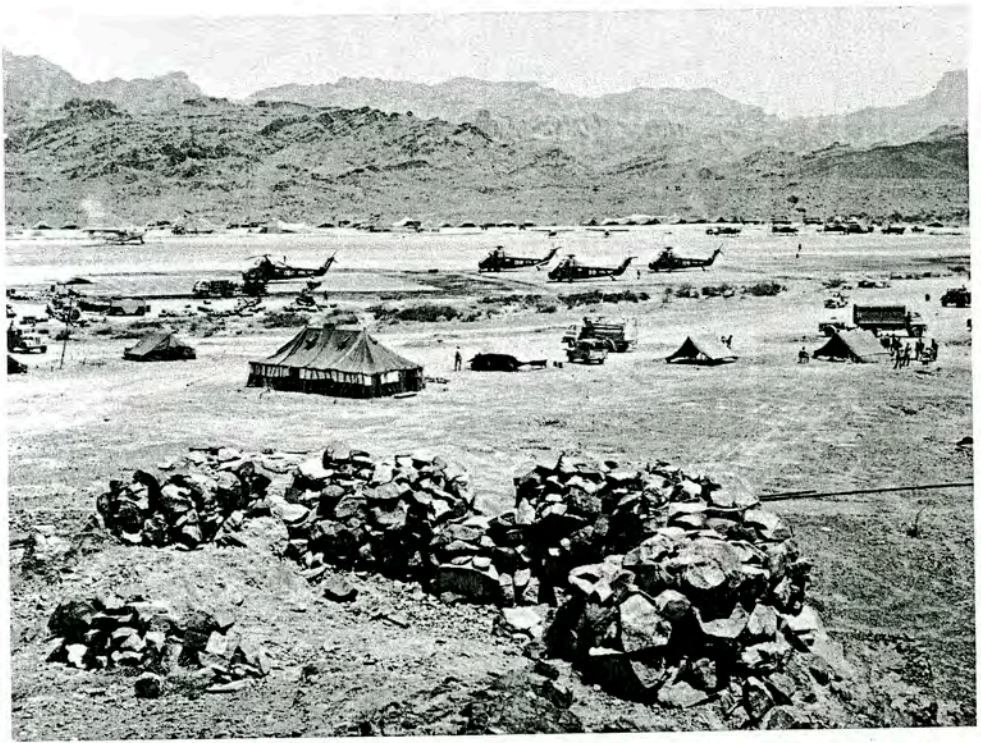
48. A MOD(Army) team, and representatives from HQ BLFK, visited HQ Middle East Command 7 - 9 May. As a result of the decisions made on the scope of the operations, their likely duration, and the forces to be employed, it was clear that more administrative reinforcements were needed. All main administrative Services were heavily overloaded and, after discussion the following reinforcements were agreed:-

- one tractor/trailer pl, 60 Coy RASC (ex KENYA)
- 24 OFP (ex KENYA)
- one pl 1 Inf Wksp (ex KENYA)

In addition, a further thirty individual REME reinforcements were agreed to rotate with the personnel of the 1 Inf Wksp pl. Eighteen additional cooks were agreed, to bring reinforcing units up to strength, as were small numbers of individual reinforcements for Pay, Postal and RPC, so as to establish or reinforce facilities at THUMIER.

49. The arrival of all these reinforcements has made it possible to establish a normal field maintenance area at THUMIER, with full Service representation and being supplied in the normal way from depots in the ADEN base. HQ 39 Inf Bde Gp's arrival provided all the necessary staff element to operate the system, and to control efficiently the forward supply from THUMIER, whether by air or land.

50. None of this was possible at first. The initial system worked and no unit was ever short of any commodity at any time other than battle batteries (see paragraph 38 above).



THUMIER airstrip after improvements



There is no doubt however, that the system was wasteful and extremely difficult to co-ordinate properly in order to avoid duplication of demands and issues. It threw an almost intolerable strain on to depots which were not established for field supply, and which still had their normal functions to carry out. Great credit goes to the Force HQ administrative staff, unit administrative staffs, and the administrative units and establishments who made the system work so well, despite its obvious failings.

OPERATIONS (15 - 30 May)

51. Initial Administrative Tasks. The first phase of the operation ended on 11 May, and there then followed a pause in order that:-

- a. HQ 39 Inf Bde Gp could take over the operational and administrative responsibility for future operations.
- b. The THUMIER base could be reorganised and stocked up for further operations.
- c. Further reinforcements, including 3 PARA (less two ccys) from BAHRAIN, could be absorbed.

52. The administrative staff of HQ 39 Inf Bde Gp had three main tasks:-

- a. To reorganise the THUMIER base to provide a sound transit organisation for troops passing in and out of the operational area, to locate properly the administrative units and stocks already there, and to plan the locations of those units due to come in, notably 24 OFP.
- b. To build up stocks to new agreed levels to support the next phase of the operations.
- c. To work out Standing Operating Procedures between themselves and forward units, between themselves and HQ Middle East Command, and within the base.

53. Administrative Organisation and Procedures. Stock levels and operating procedures were agreed by HQ Middle East Command and HQ 39 Inf Bde Gp during the week ending 16 May, as were also the functions and deployment of administrative units. An Administrative Instruction (3/64), covering these points, was issued on 20 May and has remained in force ever since. It is reproduced as Appendix 4 to Section I of Annex M.

54. Operating Procedures are covered in more detail in Part III, but in broad terms the administrative staff responsibilities with HQ 39 Inf Bde Gp were as follows:-

- a. DAA and QMG and SC(Q) - administrative planning with G Branch and the RAF.
- b. SC(A), SC(Q), BOO and BEME - daily control of AQ problems other than resupply.
- c. DADST and AQ LO - immediate control of daily resupply programme including completion of SRT lift.
- d. BRASCO - control of road transport, convoys and supervision of S and T stock holdings.

This split avoided a situation wherein service representatives could have become additional AQ staff officers. Problems peculiar to each Service arose daily, and these required the full time advice and assistance of BOO and BEME, who, under the split, were able to give it.

The THUMIER Base

55. The reorganisation of the THUMIER base went on apace, and by 23 May the following had been achieved:-

- a. Centralised siting of all administrative units, except the Comp Pl RASC, into an Advanced Maintenance Area with common administration organised by a small HQ AMA.
- b. The establishment within the AMA of a Transit Camp for up to one battalion for units staging or changing over between ADEN and forward locations.
- c. The laying out of the base area as a whole into distinct unit areas each responsible for its own administration and that of any small detachments in its area.
- d. The improvement of the layout of the composite platoon including its storage facilities, including the establishment of a 10-ton cold storage store (not in fact completed and operating until the 8 Jun).
- e. The improvement of facilities for water distribution, showers, deep trench latrines, and refuse collection and disposal.
- f. The improvement of recreational and welfare facilities including NAAFI, cinema shows and sports facilities.

56. The one thing which lagged behind the progress in all other things was the improvement of the Base Area road facilities; much was done, particularly the institution of traffic circuits and the strict enforcement of traffic discipline, but the main requirement to improve the actual track surface was met only slowly because of the need to employ the small engineer force available on higher priority tasks forward of THUMIER. Dust was always a most unpleasant feature of the Base Area.

57. The final administrative order of battle at THUMIER was not complete until 28 May. The reorganisation, expansion and stocking of this base, and the move forward of additional units all placed a very heavy strain on ADEN base installations, but they stood up to it well and demands (if the stores were in ADEN) were met and delivered on time to THUMIER.

58. The main movement load fell on 2 Coy RASC, whose efforts deserve special mention. For example, the average loads on the convoys on 17, 19, 21 and 23 May was 140 tons, rising to 180 tons on 25 May and to a record 210 tons on 27 May. This sort of demand could never have been met if it had not been for the remarkably high serviceability rate (always over 90%) maintained by 2 Coy RASC.

59. Two Stalwarts on trials in Middle East were pressed into service and were quite excellent. MOD (Army) were asked for six more Stalwarts, and these arrived but were not in use before the closing date of this report.



Camel, with learner driver



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60. Air Movement ADEN - THUMIER. The available daily air lift was restricted to an average of 4,000lbs, until 8 Jun, when Beverley flights to THUMIER started. This small load allocation was caused by the limitations of the strip at THUMIER, and the very heavy call on all SRT aircraft for supply forward of THUMIER. Nevertheless it was sufficient for mail, bread, urgent stores and fresh rations for 500 men daily. Once the Beverley flights started, at a frequency of one every other day, the available load rose to 15,000lbs, and this allowed an increase of deliveries of fresh rations to 1,000 per day; which ceiling was dictated by the availability of Polarpacs, of which only 100 were held in the Command, and the capacity and efficiency of the 10-ton cold store, at THUMIER. On the days when there was no Beverley available, one or two Twin Pioneer sorties were flown (payload up to 2,200lbs, each aircraft) which was sufficient for the perishable items of the fresh rations.

System of Supply Forward

61. Resupply by air was much the easiest and most efficient way of supplying forward troops. However, because of the restricted flying hours available, it was the aim throughout this operation to transfer administration of forward troops from air to ground resupply as soon as was practicable. The alternative systems for resupply used in this operation are covered in the following paragraphs.

62. Helicopter Lift. Initially, areas inaccessible by road, had to be resupplied by helicopter. The aim was always to produce an alternative, economical system but this was not possible in every case and troops at CAP BADGE, certain Wadi MISRA picquet positions, HAJIB escarpment, ARNOLD'S SPUR and the Jebel HURIYAH were entirely supplied by helicopter. The problems, and inherent dangers were:

- a. Cloud restrictions on high ground (ARNOLD'S SPUR and Jebel HURIYAH).
- b. Turbulence which restricted helicopter flying to the cooler hours from 0630 - 1130 hours daily.
- c. The danger to aircraft and crews from enemy small arms fire.

The basic answer to overcoming these problems was to stock up such positions to the following levels:-

Water	- 3 days
Rations	- 2-3 days
Mortar ammunition	- 3 days
Small arms ammunition	- 2 days

In every case where flying was interrupted these stocks were sufficient to maintain the troops on the ground until a flying programme was possible again. The stocking of positions raised problems of water containers, (solved by the use of flimsies and a very tight salvage programme) and excessive holdings of 3" mortar ammunition.

63. Fixed Wing SRT Lift. The two SRT strips at PADDY'S FIELD and MONK'S FIELD proved invaluable. The tracks into the DHANABA BASIN and Wadi TAYM were such that 3-ton vehicles were not used and $\frac{3}{4}$ -ton vehicles suffered severely, and until they had been improved part of the resupply to these areas had to be by Twin Pioneer and Beaver.

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Both strips were easy to construct and maintain, and with water in both areas this fixed wing lift, combined with limited convoy lift, proved most effective. The provision of SRT strips throughout the operational area is a long term requirement.

64. Road Transport. Mention has been made above of the damage caused to vehicles by the poor tracks in the area. With no second line 3-ton lift all requirements for heavy lift (into DHANABA via PALL MALL, to GIBRALTAR via RABWA and into the Wadi MISRA) fell upon unit first line vehicles. These were sufficient, but vehicles have suffered. The most effective road resupply was with the half platoon of RASC $\frac{3}{4}$ -ton vehicles (each of which was given a maximum load of 1,500lbs) bolstered up with unit $\frac{1}{4}$ -ton vehicles. The saving in helicopter lift, which is most uneconomical for gun ammunition, was considerable. As roads improve and a circuit becomes available the 3-ton lift becomes more the rule than the exception, but in this country, where there was always the fear of severe damage to these routes by floods, it was necessary to have the alternative of air supply always available and preferably based upon fixed wing SRT strips.

65. Air Drop. The capability of air drop from Beaver, Twin Pioneer and Belvedere aircraft was almost entirely held in reserve during these operations. It was uneconomical in both flying hours and equipment and was therefore used only when no other method was available. Because of the nature of the terrain it was difficult in most places for a pilot to get a good run in; there was danger from enemy snipers and also there was a strong chance of both stores and equipment being lost unless dropping was very accurate. Some Beaver drops were, however, made and examples are:-

- a. To B Coy 3 PARA at PEGASUS in early May.
- b. To 3 PARA in the Wadi DHUBSAN on 27 May (unsuccessful owing to very difficult DZ).
- c. To SAS patrols in Wadi TAYM area in early May.
- d. To 1 RS in SHAAB LASHAAB in late Jun.

Neither Twin Pioneer nor Belvedere air drop were used so far though both had been called to stand by. This reserve capability is a most valuable insurance to have in any administrative planning in operations in this area.

66. Camels/Donkeys. Donkeys were almost unobtainable in the area of operations and, in any case, their loads were so small that very large numbers would be required to maintain British troops. Hired camels have proved valuable, in maintaining troops from a road-head to a position which is inaccessible to $\frac{1}{4}$ -ton vehicles, but the local drivers are notably unwilling to work in any areas where there is a fair chance of sniping or similar danger. The main (and very valuable) use for camels was therefore in the maintenance of static positions, and good examples are:-

- a. 1 KOSB and FRA battalions on CAMP BED, COCA COLA and SAND FLY.
- b. 1 RS to the position at N4.

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- c. 1 KOSB, 1 RS and FRA Companies on GIBRALTAR.
- d. Certain FRA picquets in the Wadi MISRA.

67. Other methods of Resupply

- a. Portering. This proved a most valuable method for short periods. Well organised portering, using carriers GS with weights of up to 90lbs, proved invaluable when surprise and speed of movement by night were called for. This was an outstanding feature of 3 PARA operations on the BAKRI RIDGE from 18 - 27 May. It was also used by 1 E ANGLIAN in the approach to Jebel HURIYAH and by 1 RS in the SHAAB LASHAAB operation. Large holdings of carriers GS should be available for operations of this type.

68. Further details are contained in the Supplies and Transport report in Part III (Annex M, Section III).

MIDDLE EAST LAND FORCESPART IILESSONS OF THE OPERATIONINDEX

1. This part contains the lessons and main points of interest and should be read in the light of the narrative in Part I and the more detailed information in Part III.

2. Operational aspects are considered first and these are broken down under the following headings:

	<u>Pages</u>
a. Command and Control	38 - 40
b. Planning	40 - 42
c. Tactics	43 - 45
d. Training	45 - 47
e. Acclimatisation	47 - 48
f. Armour	48 - 49
g. Artillery	49 - 50
h. Communications	50 - 52
j. Engineer	52 - 53
k. Survey	53 - 54
l. Army Air Corps	54 - 57
m. Public Relations (Joint Staff)	57 - 58

3. Administrative matters are split up as follows:

a. Administrative Control	58
b. Administrative Support	59
c. Climate and Terrain	59 - 60
d. Air Supply	60
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4. The main lessons are listed in a Summary at the end.

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MIDDLE EAST LAND FORCESPART IILESSONS OF THE OPERATIONGeneral

1. The lessons of the RADFAN operation refer to the particular environment of Southern Arabia and will not necessarily be significant in other places where resources, the enemy and political factors may be different. The established principles of mountain warfare, well set out in "Local Operations in Mountainous Country", were proved sound. The fundamental tenet - the importance of holding the highest ground, is as valid as ever.
2. Most lessons have been learned and forgotten many times in military history and few of those listed below are really new. Many of the points mentioned could not be defined as lessons; rather, they are the reasons why results were good or bad, or are merely points of interest. No apology is made for this, as it is hoped that they will stimulate thought.
3. The RADFAN operation was the first mountain warfare campaign, apart from the 1959 Jebel AKHDAR operation, fought by the Army since the 1939-45 war. Knowledgeable visitors declared that "it was the North West Frontier all over again"; a fair topographical comment, but the comparison does not take into account the development in vehicles, weapons and communications which has taken place during the last thirty years.
4. The average military student thinks of mountain warfare in terms of long advances, laborious picquetting, pack transport and above all, slow, time and man consuming progress. While this was true of certain phases of the operation it was not typical of the whole. The distances involved were limited, the operational area was only sixty miles from the mounting base in ADEN, and helicopters and later vehicles largely replaced pack transport. The latter played its part, as did fighting porters, but the helicopters accelerated the pace and affected the whole character of the operation.
5. British troops operated in RADFAN at the invitation of the Federal Government and from the outset the operation was under joint political and military control. In this it resembled many other Cold War operations. But in RADFAN it was not a matter of restoring government or maintaining law and order, for the area has never been governed or administered and local knowledge was scant. Consequently, intelligence was almost non-existent, maps were inadequate and there were no roads.

OPERATIONAL LESSONSCommand and Control

6. Political Control of the operation was exercised through the office of the British Agent and Assistant High Commissioner at AL ITTIHAD, some fourteen miles from HQ Middle East Command. Telephone communications between the Headquarters and AL ITTIHAD are poor and insecure. This inevitably made urgent consultation difficult but an effective liaison was established. A daily meeting was held at AL ITTIHAD which was attended by Service representatives, and a political officer attended the

Such close liaison is essential in operations of this sort. Political developments, particularly during the later stages of the operation, often required last minute changes or cancellation of plans for ground and air operations.

7. A political officer was stationed in THUMIER who acted as adviser to the Force/Bde Commander. The political aim was contained in the Directive addressed to the Force Commander on 29 Apr. Alterations in the terms of this Directive were made from time to time, but the presence of a political officer at Force/Bde HQ prevented confusion. For a brief period there were two political officers in THUMIER and at times more would have been welcome. At a time when the main effort was directed at "control" operations, the continuous presence of a political adviser was most important. Situations sometimes arose which required attention or advice at a time when he was, quite properly, in the field or in ADEN. In these conditions, the Political Officer is just as much a member of the HQ as any Staff Officer and he should always be readily available to the Commander. Staff shortages, however, made this impossible at times and this accordingly led to delays in reaching decisions.

8. The establishment of military "control" over large areas of RADFAN gave operations a punitive aspect; this was a political requirement. Soldiers were reluctant to embark on punitive operations, which although mild in nature, seemed to them to be directed against comparatively innocent people. Control operations inevitably involve hardship for some, and the need was not always apparent to the troops and junior officers involved. The problem was overcome by briefing, but a widely distributed political appreciation would have been welcome at an earlier stage in the operation.

9. Military Control. The Army and RAF operations rooms at HQ Middle East Command are sited a few yards apart on the same floor of one building, but even this short distance between the two was unsatisfactory. It is stressed that, in general, joint planning and control worked well, but at times, particularly when the tempo of operations dropped, each service tended to take action without ensuring that the other was fully informed. Ideally, a joint operations room should be set up, to allow thoroughly joint planning and day to day control. Such a room should be carefully planned and would need an adjacent radio cabin with full signal facilities.

10. G Branch HQ Middle East Land Forces is not established to man an operations room continuously and the staff officer who normally dealt with local operations had been extracted to join the ad hoc force HQ. It was therefore necessary to reinforce the G(Ops) staff with three young officers as watch-keepers to man the command radio link. These, and three reinforcement clerks were provided at short notice by MOD(Army). Similar reinforcements would be necessary in the event of another operation of this type.

11. Ad Hoc Force HQ. During the preparatory period and for the first three weeks, from 14 Apr to 11 May, the operation was controlled by a small headquarters composed of officers drawn from HQ Middle East Land Forces and HQ ADEN Garrison. Its strength was rather less than a quarter of the establishment of a bde gp HQ. It was essentially a tactical headquarters and had obvious drawbacks. Staff work was confined to operational requirements and little attention could be given to intelligence staff work or to routine A and Q matters.

It was never intended that this small headquarters should remain in the field for more than a few weeks and it was appreciated that a properly established bde HQ would be necessary for protracted operations.

12. None of the staff officers concerned had been in the Command for more than a few months and most had hardly set foot outside ADEN. In this respect they had no advantage over a reinforcement HQ. The ad hoc HQ had one special advantage however; its staff officers knew the organisation, resources and personalities of HQ Middle East Command, and if they had not been controlling operations in THUMIER, they would have been supporting them in ADEN in the course of their normal work. This had a salutary effect; problems were mutually appreciated and the few difficulties and delays experienced were understood. Teamwork and cooperation were excellent.

13. Inter Service Relations. At Force/Bde HQ level cooperation between all the Services involved was good. Initially RAF representation was confined to BASO (Sqn Ldr), who was fully committed in the day to day control of air effort in the operational area. There was no direct contact between the Force Commander and the policy level of the RAF in ADEN. This led to two misunderstandings about aircraft availability and certain proposed air operations. (The situation is described in Part I, Section I paras 68-71). As a result a senior RAF officer, at first a Wing Commander and later a Group Captain, was appointed Air Comd at Bde HQ and from then on the situation improved. After the first phase, BASO and his staff were changed at frequent intervals and this did not make for the most efficient working. No sooner had the BASO settled down and got to know the personalities and organisation of the HQ than he was replaced. As with the political officer, BASO should be regarded as a member of the HQ and continuity is important.

14. From time to time it became clear that there was a lack of understanding of the RAF's problems. A few officers tended to regard SRT and MRT as just another form of second line transport. Such critics had no conception of the RAF's servicing and maintenance problems, the limited number of flying hours available, the pilot fatigue factor and RAF commitments elsewhere in the Command. It is not enough for Commanders and staff officers to understand these problems. Uninformed criticism by young officers can damage both soldiers' morale and inter-service relations. Fortunately, this did not happen, but there is without doubt remarkable ignorance amongst young officers about other Services. In general, officers receive no instruction on the problems of other Services before attending Staff College. A local solution would be the attachment of junior regimental and staff officers to RAF units for two weeks on first joining the Command. More frequent Inter-Service Study Periods would also be practicable, and these could be pitched at an appropriate level. This problem is not peculiar to Middle East Command, but is part of an Army wide training deficiency.

Planning

15. General. Information on the enemy was always meagre and in these circumstances it is particularly important that operations should not be too rigidly planned. Plans must be sufficiently flexible to allow advantage to be taken of ground unexpectedly gained, and also the ability to exploit the tactical advantages of ground gained which were not previously apparent. The latter requirement is of increased importance in mountainous country where it is difficult to determine the relative significance of hill and features from OPs or from the

16. Intelligence. At the beginning of the operation intelligence was poor and there has been little improvement since. The state of intelligence and the reasons for it are given in Part 3 Annex B.

17. Intelligence is derived from several agencies in ADEN and the Southern Arabian Federation. Not least of the difficulties was the collection and dissemination of information from these diverse sources. There was no intelligence officer in G Branch HQ Middle East Land Forces. At first, valuable briefs were given by the GSO 2 (Int) HQ FRA and the situation markedly improved with the arrival of an experienced GSO 2 (Int) from MOD(Army). For the first time the GOC, G(Ops) staff and the Force/Bde Commander began to receive up to date collated intelligence summaries. The need for an intelligence officer in MELF has been demonstrated and steps are being taken to provide one.

18. The original ad hoc Force HQ had no trained intelligence officer or an intelligence platoon. IO 1 E ANGLIAN and his intelligence section provided clerical facilities in the HQ, but the IO was too heavily involved in operational work to pay sufficient attention to intelligence staff work, nor was he trained to do so.

19. Few PW were taken during the early stages of the operation. This was perhaps fortunate because trained Arabic speaking interrogators were in short supply. A rudimentary PW cage had been set up in THUMIER at the beginning of the operation and this was eventually properly organised to allow for segregation and planned interrogation. The importance of having a trained intelligence platoon to control these matters was obvious but none was available until HQ 39 Inf Bde Gp arrived.

20. All routine liaison with the local community was carried out by the Political Officer with the result that he was often distracted from more important matters. Unfortunately no FRA officer could be spared permanently as an LO because of the general shortage of officers within the FRA. Eventually a LO was provided by MOD(Army). In selecting LOs it is not sufficient that they should speak Arabic; the language spoken by Arabs in the Persian Gulf, the Mediterranean littoral and Southern Arabia differs considerably. Moreover no liaison officer will be of much use until he has acquired a good deal of local knowledge. More energy and imagination could have been shown in seeking and selecting liaison officers at an earlier stage.

21. Circumstances at the beginning of the operation precluded any planned collection of intelligence. Ideally, an intelligence gathering operation should have preceded the concentration of the force. In MALAYA such operations sometimes took several months. This is a role which might be undertaken by the SAS and would be most valuable.

22. Deception. Considerable attention was paid to deception and it is believed that many of these measures were successful and diminished casualties. Air reconnaissance was never confined to the immediate area of interest. Aircraft either circled the entire area or bogus flights were made over other sectors to deceive the enemy as to our intentions.

23. Patrols and sometimes company scale diversions were made to confuse the enemy regarding selected routes. Dummy air drops were made to patrols to conceal their true location.

24. False intentions were carefully "leaked" to people believed to be untrustworthy. When it was thought that radio nets were being monitored, traffic was originated to mislead listeners about our actions and intentions.

25. Importance of Admin Factors. Administrative factors were particularly important in planning. In this terrain a tactical success can quickly turn to failure unless the administrative implications have been carefully studied. Resupply of water, food and ammunition was a vital problem. It is not sufficient to take desirable ground; resupply routes, either overland or air must also be secured. The accuracy of enemy sniper fire at aircraft very quickly brought this point home. There is a fine difference between boldness and rashness in tactical exploitation. In addition to the security of resupply routes; the availability of helicopter or pack transport, the weight of supplies that can be brought in, the suitability of landing zones or dropping zones, and the weather, must all be weighed up.

26. Helicopter Resupply. At one period 1 E ANGLIAN was operating five separate landing zones in the battalion sector and much detailed day to day planning was necessary. The battalion 2ic ran the forward organisation and he had his representative at the base airfield. The system worked and this battalion, in common with others, relied exclusively on helicopter resupply for nearly six weeks and never lacked.

27. 3 PARA group also made much use of helicopter resupply. In the later stages of their advance up the BAKRI RIDGE it was found that in movement of this sort, a duplicate Q organisation was needed to man each new helicopter LZ as it was established. This was undertaken by the QM and MTO with members of their respective staffs. In view of their small numbers and the mobile nature of operations, it was undesirable to build up stocks which required extensive man handling.

28. Although helicopter resupply was welcome, this was not allowed to stifle initiative and self-help. In the early stages of their advance up the BAKRI RIDGE, 3 PARA group converted half the battalion into fighting proters and by moving at night made considerable advances with very little helicopter support.

29. Several minor operations were carried out exclusively with helicopter resupply. Inevitably some units tended to think that some types of operation are impossible without helicopter support. While helicopters are of great value and speed up the pace of operations, they are not a prerequisite of mountain warfare.

30. Pack Transport. No properly organised pack transport existed. The FRA use camels extensively but they are uneconomical pack animals and need skilled handling. Local drivers were employed and camels did useful work for some British units. A sturdy breed of mule capable of lifting significant loads would have been welcome and would have relieved the helicopter situation.

Tactics

31. General In spite of his limited strength and armament, the enemy, fighting on his own terms by day from concealed positions, can be formidable. His concealment was good and from high ground he could pick out targets which European eyes might miss. However, his tendency to open fire at maximum rifle range limited the effects of his sniping. At night, he was less effective, not so much from any dislike of the night but because it nullified his main advantages. In general, our troops moved with immunity at night. However, on a few occasions the enemy showed his ability to fight well at night and it would be wrong to assume that he will not adapt his tactics and undertake more offensive night operations.

32. Identification of enemy targets always proved difficult, but this is true of any well trained enemy in any terrain. The fact that so often he opened fire from maximum range made it particularly difficult to locate his positions. This had its effects on our own tactics. The first step was to locate the enemy at long range. This was a matter of moving to increasingly better ground, under fire, until sufficiently close to the enemy to mount a conventional attack on him. The basis of tactics of course, remains fire and movement. The enemy was "battle inoculated" against artillery and air attacks and often resumed firing seconds after a rocket strike on his positions.

33. The country is deceptive, even those parts of it which appear flat. Almost invariably the time taken to get from one point to another was underestimated, even after air reconnaissance and a study of air photographs. For example, one point on CAP BADGE has been nicknamed "PIMPLE", in the event it was found to rise 300 feet above the main point of CAP BADGE and was quite a climb in itself. Eventually, commanders and units were considerably more cautious in their estimates of time and space problems.

34. The poor quality of the initial maps available made map reading difficult and even with better survey, map reading in mountainous country is often a matter of dispute. Differences of opinion as to location are especially important when air and artillery support is in operation and liaison between forward troops and supporting fire units must be correspondingly thorough.

35. Fire discipline in the face of long range sniping is important. There is no object in returning fire unless the enemy can be seen and hit. If the enemy sees that his fire is ineffective he will either desist or come close enough to be identified and he can then be destroyed by air attack, support weapons or small arms fire.

36. Night Operations. Chapter X of "Local Operations in Mountainous Country" which deals with training, stresses the advantages to be derived from night operations. In RADFAN all major offensive moves were generally made by night, not least because of the climate. The advantages of night operations are that:

- a. The enemy is denied his main advantage - that of observation and fire from high ground from well prepared and concealed positions.
- b. The enemy does not seem to relish night fighting, although there have been two notable exceptions to this generalisation, when THUNIER base camp picquets were attacked. Other night activity has so far been limited to sporadic long distance sniping and mine laying.

- c. In hot climates, British soldiers can go much better and further at night, with a much reduced consumption of water.
- d. It eliminates the time-consuming process of picquetting routes and this compensates for the comparatively slow pace of night marching.
- e. Enemy morale is shaken by his uncertainty of where his opponent will appear at first light. Good results are achieved when a show of force is made at first light on the position occupied. Demonstrations by troops on the ground, the registration of targets by artillery and mortars, and air action, combine to throw the enemy out of his stride.

37. The following points are important in night operations:-

- a. Objectives must be carefully chosen and be well within the capability of units, to ensure that all troops are on dominating ground by first light.
- b. Commanders and leaders of assault teams should be given ample air reconnaissance before the advance. If the going is difficult, experienced climbers should lead, and they must be adequately protected. Their task is to choose the route, mark it and fix climbing aids where necessary.
- c. Flares dropped by RAF aircraft give useful movement light on moonless nights. They were found to be most effective when dropped about 8 miles beyond the objective, but this can cause difficulties through loss of night vision. Unless the light is continuous, progress tends to be halting, particularly with a long column. (It is not practicable to keep one eye closed). Communications to the pilot of the aircraft dropping the flares are desirable.
- d. White tape to mark the route over difficult sections is necessary. A good deal of thought must be given to the adequate provision of this and climbing aids.

38. Daylight advances were seldom made in the early stages of the operation, when resistance was stiffest; when they were, either by design or force of circumstances, casualties and delays occurred.

39. The enemy is no fool and it should not be supposed that he will not quickly adapt himself to our tactics. He has shown his ability to operate effectively at night on several occasions and will no doubt increase his offensive night operations as he finds his ability to operate by day increasingly restricted.

40. Helicopter Assaults. The original concept of operations envisaged the vertical envelopment of selected areas by helicopter assault. Four factors dictated that this concept should be abandoned:-

- a. The limited helicopter lift. Ideally, the concept required the simultaneous arrival of at least a company on the objective area; there were insufficient helicopters to allow this.

- b. The type of aircraft. The Belvedere helicopter is not best suited for troop lift in mountainous country; it is a large aircraft and needs a correspondingly large LZ. It proved extremely difficult to find suitable LZs on the summits of likely objectives.
- c. The vulnerability of helicopters. Although only one helicopter was forced to land during the operation, many were hit by small arms fire. The nature of the operation did not justify the risk to helicopters loaded with troops involved in approaches and landings on unsecured LZs. Belvedere helicopters were armed with two side mounted LMGs but these were to be used for returning fire; it was never intended to try to convert the Belvedere into an offensive aircraft. Distances to possible objectives were not great and it was not worth risking helicopters if the objective could be reached in one night's march. Helicopter pilots soon realised the danger of enemy sniper fire and when possible, flew sufficiently high to avoid it. In other circumstances this would have made them unacceptably vulnerable to anti-aircraft fire.
- d. Reinforcement, resupply and evacuation problems. The successful establishment of an isolated force in mountainous country is not an end in itself. It remains to bring the enemy to battle. It soon became clear that the enemy would only do battle if the force was small and success seemed probable. If the force was strong, he could choose either to snipe from long range or to ignore it and melt away in the night. It seemed that success would only be achieved by inserting a sufficiently limited force to attract the enemy to battle and to reinforce this rapidly when necessary. In this case the vulnerability factor mentioned above was again relevant and reinforcement, resupply and evacuation would have proved difficult and hazardous.

41. For these reasons the concept of helicopter assault was abandoned. The main reason was, of course, the lack of the right type of helicopter. Given a quantity of suitable helicopters the lessons learned by the French Army in ALGERIA might have been developed, but this was not possible. Helicopters were used on a smaller scale to seize ground needed for picquet positions or OPs. Aerial reconnaissance can attempt to determine if opposition exists but it is preferable to clear the area first with a fighting patrol. 1 E ANGLIAN used the first method on one occasion in the Wadi MISRA when a platoon, with its requirements for 48 hours, was lifted at first light to such a position in 25 minutes by two helicopters. As a ground assault at night this would have taken at least four hours.

Training

42. Air and Artillery Support. Few British units have had much experience of close air and artillery support and it is not possible to provide this realistically in training. Units quickly become accustomed to these forms of fire support and tended to call for them on any pretext. It was necessary to weigh up all such requests and occasionally to withhold approval. Units had to be reminded that the basic tactics of fire and movement, and the use of organic support weapons, should be sufficient to overcome minor opposition.

At the same time, the nature of the operation did not justify any avoidable casualty risks and units were therefore given more artillery and air support than they could reasonably expect in other circumstances. This is one of the bad lessons of any operation fought against an unsophisticated enemy.

43. The comparatively poor quality of the enemy, his lack of support weapons, and our undisputed control of the air has had undesirable side effects. Troops have not needed to pay attention to overhead cover and concealment and have become used to "bunching" on positions. These are bad lessons which will have to be corrected in future training.

44. Forward Air Controllers. The need for a pool of qualified FACs within battalions was amply demonstrated. A scale of four to a battalion is about the right level. The initial training and subsequent practice of FACs is not always easy to arrange, but no unit which took part in the RADFAN operation will ever consciously neglect such training again. On several occasions the nature of the ground and the distance from the nearest gun area, prevented close artillery support and units were most appreciative of the skill and accuracy of RAF pilots. Complete air superiority allowed aircraft to make an orbit approach and reconnoitre the target at will, and this oversimplified the FACs' task, which would be much more difficult in other circumstances. From the lack of trained FACs with some units it is clear that insufficient importance is attached to the subject. This is an Army-wide deficiency and should be made good. The FAC is as important to the Bn Comd as is his Bty Comd and FOOs.

45. Artillery Fire Control. Few opportunities arise in battalion training in M.E.L.F. to practice OT fire control, except with mortars. Attention was paid to this shortcoming in the first week of the operation; the aim was to practice all platoon commanders in fire control and it paid dividends. SAS patrols particularly used the technique to good effect.

46. Physical Fitness. Most units involved in the first phases of the RADFAN operation regarded it as the toughest physical test they had ever experienced. The importance of physical fitness in mountain warfare, particularly in an arduous climate, is clear. Most units were basically fit and had little trouble over acclimatization. However, there is obviously room for more realistic and tougher training.

47. Shooting. Many enemy casualties were claimed but never confirmed; there is no doubt that the enemy went to considerable lengths to remove his dead. However, the ratio of shots fired to casualties inflicted must have been extraordinarily high and there can be no doubt that the standard of shooting of the average soldier, particularly at long range, can be improved.

48. Care of Weapons and Accidents. There were some cases of personal weapons being badly maintained, carelessly handled or even lost. The number of accidents in the handling of weapons was very small but none are excusable. This fault will only be eliminated by discipline, training and experience.

49. Field Hygiene. It was noticed that some units tended to forget the basic principles of field hygiene in the initial excitement of active service. The disposal of refuse and preparation of suitable latrines on a newly occupied position tended to be relegated to low priority.

Young officers and soldiers must be reminded that all peacetime training is intended to fit them for war, and these basic matters are equally important whether in peacetime camp or in the field.

50. Convoy and Traffic Discipline. During the first stages of the operation convoy and general traffic discipline was bad. Convoy commanders, who were drawn from units providing escorts, tended to disregard the advice of RASC officers over the speed to be maintained by convoys. High speeds on rough roads would quickly have affected the serviceability of second line transport, had firm action not been taken to prevent it.

51. Similarly, individuals tended to disregard rules for traffic routing in the Base Camp area, until the arrival of Provost detachments. Both these faults were largely attributable to the enthusiasm of young officers and soldiers who had never before been involved in active operations. Again, they seemed to forget that their peacetime training is intended to be applied in war.

52. Water Discipline. Although the origins of water were limited, units were seldom short of water to drink. This was due to forethought in administrative planning based on a sound estimate of the likely requirement. Units held different views on the quantity per man needed. Some considered 8 pints per day the minimum, others halved this figure. Obviously, the soldiers' need is governed by the degree of his physical activity. The general opinion of those who had experience of mountain warfare on the N.W. Frontier was that in those days, fit troops managed in similar conditions on far less water than soldiers in RADFAN. No deliberate attempt was made to test the minimum practicable water consumption, but it would be advantageous if an acceptable minimum for active operations could be decided. Administrative planning would be simplified and maintenance lifts might be reduced. We settled for 2 gallons per man per day for all purposes and worked to this figure throughout the month of June.

Acclimatisation.

53. As a general rule, no officer or soldier was allowed to move up to the operational area from ADEN until eight days after arrival from the United Kingdom. For the most part this 8 day period was spent in carrying out graduated desert training from a tented camp; no air-conditioned sleeping accommodation being provided.

54. This system was successful in that serious cases of heat exhaustion were kept down to 5 throughout the period.

55. There were advantages in the despatch of 1 KOSB as the first major unit reinforcement from the UK. They left ADEN after a 2 year tour as IS battalion only in January this year and spent most of April training at Stanford PTA. They arrived in ADEN on 4 May in a fair state of physical fitness and with a knowledge of the climate and the ways of dealing with its severity. The undoubted psychological disadvantage of returning to an unattractive station with the prospect of further IS duties had some effect on the morale of the unit on arrival. The reverse effect materialised when the battalion soon moved up into the operational area and it soon worked up to a high standard of hard fitness and handled well in action.

56. 1 RS arrived 24 May and made a good impression with their generally good physique and basic fitness. They trained hard for the first 8 - 10 days, and have since become hardened and fit for intensive operations under severe climatic conditions. The sick rate of this unit has since been lower than that of any other major unit in the MELF orbat.

57. Due to the demands of operations, both 1 KOSB and 1 RS sent one company group to THUMIER within 48 hours of arrival for Bde HQ picquet duty on the surrounding hills. This was a severe test by day in a very hot sun with only partial shade. There were no cases of sickness in either company. Both were strongly attacked by night within 48 hours of taking up their picquet positions and acquitted themselves very well.

58. Acclimatisation in South West Arabia poses no problem provided:

- a. Units and individual reinforcements are up to a good standard of general physical fitness on arrival.
- b. 8 days graduated training in the sun is properly organised in ADEN before any move to the operational area.
- c. 2 gallons of water per man per day for all purposes is a pre-requisite for operations.

59. 3 PARA arrived in BAHREIN from the UNITED KINGDOM early in April and were up to a high standard of physical fitness. They flew into ADEN on 12 May and carried out intensive mountain operations from 18 to 27 May. These were carried out against strong opposition and made unusually heavy demands on their endurance, strength and stamina. The operations were highly successful and this was due, in the main, to the fact that they were fit enough both to overcome the strain of a sustained climbing action and at the same time to fight a series of spirited battles with the loss of only three wounded in casualties. They killed 13 of the enemy.

60. Water has been the main ingredient in the successful battle against heat exhaustion and sickness. 2 gallons per man per day for all purposes was the proved answer during the intense heat of May and June. At no time has there been any appreciable reduction in this ration and only through the support of RAF and AAC helicopters have we been able to sustain this vital statistic.

Armour

61. Armour was used as the predominant force on two particular occasions, the operation in the Wadi MISRA on 19 May and during the operations of WATTORCE, 24 - 28 May.

62. Armour is an aggressive weapon and should be used offensively. Thus when operating in mountainous country without infantry, it requires a specific task to perform at the conclusion of which it may withdraw. It is desirable that this task should be recognisable to the enemy, so that he does not draw false conclusions from the sight of what he considers to be a much superior force withdrawing in the face of his ineffective small arms fire.

63. The Wadi MISRA operation lasted only one day and the rapid withdrawal of the force must have given a boost to enemy morale.

Even if it had been planned to extend the operation in time, the heavy rain on 19 May would have forced withdrawal, or risked many of the armoured cars getting bogged or "drowned" in the wadi bed, which would again have raised enemy morale.

64. This risk will always have to be faced in rainy weather and means that an infantry force must be available to protect any recovery operation which may ensue.

65. On two occasions STALWART was used during the WATFORCE operation and proved its complete superiority over all other types of load carrier in the force. It moved with the greatest of ease over going which threatened to bring all other movement to a halt, including Saladins and Ferrets.

66. Air reconnaissance proved invaluable in the WATFORCE operation. Ideally, where air reconnaissance is available to help in such tasks as sealing off an area, ground elements should be widely dispersed during the daylight hours so that the area of search is well covered and any point can be reached without unnecessary delay.

67. Air reconnaissance has its limitations however. In spite of six reconnaissance flights at various levels before the Wadi MISRA operation, the extreme difficulty of the going was not apparent. As a result progress was much slower than had been hoped.

68. The tanks' mechanical troubles during the Wadi MISRA operation stemmed largely from lack of experience in such difficult going. Preliminary training must be given before committing tanks to operations in which the battlefield must be cleared of all vehicles by last light.

69. It must be emphasised that the use of unescorted armour in rugged country was only possible because of the unsophisticated enemy. Such free ranging operations would not be undertaken in the face of anti-tank weapons.

Artillery

70. General. Detailed comments on artillery are contained in Annex F and the following is a summary of the main points of that Annex.

71. Equipment. The 105-mm pack how suffers from certain mechanical defects, is not sufficiently robust, and is not truly man-portable in the terrain and climate of Southern Arabia. It must be stressed that mechanical defects never seriously affected artillery support, which was consistently good. However, they were only overcome by a great deal of work, a continuous flow of spare parts from the UK base and the most stringent daily maintenance. The 5.5-in medium gun behaved well and its range compensated for its limited mobility.

72. Manpower. Due to the shortage of men, gunners had to remain in the field for very much longer periods than infantry soldiers. This is undesirable but can only be solved by reinforcement to allow rotation of men for rest.

73. Deployment. Suitable gun positions are difficult to find in mountainous country and once found, movement of guns and ammunition can cause major problems.

Unless helicopter support is virtually unlimited, either vehicle, pack-transport or porters must be used, for ammunition resupply consumes vast numbers of helicopter sorties. This limited the gun positions which could be occupied, had a bearing on the effective range which could be used, and involved considerable engineer effort on route improvement.

74. Air Safety. The problem of integrating gunfire support with all forms of air support is considerable. When helicopters particularly are plying to and from forward positions which may be calling for artillery support, close liaison between BASO, G(AIR), G(Ops) and the Bty Comd is needed to avoid accidents.

75. A system of control was devised by which BASO was informed when, where from and where to, guns were firing. This allowed aircraft to be warned and briefed on safe routes. Within the airfield area infantry mortars were brought on the artillery net to enable the same degree of control to be exercised. If it was essential for aircraft to operate in an area unsafe through gun or mortar fire, guns and mortars could be stopped by use of the gunner net. This system was only possible because there was only one artillery net and all aircraft were on the same net. On bigger battlefields, where a more complicated artillery organisation is working the problem would be more difficult to solve.

Communications

76. Though the operation was joint Army/RAF, at the grade 1 and 2 level at HQ Mideast the staff officers of the two Services were separated by several rooms. The provision of proper signal facilities is closely allied to the staff office layout. A joint operations room would no doubt have eased the staff officers work and greatly assisted in the provision of proper communication facilities. Additionally, joint signalling must be accepted. In this operation a simple joint plan was expanded as operations developed and though relations were good, the Army and RAF Signals tended to go along their own paths guided by their own staffs. Joint signal planning and control could provide a better and more economic service.

78. Initially communications were set up with ad hoc equipment and personnel and a second class service resulted until the system and radio crews and nets had time to settle down. Communications performance again fell off on the arrival of 213 Signal Squadron with HQ 39 Inf Bde Gp. Although this squadron is a brigade signal squadron its strength included a high proportion of reinforcements which had joined it only a few days before leaving the UK. In addition to acclimatisation problems therefore the squadron commander was faced with the task of getting to know his men, sorting out the inexperienced and those below par in training, assembling well chosen radio detachments and conducting detachment training. It was not surprising therefore that communication performance fell off. Indeed, the squadron commander can be commended for the speed with which he brought the brigade communication system into effective order in spite of the difficulties. The lesson here is the need to correct an apparent misconception that in training, the signaller is any different from a soldier in any other arm. Radio detachments require training as such, every bit as much as tank or gun crews. Radio detachments require training in working together every bit as much as tank troops within an armoured squadron or rifle and support platoons within a rifle company.

A signal squadron thrown together at short notice and comprising officers and soldiers who do not know each other or their equipment and including a high proportion of soldiers with nothing more than their individual training behind them, will initially be no more effective than a battery of guns assembled in like circumstances (and including a proportion of soldiers who do not know the piece with which the battery is equipped). To mount an operational communication system in these circumstances is risky practice, particularly as it is in the early phases of an operation that the greatest demands are usually made on Signals. In the case of the RADFAN operations the lesson was partly obscured by the fact of the operational area and HQ Middle East Command being in close proximity thus enabling reasonably frequent liaison visits between commanders and staffs. Had the scene of the operations been more remote from ADEN we could have run into serious difficulties.

79. At first the differing scales and types of radio equipment for Parachute Battalions, Royal Marine Commandos and Infantry Battalions presented a problem. Frequent equipment states were obtained by the Force Signal Officer and this enabled vital sets to be replaced or snap issues made. The need for a tightly controlled reserve (CR Sigs pool) was emphasised.

80. The need for lightweight manpack sets (both VHF and HF) was frequently demonstrated. In the VHF field the SR A41 generally filled the bill but no suitable HF set existed in sufficient quantity (supplies of HF 156 were limited and this set has battery problems). The SR 62 is quite unsuitable and the urgent need for the SR A13 was thoroughly underlined.

81. The RADFAN country is difficult for either HF or VHF radio communication. Only by meeting signal requirements in the selection of HQ sites could communications be maintained; this was done to good effect. The success of VHF forward communications from Force/Brigade HQ was due to the rapid redeployment, often on difficult sites, of automatic rebroadcast sets. The rapid and flexible redeployment worked well using helicopters and this task (as well as the need for ground troops to provide protection) will always be present and must be accepted by Commanders and Staffs as a normal feature of tactical

82. The SR A41 was frequently used as a manpack unit rear link set. Its performance is much improved if remote aerial kit is used when static. The remote audio gear also helps in this direction. There is a need for a portable type of VHF aerial (eg Yagi) which can be used when static to give better results than a portable rod aerial. This idea is being passed to the School of Infantry (Signal Wing) HYTHE.

83. The SR D11 is the basic long haul tactical radio in MELF. We were equipped with these new sets during 1963. Their performance during RADFAN operations has been disappointing. They have not stood up well to local conditions and have had an unusually high fault incidence. The highly saline dust which permeates the atmosphere is suspected as being part cause of this. Another is probably that the set was originally designed (by Marconi) as a ground station and has not been over successfully adapted as a vehicle station. A separate report is being submitted through Signals channels.

84. The absence of on line crypto equipment was constantly and frustratingly apparent from the delays in signal traffic brought about by the need manually to encrypt and decrypt. On line equipment is scheduled for late 1965; the need exists now.

35. Communications between HQ Middle East Command and the Force/Bde HQ would have been improved considerably in quality and reliability if radio relay and multi channel equipment had been available. MOD (Army) was asked to provide a radio relay team but was unable to provide it.

Engineer.

86. Operations taught the uses and limitations of air reconnaissance of engineer tasks in mountainous country. They also pointed out a number of old lessons which tend to be disregarded or forgotten.

87. Air Reconnaissance. Air reconnaissance proved invaluable for quickly ruling out routes which were clearly impractical, but even very low flying could not confirm that track construction was feasible. The aerial view gives a reduced impression of ground slope and going cannot be checked accurately. Ground reconnaissance is still necessary before selecting routes and estimating labour involved.

88. Ground Reconnaissance. It is important that all parties moving into new areas should include RE for route and water reconnaissance. There are unlikely to be enough engineers available for a close check of the whole area and all arms should report details of wells in their locations.

89. Track Construction. Commanders did not always appreciate that rapid production of rough tracks, to get light vehicles forward early, must often cause delay in completion of the final maintenance route. Where possible route construction should move forward steadily on the final alignment complete with drainage.

90. Explosives. Large quantities of explosives must be readily available for track development. Even in wadi bottoms, where going is usually easiest, up to 2 tons of explosives may be required for each mile of track.

91. Civil Labour. Track development in the RADFAN is largely a matter of manual labour. This was provided by recruiting local civilians, who were employed on a day to day basis. Initially organisation for their control was poor. The most satisfactory system is to group labourers in gangs of about twelve, each under a foreman responsible for assembling them at work. Each gang should be controlled by a soldier who handles the same gang each day and pays them.

92. Refrigeration. Each unit using kerosene burning refrigerators should have men trained in their siting and maintenance. In the early stages of the operation many serviceable refrigerators were declared useless by their users. Replacement glasses and wicks were supplied at the rate of two per refrigerator. Subsequently the field squadron ran a course for units. This should be done earlier in any future operation. A ten ton cold store, erected in the administration area, has given considerable trouble.

It is clear that such an installation is beyond the capacity of the average field squadron refrigeration mechanic and more expert assistance is required with future sets. This cold store has been a failure since its initial erection and the supply of fresh rations has suffered accordingly.

Survey

93. This operation re-emphasised the limitations and inadequacy of the current operational map coverage, provided by the 1/100,000 Series K667 and fully justified the programme for a resurvey of the Western Aden Protectorate, initiated last year.

94. The 1/50,000 scale was adopted for the RADFAN maps, purely to accommodate the large number of place names supplied by intelligence. In the event these names were little used except by intelligence officers.

95. It is considered that contoured mapping at 1/100,000, based on sound planimetry, will meet the overall operational requirement in the Western Aden Protectorate. For operational purposes, such cover could be enlarged, if required, to provide space for additional names and other data.

96. This requirement for contoured 1/100,000 mapping, possibly with hill shading is in contrast to the previously stated requirement for 1/100,000 mapping with shaded relief but without contours.

97. Survey Equipment. The capacity of the Fd Svy Sqn was limited by lack of a darkroom trailer, multiplex equipment and a reduction printer which had not reached the unit. In addition the chilling units for the mobile printing column, which arrived in the theatre in January, proved unsuitable for normal Middle East climatic conditions. The Princess printing machine was unreliable, which drew attention to the complete reliance of the Fd Svy Sqn on one set of equipment, replacement of which can only be obtained from the UNITED KINGDOM.

98. There is a firm requirement for both Multiplex Equipment and a Reduction Printer in the Fd Svy Sqn. It is also recommended that the peace establishment of the Fd Svy Sqn should include a second Print Trailer, if no other Map production potential is available in the command.

99. Field Survey. A major factor in field survey operations, was the excellent co-operation which was given, in moving survey parties by helicopters. Not only did this enable a series of dominant features to be occupied but, in addition, enabled a technique of barometer and theodolite heighting to be developed. It is significant that the only party which failed to achieve progress, was one which attempted to approach the task by the hitherto generally accepted method of working up the wadis.

100. Air Survey. A closer liaison between the survey staff and the photo intelligence section is required, to ensure maximum use is made of all PR photography and not merely those sorties flown for survey purposes.

101. Air surveyors in a Fd Svy Sqn must be capable of formlining from very limited control. Time was lost, through surveyors failing to appreciate the necessity to establish ridge lines in addition to the more obvious wadi patterns.

Army Air Corps

102. Mountain Flying Technique. It was realised very early on that the basic teaching on mountain flying would have to be drastically revised if pilots and aircraft were to survive. It was quite obvious that 360° orbits over the proposed landing site when 300° were under dissident fire were out of the question. Often the approach lane to an HLG was dictated both by the enemy positions and by the terrain itself, and out of wind approach and landings became the order of the day.

103. By the same token a power check over the HLG was also impossible. At the same time it was discovered that an approach at 45 - 50 knts with a quick flare before landing was to court disaster since the rapid increase in power required was just not available. Heights and temperatures of 42°C at 3700ft and 28°C at 5700ft were common, giving density altitudes of 7800' and 8600' respectively.

104. A successful technique that was evolved was to carry out a shallow approach along the predetermined line, gradually easing off the speed and checking the rate of descent with judicious use of the collective lever. If it became obvious that there was not enough power in hand to check the descent then the approach was abandoned and a fresh attempt made.

105. Despite the extreme turbulence, which was worse than that experienced in the Alps and the Pyrenees, this technique worked well. Obviously the safety margin was drastically reduced but that was a calculated risk that had to be taken.

106. All manoeuvres had to be gentle ones and the pilot had constantly to anticipate events that would require power changes.

107. Aircraft were flown mainly on the compressor speed as the entire operation was above full throttle height so that 100% torque was not possible in any case. Jet Pipe Temperature had to be watched but with a good engine the compressor maximum of 101% should be reached before the JPT maximum.

108. Power figures given in the Draft Operating Date seem to be roughly right but differ greatly between aircraft. In point of fact there is so much going on that the pilot has not much time to watch every instrument and the compressor speed gauge was taken as the most important.

109. For takeoff there was little problem because there was usually a cliff to lurch over and thus gain translational lift. Full use was made of the bleep switch whenever it was considered to be necessary. Takeoffs were always easier than landings and the a/c would come unstuck with no reserve in hand if the ground effect was used to reach the edge of the cliff.

110. One great limitation was that of tail rotor control. The left pedal was apt to be marginal just prior to touch down and on occasions ran onto the stops on towering takeoffs in turbulent conditions. One Scout rose 500' in a right hand spiral with full rudder applied. The only solution is to get forward airspeed as soon as possible.

111. Pilot Fatigue. The effects of fatigue became more noticeable as the operation went on and they were definitely progressive.

112. The day was a long one, starting at 0430hrs with first light takeoffs and continuing until 1950hrs when the evening briefing was completed. During the day the noise, dust and heat made resting between flights virtually impossible, so that pilots were ready for bed at 2030hrs.

113. The accuracy that was demanded of the pilots in flying nearly always to the limits of the aircraft, at altitude, in turbulent air conditions and carrying out landings on extremely difficult landing sites imposed a strain far greater than that experienced during normal flying at sea level.

114. The number of landings per flying hour was high, an average of one landing every $8\frac{1}{2}$ minutes for the 610 hours flown, thus the strain was much greater than during normal flying. Flying hours are not really an effective measure of fatigue since tolerance differs between pilots and 'hours flown' takes no account of heat, thirst, irregular meals, long waits in the sun, and being bathed in sweat when strapped in the cockpit and then drying out between sorties.

115. Fatigue showed itself in excessive yawning, a harassed expression, depression, a tendency towards irritability, especially towards the ground crew, and most serious of all, a growing disregard of safety measures, pre-flight checks etc.

116. At the end of the first week's effort at THUMIER the pilots had a 48 hour stand down at FALAISE. Most were reluctant to go and considered that they could carry on flying. However the 48 hour break did not completely refresh them and during their second week's stint they became progressively more tired so that no one suggested staying on for any further time and they were more than ready to return to FALAISE for their stand down at the end of it.

117. It was considered that a seven day break was advisable between seven day stints of mountain flying under the conditions prevailing at THUMIER and when the pressure eased up this practice was adopted whenever possible. Furthermore when the flying intensity is high, one pilot per aircraft is not enough and a minimum should be 3 pilots per two aircraft.

118. Casualty Evacuation. Casualty evacuation in mountainous country is difficult, but the Scout proved to be the ideal helicopter for evacuation from forward areas; it can get into LZs that are impossible for larger aircraft. The Scout was the only way of taking casualties out of the Wadi DHUBSAN.

119. Morale is much improved when soldiers see their wounded friends being evacuated promptly. When a RN Wessex helicopter crashed on Jebel HURIYAH, a Scout arrived within 15 minutes, although at the time of the crash the aircraft was at THUMIER, the pilot was in the Mess and the Doctor was in the CCP. Altogether, 89 casualties and 6 bodies were evacuated during the operation.

120. Casevacs were carried out under most conditions except actually hovering; it was usual to get at least one skid on solid ground so that the loading of casualties could be carried out without too much discomfort to the patient.

121. The stretcher is extremely good although it is necessary to carry someone who understands the removal technique if the pilot cannot leave the controls. It was not always practical to move the casualty from an ordinary stretcher from the aircraft. This cannot be done unless those on the ground have received instruction in the removal of the stretcher and it is hopeless for the pilot to attempt to shout instructions while coping with the aircraft.

122. It was not found to be necessary to strap the patient onto the stretcher and in many cases it would have been inadvisable because of the injuries. On one occasion, when there was no urgency, the stretcher harness was used completely to immobilize the patient who was suffering from a suspected fractured pelvis. On the whole however, it is too complicated and the seat straps onto the forward and rear cargo rings just as well.

123. All pilots must be capable of making the rear seat into a stretcher with the aid of one other person who has never seen the aircraft before and may not be too bright anyway. This should be included in the course at the AACC, Middle Wallop.

124. The Scout proved itself to be invaluable in the casevac role and the number of Scouts in this theatre should be increased in order to meet this need.

125. Internal Loads. The rear doors were removed whenever there was a need for quick loading and unloading.

126. It was found that with intelligent loading packages remained firmly in place, but only gentle manoeuvres were advisable. Loading and unloading could be carried out from both sides simultaneously.

127. Empty jerricans could, and occasionally did, fall out in flight. It is considered that a light weight net should be fixed between the cargo compartment and the pilot to prevent any article being thrown onto the pilot. Further light weight nets that could be hooked easily across the open doorways would also be useful to replace the doors when necessary.

128. External Loads. The external hook did not always work, and gave trouble when attempting to carry underslung loads. No solution has yet been found to this problem and other methods were evolved when the necessity arose.

129. Barbed wire coils were threaded on a quick release strop, passed through the rear cabin, and slung on either side of the fuselage. They could also be carried hooked onto the front of the skids but the problem of getting them off again without outside assistance was insoluble. Large baulks of timber were carried resting across the skids. External loads should only be carried when it is impossible to carry the loads internally since the penalty imposed by the loss of ground effect offsets the advantage of the quick pickup and release.

130. Communications. All takeoffs and landings at THUMIER were carried out on the VHF Ops 2 frequency (local airstrip control). Thereafter the pilot changed to Ops 1 frequency, manned by BASO, and operated on that frequency while in the operational area. In this way any warnings of air strikes, arty or mortar shoots, or other flying hazards could be passed to the pilot.

131. When close support of the infantry or the arty required air/ground communication the pilot came up on their net on the B47 set.

132. The set must be netted on the ground since its position in the air causes a dangerous disorientation of the pilot if attempts are made to net in the air.

133. Operating in mountainous country with 2000ft deep wadis led to difficulties because of screening. Frequently messages had to be passed via other aircraft operating at a greater altitude.

134. Design Weaknesses. Door fastenings caused more trouble than any other defect. Attempts to explain to a non-English speaking Arab, over the noise of the engine, that the door handle was spring loaded proved an impossible task. The delicate mechanisms of the handle and the retaining catch are not 'soldier proof' and every door that was used was broken. Serious thought should be given to designing a more robust system.

135. Current regulations state that the contact breakers must be raised whenever the engine is switched off. As the aircraft gets older and more dirt gets into the works, the contact breakers become more difficult to raise. By the end of the day the pilots' fingers became so sore that it was impossible to pull up the contact breakers and a bottle opener was carried to raise them.

136. If these contact breakers must be raised whenever the engine is switched off, switches should be provided instead of the present buttons. On the other hand, regulations could be amended to allow the contact breakers to remain depressed, as for instance in the Beaver.

Public Relations

137. The Joint Public Relations Staff (JPRS) HQ Middle East Command was found to be too small to cope with the work created by world interest in the RADFAN operation. Existing office accommodation is barely adequate in normal conditions and is quite inadequate for use by an increased staff.

138. Efficiency in a crisis would be much improved if the necessary initial reinforcements of personnel and vehicles were earmarked in advance amongst local units and Headquarters.

139. Once the scale of press interest was realised a Press Camp was set up at THUMIER. The G and Q Staff must anticipate the requirement in any future similar operations and allow for the necessary personnel and stores in planning.

140. Regardless of staff shortages, it is essential that one PR officer remains in the JPRS office at HQ Middle East Command to direct the activities of the JPRS staff there.

141. The operations staff must realise that PR staff of the Royal Navy and the Royal Air Force are civil servants and that the fact that they are not Service officers does not preclude them from being given operational information for PR purposes. In the field, these Civil Service members of JPRS staff should wear service clothing, with appropriate identification marks.

142. If PR is to be of maximum value the JPRS staff must be fully briefed and consulted during the planning stage and throughout the operation. It is essential that PR policy is identical in both forward and rear areas, otherwise the whole policy will be quickly jeopardised.

143. If Press are not to inconvenience troops in the field, JPRS must be capable of providing them with food, water, bedding and suitable clothing.

144. A Press Reception Room at JPRS HQ Middle East Command is a permanent necessity to avoid the arrival of a visitor disturbing the work of more than one JPRS officer.

145. The provision of two portable tape recorders would be of immense value to JPRS. This is already a requirement for Press Conferences and the machines could be used for many other purposes.

146. Many individuals still try to use PR as a medium for issuing 'propaganda' and do not appreciate that its sole purpose is the rapid issue of true, factual news of the Services.

147. Initially, troops in the RADFAN had less news of the operation as a whole than did the general public in the UNITED KINGDOM. This led to a feeling amongst a few soldiers that troops in the ADEN base neither knew nor cared about the progress of the operation.

ADMINISTRATIVE LESSONS

Administrative Control

148. Staffs. The need for a properly constituted staff to control administrative support in the forward areas was quickly appreciated once it was evident that operations would be prolonged. The lesson from this is that it is most difficult to support an operation of this scope administratively without a proper field force HQ.

149. "Running-In" Staff. Even when HQ 39 Inf Bde Gp was established at THUMIER, the problems of settling-in new staff and building up new procedures diverted staff effort which should have been concentrated only on operations. About two weeks were needed for this "running-in" phase.

150. Procedures. Standing operating procedures for staff control and resupply systems were developed as operations proceeded. The value of basic procedures was heightened by complications imposed by local factors, such as climate and terrain, which are considered later.

151. Communications. Signal resources only allowed the setting up of a limited brigade administrative net. It was not possible to establish an administrative link between Q(Ops) HQ Middle East Command at ADEN and HQ 39 Inf Bde Gp at THUMIER. Operations showed the requirement for:

- a. An administrative VHF or radio link between HQ Middle East Command and HQ 39 Inf Bde Gp. Continuous voice communication would have been desirable and 24 hour CW working essential for real efficiency.
- b. A bde gp administrative net with all major units as outstations.

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Administrative Support

152. Units. The administrative units in ADEN are "tailor-made" to support the ADEN Base, and minor operations in the Protectorate. It was necessary for ADEN Base units to work "round the clock" to support this brigade operation, even though the line of communication was comparatively short. Reinforcements were needed to implement a normal field administrative system. These difficulties would not have arisen if an inf bde gp HQ and its administrative units had been available. They highlight the lesson that in any future operation of this type, it would be necessary to deploy the brigade group administrative units in the early stages.

153. Civil Labour. The ADEN Base depots are predominantly manned by civilians, and their cooperation was a vital factor in meeting operational demands. This emphasised the extreme importance of good labour relations.

154. Reserves. It was necessary to use the Command reserve holdings, particularly vehicles. The operation stressed the value of the BAHRAIN stockpile, which has remained inviolate except for some composite rations and water jerricans.

155. Engineer Effort. The operation proved again that "there are never enough sappers". Administrative tasks for engineers included opening and improving maintenance routes, water supply, improvements to the THUMIER "forward base", refrigeration and lighting facilities. There was always a shortage of engineer effort.

Climate and Terrain

156. Problems due to climate and terrain and the appropriate lessons are outlined below.

157. Heat. This restricted loads carried by troops moving in the open. Large packs containing spare clothing and personal equipment therefore had to be sent to isolated locations by other means. Hessian was used extensively, in providing shade, and additional camouflage.

158. Clothing. The rocks in the RADFAN area are generally dark in colour and there are odd scraps of vegetation. Olive green trousers and KF shirts were considered the most suitable dress, with denims as a second best. KD, although cooler than denims, wore out very quickly, as did all clothing items. Planning figures used to assess clothing life were:

- | | |
|------------------------------|-------------|
| a. Boots DMS | 3 - 4 weeks |
| b. Boots Ammunition/Modified | 2 weeks |
| c. Slacks KD | 7 - 10 days |
| d. Shirts KF | 7 - 10 days |

159. Vehicles. Use of vehicles on bad tracks in hot dusty conditions emphasised:

- The need for a high standard of driving and maintenance.
- The importance of engineer effort.
- The heavy usage of MT stores, particularly tyres.

- d. The high incidence of chassis damage, some of which could have been avoided if more sump guards had been available. It is recommended that these be standard fittings to vehicles which are deployed up country, whether on operations or training.
- e. Heavy damage to all trailer bodies, which were too lightly built for this country. Trailers were, however, found to be very useful.

Air Supply

160. General. Air supply was a vital factor in the administrative support of operations. From the start of operations it was used extensively for air landing and dropping of food, water, ammunition and other vital commodities. The air supply capability proved to be one of the Command's most valuable assets. The lesson is that this capability must not be undermined by loss of personnel or expertise.

161. Availability of Aircraft. No operation was undertaken without an assessment of available SRT aircraft hours. Planning always allowed a safe margin of flying hours for resupply by air.

162. Air Dropping Capability. Although it would have been more economical in terms of manpower and equipment to have concentrated all air dropping capability at KHORAKSAR, it was necessary to maintain the capability at THUMIER also. This was so that a quick response to emergency requirements for small air drops could be obtained, particularly if communications to ADEN were bad.

163. Helicopter Cargo Nets. Cargo nets were in short supply in UK at the start of the operation, and the RAF were not willing to use 3000lb nets. Some 1000lb and 2000lb nets were flown out from UK, but the majority of air supply missions were flown successfully using 1-ton containers instead of nets. The operation has proved the requirement for a fully acceptable cargo net.

Supplies and Transport

164. Composite Rations. The following points were proved by the operation:-

- a. Reserve holdings in ADEN should be increased to meet sudden unexpected demands. This requirement is accentuated by the forthcoming assumption of BLFK operational responsibilities by this Command.
- b. There is a requirement for extra hexamine cookers and refills to be held for use by isolated detachments with 10-man ration packs. This is additional to those held for use with 24-hour packs.
- c. The new range of ration packs provide a welcome variety to the A - G packs. Y and Z packs are very much more suitable in this Command.

165. Fresh Rations. It was necessary to relieve the monotony of composite and tinned-equivalent rations as soon as cold storage facilities could be installed. The supply of fresh rations from ADEN to THUMIER emphasised the following:

- a. The value of the polarpac as a food container.
- b. The need for a regular air-lift with a guaranteed payload to move the rations forward quickly and reliably.
- c. The importance of pre-jointed meat. (Supplies were extremely limited, and carcass meat forward was not acceptable because of limited butchery and cold store facilities).

166. Water Containers. Once supplies of the flimsy water cans became available, they were used extensively. Although not as robust as jerricans, they are much lighter, and proved adequate for most operational uses. The weight saving was a considerable advantage.

167. Miscellaneous Chemicals and Disinfectants. It was found that normal scalings of these items bore little relation to the requirements for them in and forward of THUMIER. Heat, dust and insects and the associated hygiene problems all caused abnormal usages of miscellaneous chemicals and disinfectants.

168. Transport. The need to coordinate the use of all first and second line transport was amply demonstrated during the early part of the operation. The limited experience obtained with the trials STALWARTS during the operation indicated the potential of the six service STALWARTS (high mobility load carriers) which arrived in ADEN on 23 Jun. They were used for fast supply convoys and for resupply in forward areas. Full advantage was taken of their cross-country mobility.

Medical.

169. Sound hygiene is particularly important in hot and dusty climates and it requires thorough training and discipline. The following paragraphs contain recommendations on training and equipment.

170. Training in Air Evacuation. This type of air supported operation emphasised the need for medical personnel of all three services to be acquainted with the characteristics of all types of aircraft, with particular reference to their casualty carrying capability. RAMC personnel in the Command had little experience with fixed wing aircraft. However, in a few weeks they had as much experience as they might normally have expected in a few years.

171. Corps Training. The operation also emphasised the necessity for a high standard of corps training. In many cases, initial treatment was left in the hands of the young medical assistants, who without exception acquitted themselves well. On the whole the RAMC medical assistant was better qualified than his counterpart, the regimental medical assistant. The quality of the latter should improve, however, as the conditions of training under Army Council Instruction 393 of 1963 become more fully effective. When the RAMC manpower position improves, their reinstatement in infantry battalions should be given a high priority.

172. Medical Accommodation. The tent was not a satisfactory substitute for some form of hutting. Heat and dust severely limited the degree of professional work that could be undertaken. It is recommended that for internal security operations, a collapsible structure capable of easy erection, dustproof and air-

This structure should provide accommodation for reception and treatment and be capable of holding 10 to 15 beds. Possibly an inflatable, pressurised structure would be the best solution.

173. Medical Equipment. The Bofars splint proved invaluable for helicopter evacuation, and holdings in field units should be increased. There is still too much glassware in RAP equipment. Polythene containers for liquid medicines, and cellophane-strip packing for all tablets should be standard. Otherwise the standard field medical equipment proved satisfactory.

174. Latrines

- a. Deep trench latrines. The concept of a unit arriving in an area and digging deep trench latrines (DTLs) while the unit pioneers are fashioning deep trench latrine superstructures out of tongued and grooved boarding, complete with urine deflectors, unhappily proved to be remote from this type of operation. There were no boards, too many units were small, specialist, or sub-strength and without labour or pioneers. Any digging likely to be done in the hard earth and rock was concerned with defensive positions. Holes could be blown by explosives but conventional sanitation still demanded a lot of hard work at a time when the soldier had other higher priority outlets for his energy. An efficient explosive trench digger for defensive and hygiene trenches, is required.
- b. Camp structures. The camp structures supplied for DTL superstructures were wooden beams, seats, lids and miscellaneous items needed for bucket latrine camp structures (not "Elsan" type). These required extensive modifications by sappers. Other units which tried to use them found the carpentry beyond their skills.
- c. Recommendation. The provision of close stools, robustly constructed but capable of folding flat, provided with strong polythene, or other synthetic fibre bags would have obviated the need for the construction of fly-proofed superstructures. It would have allowed latrines to be sited, inoffensively, close to tentage rather than in location dictated by ease of digging and absence of smell. This type of closet is recommended and would also be suitable for forward positions on rocks.

175. Swingfogs. The scale of issue of these excellent machines was inadequate. Taking into account the very short wind-free periods and the time taken to get to forward units, the minimum requirement was four for a brigade group. Arrangements were made to train non-RAMC personnel in their use.

176. Meteorological Apparatus. The difficulties in getting this were responsible for the absence of any figures of heat stress for the month of May. THUMIER was eventually supplied, on 1 Jun, with the only Admiralty Box in the Command.

Ordnance

179. The early stages of the operation emphasised the need for an OFP in the THUMIER area. Although the Ordnance Depot ADEN coped admirably with an extremely large issue load for well over a month,

giving "over the counter" service to all operational units, it was not possible to rationalise the ordnance organisation until the OFP was established. The importance of having an OFP to deploy quickly in support of operations was clearly proved.

180. Battle Batteries. The supply of battle batteries to the Command is on a monthly "automaintenance" basis which cover only training requirements. There was thus an inevitable initial shortage of these batteries, as operations started without sufficient notice to have stocks shipped out. It was necessary to fly out supplies to keep operations going, to fill the shipping gap. The establishment of a small buffer stock which can be turned over within the automaintenance requirement would reduce the air lift requirement slightly. Development of a battery with a long shelf life is overdue.

181. Water Jerricans. The wastage of these was greater than anticipated, mainly due to recovery difficulties but partly due to poor discipline and training. Holdings in ADEN were insufficient to meet the requirement and it was necessary to get some from KENYA and BAHREIN. There were many cases of rusting of cans. The flimsy was a valuable asset. The receipt into service of a robust plastic container will be a marked improvement on the existing jerrican.

182. Ammunition. The operation proved that the ADEN-held part of the Command reserves are adequate to meet unexpected demands; although it was necessary to bring ammunition in with the weapons not held in the Command (i.e. 5.5-inch gun and 81-mm mortar). There was no ammunition trained officer or technician written into the establishment of HQ 39 Inf Bde Gp. It was fortunate that the Brigade Ordnance Officer was ammunition trained, since there was frequently a requirement for immediate technical advice.

183. Web Equipment. The current web equipment was found to be too noisy for patrols operating close to the enemy.

Electrical and Mechanical Engineers

184. A forward detachment was provided from the start of operations. The main difficulty in raising this detachment was lack of field equipment, since it was provided from a static workshop. The detachment was expanded and modified as operations proceeded, to meet the requirement to return vehicles and equipments to units quickly in a serviceable condition. Radio and small arms repair facilities in the operational area were particularly valuable.

185. Vehicles. The need for a maximum availability of vehicles in the forward areas, together with the fact that the ADEN Base was up to two days away in terms of scheduled convoys, resulted in a rather heavier than normal field repair load in the THUMIER area. The cumulative effect of months of wear and tear in difficult conditions of terrain and climate had not yet been fully felt by 30 Jun.

186. Recovery. Bad going, including occasional floods, and difficult operating conditions resulted in a large recovery load. The Scammell 6 x 6 recovery tractor was not always adequate for its task. First impressions of the Leyland replacement vehicles received in the Command were favourable, particularly the improved jib capability.

Minor Services

187. Provost. It was soon obvious that a provost unit was needed at THUMIER. This was provided on an ad hoc basis; HQ 39 Inf Bde Gp did not have its own provost unit but one was subsequently provided by individual reinforcements, which allowed the ad hoc unit to return to its ADEN duties. The need for a brigade group to have its own provost unit, which works, trains and moves as part of the brigade group was clearly brought out.

188. Pay. A brigade group HQ is not established to provide a field cash office. The requirement for cash facilities for a force operating some distance from its base was soon evident. Payment for civil labour and hire of camels were examples of its work.

189. Postal. 39 Inf Bde Gp had no organic postal and courier unit. Postal services were therefore provided by a detachment from 261 Postal Unit, which was reinforced by 3 men from the UNITED KINGDOM. Although this worked satisfactorily, it is considered that an operational brigade group should have its own postal and courier unit, with which it has worked and trained.

190. Pioneers and Labour. The inadequacy of the pioneer manpower in ADEN to meet unexpected operational demands meant that reinforcements had to be flown in from the UNITED KINGDOM. They filled a useful role in ADEN and THUMIER working with RASC supply personnel, and would be needed for any future operation of this type.

191. A small PCLU detachment (1 officer and 1 sergeant) was needed to control civil labour employed on camp tasks in the THUMIER area and assisting in engineer tasks forward. It was not possible to provide both personnel for a prolonged period from local resources, and a sergeant was obtained from the UNITED KINGDOM. Any operation of this type will require a similar detachment.

192. Catering. A supervising travelling instructor (STI) was needed in the THUMIER area, to advise units based there on the best use of the rations issued. A warrant officer STI was provided from Command resources, but in future operations it is recommended that he should form part of the bde gp HQ.

193. Although the ADEN scale of cooks was not applied, it was necessary to provide more cooks from the UNITED KINGDOM to supplement units who came from the UNITED KINGDOM with insufficient cooks for local conditions.

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SUMMARY OF LESSONS

1. In Cold War operations it is essential that the political aim is widely known, otherwise military operations may get out of phase with political requirements. Political advice must be available constantly to the Commander, if this is to be achieved.
2. Even in a joint HQ there is a tendency for single services to go their separate ways. Unless this tendency is firmly resisted, misunderstandings and mistakes will occur.
3. "Ad hoc" HQs can be formed from the staffs of major HQs, and can effectively control operations for limited periods. They should not be regarded as a permanent substitute for a properly established HQ.
4. Young officers should be trained in the characteristics and organisation of other services, particularly the RAF, at an earlier stage in their career. At present most of this training begins at Staff College level.
5. Successful military operations require accurate and timely intelligence. This was not available in RADFAN and steps are being taken to improve the situation. Ideally, operations should be preceded by planned gathering of intelligence.
6. Deception is as important against a primitive enemy as in major war. The effort and planning involved is rewarded by reduced casualties.
7. Flexible and often improvised administration is important in mountain warfare. Lack of foresight can have irrevocable consequences and alternative plans to cover a lack of SRT, or even MRT aircraft must always be prepared.
8. Helicopters speed up the pace of operations but are only essential in mountain warfare for casualty evacuation. In the face of accurate sniper fire, aerial routes must be made as secure as overland routes, even when air superiority is guaranteed. Without helicopters, operations will take up to three times as long to bring to a conclusion.
9. Map reading and the estimation of time and space problems in mountainous country is difficult. Invariably, commanders tend to be over optimistic.
10. Fundamental tactics have not changed in mountain warfare. Observation, fire and movement is the basis, and possession of the highest ground is the essence. Fire discipline is particularly important, not only to conserve ammunition, but to encourage the enemy to show himself and do battle.
11. Movement by night nullifies the enemy's advantages, but it would be wrong to assume that he will not adapt his tactics accordingly. As his movement by day is increasingly restricted he may be expected to undertake more offensive night operations.
12. All types of aircraft are vulnerable to small arms fire and the risks involved in helicopter assaults onto unsecured LZs must be carefully considered before undertaking such operations. Effective helicopter assaults need far more helicopters than are likely to be available to the British Army

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Belvedere helicopters are unsuitable for troop movement in mountainous terrain. The Scout helicopter is a first class tactical aircraft and gave valuable service throughout the operation in all roles. Many areas could only be reached by Scout helicopter and some casevacs would have failed without it.

13. The ready availability of air and artillery support makes units tend to forget their organic resources. Fire and movement, and organic support weapons are sufficient to overcome minor opposition.

14. Operations against an unsophisticated enemy who has neither air support nor support weapons teaches soldiers bad lessons, which will have to be eradicated in training.

15. The value of FACs is not appreciated until units have need of air support. More emphasis should be placed on FAC training for at least four officers in each major unit. OT artillery fire control training is equally important and has suffered through a very reduced arty orbat in MELF.

16. Mountain warfare in harsh climates is physically exacting. Training should be as tough and realistic as possible, if it is to be of value.

17. Soldiers are taught to shoot accurately up to about 400 yards. In mountain warfare they may well have to shoot effectively to 600 yards.

18. Young officers and soldiers who have no operational experience tend to get carried away by their enthusiasm and to forget their peacetime field training. This was particularly apparent with regard to basic camp hygiene and sanitation, and convoy and traffic discipline.

19. No attempt was made to ration drinking water unless circumstances demanded it. However, when an acceptable minimum requirement for active operations in hot climates was decided, administrative planning was simplified.

20. Armour can be used effectively in selected areas, but it must be given a clearly defined task, otherwise its apparent withdrawal in the face of small arms fire will raise enemy morale.

21. A more robust pack artillery piece, with a greater range than the 105mm pack how, is needed. The 5.5in medium gun was valuable, and its range compensated for its limited mobility.

22. The problem of air safety on the battle field needs careful study, particularly when helicopters are being used for resupply and troop lift. In RADFAN the force was sufficiently small to allow a fairly simple solution, but on major battle-fields the problem will be complicated.

BRIEF POLITICAL HISTORY OF RADFAN

1. The RADFAN tribes, self styled "Wolves of Radfan", occupy an area of some 300 square miles which is bounded by the Amiri (DHALA) and Upper Yafai to the north, by the Amiri and Haushabi to the west, by the Haushabi to the south and by the Lower and Upper Yafai to the east. The centre of the RADFAN area is about 50 miles from the High Commissioner's Office in ADEN.
2. The largest of the RADFAN tribes, the Quteibi, have always been accepted as the leaders of the RADFAN, and it is this tribe which straddles the main trade route in the THUMIER area, from ADEN to DHALA. Mention of the Ahl Quteib may be found in historical documents referring to the Kingdom of Sheba, and Himyar when they controlled the lucrative trade route from INDIA and the FAR EAST to the MEDITERRANEAN.
3. The main pastime of the RADFAN tribes has been to wage chronic and complex tribal feuds amongst themselves and to loot or "tax" from time to time trade on the ADEN/DHALA/YEMEN road.
4. However, it is obvious that a certain sense of unity exists amongst them as they have occasionally acted in concert with each other to protect or advance their common interests, the main of which has been to defend their independence from the external control of the Amir of DHALA. The tribes acknowledge they are friends and allies but not subjects of the Amir who possesses no influence whatsoever over them unless he pays well. In 1928, for example, they rallied round the Amir and fought with their traditional ferocity to drive out the Yemeni invaders. In 1948, they succoured and helped to escape to the YEMEN the Amir Naidera who was wanted by the British and Amiri Governments to answer for his ruthless administration of the Amirate. It was, incidentally, in the 1928 operations that the Radfanis, mainly the Quteibis, were assisted by bombers of the RAF, which explains the presence of an old airstrip in the eastern Wadi TAYM.
5. Little more is known of other Radfani acts of "allegiance" to the Amiri but a great deal can be recorded on their notorious lawlessness. The first recorded incident occurred in 1881 when the Quteibis commenced exacting dues on the DHALA road near THUMIER. The Amir was unable effectually to coerce them and in July 1884, it was found necessary to support him by sending 50 sabres and a few sappers to subdue the Quteibis, which they did and the latter submitted to the Amir. The death of the Amir in 1886, released the Quteibis, so they thought, from their terms of submission, and they resumed their independence and once again levied dues on the DHALA road. In 1888, an attempt was made to obtain from the Quteibis a recognition of the Amir as their suserain in return for which they would be granted, by the Amir, the privilege of addressing recommendatory letters to the ADEN Governor (then Resident) direct. The Quteibis failed to see any advantage in this agreement, and ignored it. In 1892, the Amir again complained to ADEN Government about the restlessness of the Quteibis, and in that year a truce between them and Amir was concluded. Details of the truce are not available nor any information as to whether it was kept. In 1902, the British Boundary Commission visited DHALA with a strong escort force of British, Indian and local troops. In 1903, units of this force had to be despatched to suppress aggression in RADFAN and in the same year, the DHALA garrison were sent again to punish the Quteibis who would insist on cutting the ADEN/DHALA cable laid by the sappers.

The Quteibis had some towers and crops destroyed and the army reverted to heliograph for ADEN to DHALA communications. In 1905 friendly relations were established with the Quteibis after the Sheikh's visit to a Political Officer. In 1907, the Political Agent held a conference in LAHEJ with the Chiefs concerned with the custody of the ADEN/DHALA road. Amongst other decisions the Quteibis were made responsible for the security of caravans and way-farers from DAR-al-QAHTAM northwards past HABILAIN and HARDABA (which the Amir had ceded to the Quteibis) to SAFA HILLYA. It will be noted that, so far, no definite authority had been given to allow the Quteibis to tax that part of the road for which they were responsible. That they did tax, is without doubt and the Sheikh in sharing out this tax could not satisfy everyone. The dissatisfied ones took their own tax by looting.

6. From 1907 onwards, it was rare for a year to go by without some action being taken against them either by local troops or the R.A.F. for some crime against travellers.

7. The Quteibis bitterly resented the lack of a Treaty (Protective with Stipend) with H.M.G. and complained at one time that it was not correct to bomb them without a Treaty. With one - it was quite in order.

8. The 1934 Anglo/Yemen treaty caused H.M.G. embarrassment in connection with the insecurity on the DHALA road. Certain aspects of road safety were discussed at the treaty negotiations and included in the treaty.

9. However, whilst a traveller was safe and secure on the YEMEN side of the DHALA road, (he paid fairly heavily for his safety), he still had to take the chance of being looted, killed or wounded as he travelled through the RADFAN area. Insecurity increased to such a pitch that the ADEN Garrison once again launched a punitive expedition against the Quteibis. The latter were subdued, heavily fined and forced to give hostages. The Amir however, paid the fine for them, and eventually appealed to ADEN for the release of the hostages who were eating him out of house and home in DHALA. Permission to release them was given but the Amir could only get rid of them by paying a large sum of money to them to go away. They went. As a result of all this the Political staff finally in 1937 agreed to allow the Quteibis to collect customs dues for travel on their part on the DHALA road. However, for many reasons a Quteibi customs post was undesirable at THUMIER so it was arranged that a Quteibi clerk should exact these dues at LAHEJ. This arrangement was however allowed to lapse in 1939, probably because the ADEN staff were occupied with the outbreak of the war and also the Quteibis wish to have their customs post in their own territory. It was obvious that they did not trust their collecting clerk stationed miles away in someone else's territory. Subsequently unofficial taxing and looting recommenced on the RADFAN section of the DHALA road, and again punitive action had to be taken from time to time. In 1950, H.M.G. signed a road treaty with the Quteibi Sheikh (the father of the present Sheikh), which allowed that tribe to collect dues at THUMIER in return for security of the road. This was not entirely successful as those Quteibis who did not agree with their Sheikh and other RADFAN tribes, continued to loot not only for personal gain, but also to get the Sheikh into trouble with H.M.G.

10. On the selection of the present Sheikh in 1954, he agreed to take over the H.M.G. road agreement.

Within a few days of his doing so, a traveller was killed within a few yards of THUMIER. The culprit was the present Quteibi arch-dissident, SAIF MUQBIL, who merely wanted to get the new Sheikh into trouble, and show his disapproval of his tribe's sheikhly selection. The Sheikh then appealed unsuccessfully, for a small section of Tribal Guards to help him secure the safety of the road. Sporadic insecurity continued until the 1961 action against the Quteibis when their customs post was taken away from THUMIER and returned to LAHEJ. With the advent of financial compensation in lieu of the customs collection the problem as to where the post should be, no longer existed. Insecurity on the road did however. Yemeni and Egyptian subversion have now brought about the current RADFAN situation.

Appendix 1 to Annex A to
RADFAN Report

COPY

Annex D to Force HQ
17501 G(Ops) dated
29 Apr 64

POLITICAL DIRECTIVE

1. POLITICAL REQUIREMENT

To bring sufficient pressure to bear on the Radfan tribes:

- (a) to prevent the tribal revolt spreading to other areas;
- (b) to reassert our authority;
- (c) to put a stop to attacks on the Dhala road and Thumier.

In present circumstances, the technique of aerial proscription, which is the only method that has in the past proved itself effective in dealing with tribal revolts, is denied us. New and alternative means of bringing pressure to bear on the tribes must therefore be adopted.

2. ALTERNATIVE MEANS OF BRINGING PRESSURE TO BEAR

- (a) Ground proscription. A tribal area is marked on the map. Pamphlets (or other form of advance warning) are delivered proscribing the area and telling the tribesmen to remove themselves.
- (b) See paragraph 3 C for areas that have not been proscribed.

All means adopted of bringing pressure to bear on the tribes should be aimed at producing one of the following reactions:-

- (i) to make life so unpleasant for the tribes that their morale is broken and they submit;
- (ii) to draw them into a militarily unfavourable position so that we can inflict heavy casualties.

It is essential to change tactics and objectives frequently, and repeat operations should be undertaken at irregular intervals. The effectiveness of punitive action, and the length of time for which it remains effective depend almost entirely on the firmness with which it is conducted. It is important, however, that our troops should not suffer heavy casualties or become committed to static positions from which they eventually have to withdraw; both would be claimed by the rebels as victories.

3. POLITICALLY ACCEPTABLE USES OF FORCE, ETC

Dissidents are accustomed to troops moving in to their area, presenting themselves as targets and suffering casualties (for which the dissidents are duly rewarded), and then withdrawing after a couple of inconclusive engagements. This sort of thing does not worry the dissidents. Firmer action is now required, and our troops must take punitive measures that hurt the rebels, thus leaving behind the memories that will not quickly fade.

The Rules that follow distinguish between areas which have been proscribed and those which have not. They attempt to provide for the most likely eventualities, but cannot of course be exhaustive. It is hoped, however, that they give sufficient guidance for the first phase of operations, and that local commanders and political officers will be able to interpret them suitably as and when other situations arise. Suggested amendments and additions will be welcomed at any time during the training or operational phases. The rules are intended to indicate the maximum use of force that is politically acceptable in the various sets of circumstances envisaged. Conversely they also suggest the minimum use of force that is likely to achieve the political requirement.

RULES

- A. General. Air, artillery and other support weapons may be used to the maximum extent necessary (a) against true military targets and (b) to ensure the safety of our own troops.
- B. In Proscribed Areas
- (i) Hostile Movement. Since the entire population has been warned to vacate the area, all movement of any kind in the open (i.e. human or animal) should be treated as hostile and engaged - in the first instance normally by infantry and infantry support weapons. (Clearly, however, deliberate casualties to women and children should be avoided if possible).
 - (ii) Helicopter Landing Zones: Since the safety of our troops is involved, Rule A applies.
 - (iii) Abandoned Villages: Confiscate property, burn fodder, destroy grain, grain stores and livestock.
 - (iv) Hostile Action from Garrisoned Villages: At first sign of hostile action, infantry support weapons or artillery to reply with moderate fire for short period. Whenever possible final warning (by leaflet, runner or loud-hailer?) to be given to evacuate village. If warning is complied with -
 - (a) do not fire on those leaving village unless they fire first;
 - (b) screen adult males (if any are caught or surrender) disarm them remove leaders for interrogation and detain any worthwhile hostages;
 - (c) then treat as abandoned village as in (iii) above;
 - (d) give any prisoners who are not wanted a time limit to get out of proscribed area.
- If warning is not complied with, decide whether it is practicable to assault village (Course X); if not Course Y.
- Course X. Since the safety of our troops is involved, Rule A applies. Casualties to women and children must be accepted. When village has capitulated,
- (a) screen prisoners, disarm them, remove leaders for interrogation and detain any worthwhile hostages;

- (b) then treat as abandoned village as in (iii) above;
- (c) give any prisoners who are not wanted a time limit to get out of proscribed area.

Course Y. Keep up harrassing fire with infantry support weapons or artillery.

- (v) Passive Garrisoned Villages: Draw fire or use moderate fire from infantry support weapons or artillery for short period. Then proceed as in (iv) above.
- (vi) Standing Crops: Destroy.

NOTE: (iii) and (vi) above may in certain circumstances bring discredit in local eyes on the troops carrying them out. The political officer should if possible be consulted before embarking on them.

C. Outside Proscribed Areas: Various tactics such as:

- (a) Curfews
- (b) Ambushes
- (c) Decoys and traps

will no doubt suggest themselves. The only one that needs comment is

- (d) Cordon and Search,

for which three sets of circumstances can be envisaged

- (i) Where there is no resistance, screen inhabitants, remove leaders for interrogation and detain any worthwhile hostages.
- (ii) If village is abandoned, treat as in B(iii) above (see also note at end of B).
- (iii) If resistance is offered, proceed generally as in B(iv) above, omitting references to prisoners leaving proscribed areas.

Appendix 2 to Annex A
to RADFAN Report

LEAFLETS

1. Leaflets were used to publish details of military control areas.
2. Such leaflets were drafted by the British Agent and Assistant High Commissioner's Office, AL ITTIHAD and dropped by Shackleton and occasionally Hunter aircraft at least twenty four hours before military control operations started.
3. Areas were delineated by reference to tribal areas and well known land marks. These were then marked on a map so that pilots could be briefed for the task. A typical leaflet is translated below:

"To all the BAKRI people and to the HUIJAILIS who live on top of the mountain.

Let it be known to you that for the maintenance of law and order the Federal Government has declared the district in which you live to be an area of military movement. For your own safety you should therefore leave the district by dawn tomorrow, taking your women and children with you."

4. The following leaflet drops were carried out:

<u>Serial</u>	<u>Date</u>	<u>Area</u>	<u>Codename</u>
(a)	(b)	(c)	(d)
1	5 May	DHANABA BASIN	-
2	9 May	Wadi TAYM	-
3	20 May	BAKRI RIDGE	BUFFALO
4	22 May	area west of Wadi BANA	CARTHORSE
5	24 May	Wadi MISRA	-
6	28 May	GHAZZALI tribal area	OMNIBUS
7	31 May	IEDALI tribal area	RAMROD
8	16 Jun	HUIJAILI tribal area	UPPERCUT

Note: By the end of Phase III of the operation, virtually the entire RADFAN area, except the ASHAFI and DHANBARI tribal areas had been made subject to military control.

Appendix 3 to Annex A
to RADFAN Report

PSYCHOLOGICAL OPERATIONS

1. Political direction throughout the operation was available to the Brigade Commander through an Assistant Political Adviser who was attached to his Headquarters. Close liaison also existed between the High Commission and Headquarters Middle East Command.
2. Political policy remains one of deliberate inflexibility designed to force the main tribes, through their leaders, into submission. Overtures both direct and indirect, from less influential dissidents have been listened to, but it has been made clear to them that rigorous pressure will be maintained throughout the whole RADFAN area until the principals submit or large scale surrender of personal arms and ammunition takes place. Meanwhile, refugees have been given no more than a bare subsistence allowance to ensure that other tribes elsewhere in the Federation are not led to conclude that dissidence pays off.
3. The policy of "big stick and no carrot", which previous experience has shown to be the right one in South Arabia, naturally severely restricts the scope of psychological operations. It has been agreed, however, that pacification of the area will not be consolidated until the Armed Forces have demonstrated that their presence is not purely destructive but can also lead to material benefits locally. With this end in view, and once again to ensure that no impression is given that dissidence pays, military engineer effort is now being diverted to an adjacent area, ALAWI, where, under political direction and on the advice of the Chief Agricultural Officer, plans for agricultural engineer assistance connected with irrigation are now nearing completion. This effort is to be extended as and when additional supplies and plant, including a well-boring team, arrive from the UK in the course of the next three months.

INTELLIGENCE

Background

1. RADFAN has a long history of insurrection, stemming basically from an inherent reluctance to submit to central authority, combined with a fluctuating degree of encouragement and assistance over the years from the YEMEN and more recently from the Egyptians. Following the Republican coup in the YEMEN in Sep 62, the Yemenis no doubt hoped for early British recognition to smooth their path to power. When it became apparent that this was not forthcoming, age-old enmity hardened and the Yemeni policy of encouraging dissidence within the Western Aden Protectorate was resumed.

2. Republican efforts were, however, impeded by increasing internal troubles. There is little doubt that the RADFAN disorder would not have reached its present scale had not the Egyptians decided to take an active part in subversion within the Federation. But they, like the Yemenis in the past, have been hampered by:

- a. The dissidents' inherent dislike of centralised control and leadership and their reluctance to work together.
- b. The reluctance of Yemeni border tribes to attract attention to themselves by allowing their tribal areas to be used as dissident supply and reinforcement bases.
- c. Disputes over the issue of arms and money which in many cases have been used for personal or tribal purposes.

The Egyptians may wish to work to an overall plan but, in practice, probably have to exploit success where they find it. Their first real opportunity came in RADFAN.

The Tribes of RADFAN

3. There are in RADFAN six major tribes, living normally within their own tribal areas. Tribal strengths are at Appendix 1. These tribes are traditionally independent and do not acknowledge a central authority; their territory has never been administered, either by the British or by the neighbouring Amirate of DHALA. However, a certain sense of unity sometimes appears when the tribes act to protect or advance their common interests, usually to prevent the Amir of DHALA from extending his suzerainty over their area.

4. The Quteibi, the predominant RADFAN tribe, are the most developed, due to their proximity to the DHALA road and to their superior fighting ability. THUMIER is the main Quteibi village. The area is poor and the last two harvests have been bad. In former days the ADEN - DHALA road provided the Quteibis with their main source of revenue, through the collection of tolls, sometimes officially permitted, but more often unofficially extracted. They also indulged in the hire of camels, the looting of camel trains and the robbing of travellers. When motor vehicles replaced camel trains, the tribes lost one source of income. Financial compensation replaced customs collection but insecurity on the road continued and between early Feb and the end of Apr 64 there were 15 mining incidents.

UAR/YAR Involvement

5. For many years the Yemenis have fostered trouble in the Protectorates. Large scale involvement of the Egyptians in subversion appears to date from a series of mine and grenade incidents near SANAA in Sep 63 in which a number of Egyptians were killed. They placed the blame for this and for their declining fortunes in the YEMEN on the British, and stepped up the training, arming and encouragement of Protectorate dissidents, backed by a mounting barrage of propaganda from SANAA and CAIRO radios. They also positioned officers in QATABA, BAIDHA and TAIIZ to plan subversion in the Federation.

6. Since Nov 62 service in the Yemeni National Guard (YNG) has been the principal source of income for the Radfanis and the RADFAN has been the main area of the Protectorate from which YNG recruits have been drawn. It is estimated that there has been a maximum of 1,000 Radfanis under arms in the YEMEN at any one time. They have served there for about four months and been allowed to return with their arms. Some have done two tours of service. A pool of potential dissidents was thereby created, prepared to react to instructions from the UAR/YAR when they were told and suitably bribed to do so.

7. In Oct 63, Rajih Ghalib Labuza, a Quteibi tribal leader, was killed by security forces, and his death aroused even more anti-Government feeling among the Radfanis. In early Nov Saif Muqbil, a Quteibi dissident leader, returned to RADFAN from the YEMEN and set about trying to make truces between the tribes. It was at first thought that his aim was to recruit more levies for the YEMEN but in mid-Dec he and some 200 men, of whom half were said to be Quteibis, started to shoot up THUMIER by day and night, and hold up vehicles on the ADEN-DHALA road; Operation Nutcracker was launched in Jan 64 to open up the RABWA pass. It was a military success, but for political reasons the FRA was withdrawn from RABWA at the end of Feb and the situation reverted once more to lawlessness. The Radfanis claimed victory and dissident morale received a fillip which the Egyptians quickly exploited.

The State of our Intelligence

8. The pattern throughout the Federation has always been that when dissidents gain control in an area, information is hard to get. Sources, who will normally report, are frightened to do so and so intelligence dries up. In any case information is rarely timely. In RADFAN this was accentuated because the area is unadministered and largely unexplored. The situation at the start of the RADFAN operations was therefore that little current intelligence was available, as, by mid Apr 64, the dissidents had managed to impose a security screen around the area and dominate the non-committed tribesmen. Such information as was available, mainly on arms and people entering the area, was usually vague, but pointed to the fact that supplies were coming into RADFAN from the YEMEN in comparatively large quantities.

9. Once operations started and our own troops were clearly seen to be getting the better of the rebels, some intelligence started to flow in, but;

- a. There has been little close contact with the enemy and virtually no penetration of his base areas.

- b. The prisoners who have been captured have been of low calibre and have produced little of value.
- c. Many reports, particularly on supplies entering the area have been received too late to be of real value.

10. Intelligence therefore, from within RADFAN itself, is still hard to come by. The principal sources remain those from adjoining areas and battle intelligence from forward troops. Owing to lack of detailed maps it was often difficult to locate place names; new maps have been issued and the situation has improved, though it is still not entirely satisfactory.

The Rebels

11. Strength and Organisation. It is not possible to estimate precisely how many rebels have been or are still operating in RADFAN. There are probably 15 - 20 hard core organisers. On call there may be up to 200 full-time dissidents, probably motivated more by personal gain than are their hard-core comrades. Otherwise numbers have fluctuated with the barometer of success. When morale was high the number available at any one time including local tribesmen could have been as great as 2,000 but in early May the total dissident strength was probably about 700 men. By mid-Jun it was probably considerably less but there is no reliable evidence on which to base exact figures. Confirmed enemy casualties total about 85 but probably many more have been killed or wounded.

12. In late Apr and early May, it was thought that there were about 200 full-time dissidents operating as a specially trained uniformed force, regardless of tribal boundaries. Since then there has been no evidence to support this assumption. Dissident tactics have followed the normal tribal pattern, although they have been better armed and trained than in previous years. The wearing of khaki 'uniforms' appears now to have no real significance; those dissidents who had served in the YEMEN were probably allowed to retain their Yemeni National Guard uniform.

13. The size of dissident gangs has generally been about 25, even when they were brought to battle in the Wadi DHUBSAN. For a short time, on 8 Jun, two groups appeared to combine to give a total strength of about 50 and in an engagement with 22 SAS on 30 Apr more than 50 men were involved.

14. Locations. At the start of the operation parties of dissidents were probably in all the tribal areas of RADFAN. As the TAYM area and later the BAKRI RIDGE were cleared, the rebels fell back to the GHAZZALI area, where they are thought to have supplies hidden in caves. The present location of the majority of the rebels is uncertain. Continued air and ground control operations over the whole area, eastwards to the YAFFA borders have failed to locate them in significant numbers. Had they retired to the YEMEN, intelligence sources would probably have reported it; none have done so. It is probable that some are still in caves in the GHAZZALI area, which although subject to air control has not yet been effectively penetrated by ground forces. It is possible also that at least some have retired to unadministered YAFFA, where there is again only meagre intelligence cover. There have too been indications that some are still operating from the eastern end of the Wadi TAYM, possibly based on HALMAYN territory to the north.

15. Arms and Equipment. The rebels have used rifles, machine guns and anti-tank mines and there have been persistent reports of at least one mortar. There have been reports of HMGs on AA mounting, anti personnel mines, and bazooka type weapons, but these have not materialised in battle though our aircraft have been shot at. The size of the rebel armoury is impossible to estimate with any accuracy. Some weapons are undoubtedly being secreted by the dissidents for their future personal and tribal feuds. Captured weapons have been old 'muskets' or more modern rifles of western manufacture; from evidence of spent cartridge cases Russian and UAR manufactured arms and equipment are undoubtedly being used.

16. At the beginning of the RADFAN operations, it was believed that the rebels were communicating with QATABA by wireless. Careful checks have failed to confirm this, though the possibility cannot be entirely ruled out. Some interference of wireless nets has occurred and this probably originated from the YEMEN, presumably under the auspices of the UAR.

17. Tactics. Apart from one unexpected hand-to-hand fight with the SAS the dissidents have mainly followed the usual tribal practice of ambushes and long range sniping. Defended positions have not been held as long as they might have been, ~~reconsidering their~~ careful preparation, which includes overhead cover. All positions and ambushes have had good get-away routes. Some rebel parties appear to have had leaders trained in infantry tactics, which may confirm other reports that some dissidents have had training in the YEMEN, and possibly even in the UAR.

18. Supply Routes. (See Sketch Map Appendix 4) Initially, rebel supplies came direct from QATABA to RADFAN through HALMAYN country; this is the shortest and most direct route. Once operations started more circuitous routes avoiding main centres of population had to be taken. Probably the most used was from JUBAN in the YEMEN down the Wadi BANA, though a western route from TAIZ down Wadi MAKRAH and skirting AL MILAH has also been employed. Recently however, military and air control operations have made the movement of supplies increasingly difficult on the old routes and it is known that a longer and more difficult route from BAIDHA through YAFFA has been introduced. It is also possible, though stoutly denied by the Halmaynis, that some supplies are still getting through their country.

19. In trying to pin point rebel supply routes, it must be stressed that these can only be stated in very general terms. Each route has many parallel and side wadis, which can easily be used by camel trains if it is suspected that the more direct or usual route will be subject to interdiction or ambush.

Intelligence Support

20. Planning. Successful military operations require accurate and timely intelligence. This was not always available, partly due to the reasons given in paras 8 - 10 above, but also because there was delay in the provision of proper Military Intelligence backing.

21. Intelligence Staff. There was no intelligence officer in G Branch, Headquarters Middle East Land Forces; this vacuum was initially filled by briefings given by the GS02 (Int) HQ FRA and subsequently a GS02 (Int) was posted temporarily to G Branch from MOD (Army).

22. The original ad hoc HQ Radfan Force was understaffed and had no trained intelligence officer nor an Intelligence Platoon. This was rectified with the arrival of HQ 39 Inf Bde Gp and its Intelligence Platoon, which undertook the routine intelligence work which had inevitably been neglected by the busy operational staff.

23. PW Interrogation. By the end of Jun, forty tribesmen had been apprehended in RADFAN. Only one of these was positively identified as a dissident; he was killed whilst attempting to escape. The other thirty-nine were interrogated and handed over to the political authorities. Interrogation was, except in very few cases, carried out at HQ Radforce/HQ 39 Inf Bde Gp. A rudimentary PW pen had been set up at the beginning of the operation and in due course this was replaced by a properly planned cage which allowed for segregation of suspects and more efficient interrogation. Initially, one Arabic trained sergeant interrogator from CI Company (WELF), who was attached to Force HQ in THUMIER and one Flt Lt RAF were available for this work. A second Arabic speaking sergeant became available in late May. For an operation of this sort, the Services in Middle East are woefully short of interrogators and Arabic speakers. None of the prisoners in fact produced information of significant military value, because they were in the main ignorant tribesmen. No hard core dissident has been captured.

24. Captured Documents. Large quantities of documents were found in deserted villages, but again nothing of military interest has evolved from them. After perusal by HQ Middle East Command for military intelligence, all documents were forwarded to ADEN Intelligence Centre for detailed examination.

25. Air Photography. Air Photography has played a major part in the RADFAN operations. Details are at Appendix 2. The load of work undertaken by the Photographic Intelligence Section of Joint Staff Intelligence and by the Command Photographic Centre highlights the need for a JARIC in Middle East Command.

SAS OPERATIONS

26. Climate, terrain, supply difficulties and the tasks given them meant that SAS patrols could stay out only for a maximum of 5 - 6 days. This was not enough to produce significant intelligence although some indication was obtained of enemy movement, tactics, weapons and morale. Observation and reporting of enemy movement provided targets for air and artillery.

APPENDICES

27. The following Appendices are attached:

- | | |
|------------|-----------------------------------|
| Appendix 1 | Summary of RADFAN tribes |
| " 2 | Air Photography |
| " 3 | Report on Underground Arms Cadres |
| " 4 | Sketch Map - Rebel Supply Routes |

Appendix 1 to Annex B
to RADFAN Report

Summary of RADFAN Tribes

<u>Tribes</u>	<u>Sub-divisions</u>	<u>No of Males</u>
(a)	(b)	(c)
1. Quteibi	Ahl Akhren	100 men
	Ahl Ghasal	150 men
	Ahl Ashaf	150 men
	Ahl Isou	150 men
	Ahl Shihi	100 men
	Ahl Bige	100 men
	Ahl Warida	400 men
	Ahl Garraw	150 men
	Ahl Masud	150 men
	Ahl Asab	70 men
	Ahl Tein	40 men
	Ahl Absar	200 men
	Ahl Hayad	80 men
	Ahl Hazal	60 men
		<u>1,900 men</u>
2. Ibdili	Ahl Shuaib	150 men
	Ahl Qanar	250 men
	Ahl Salmi	150 men
	Ahl A'atuf	100 men
	Ahl Jabeeh	60 men
	Ahl Sa'id	30 men
	Ahl Gahzar	80 men
	Ahl Surein	60 men
	Ahl Barkhan	70 men
	Ahl Badu	100 men
	Ahl A'bbas	50 men
	Ahl Sheikh	120 men
	Ahl Sulmeir	30 men
		<u>1,250 men</u>
3. Hujaili	Ahl Ubaid bin Ho'anas	100 men
	Ahl Farid	80 men
	Ahl Hodawan	150 men
	Ahl Aaker	80 men
	Ahl Salah	100 men
	Ahl Qirur	50 men
	Ahl Qina'a	120 men
	Ahl Mishal	60 men
	Ahl Kouscoush	90 men
	Ahl Daiban	50 men
	Ahl Aoyar	40 men
	Ahl Said	60 men
		<u>1,060 men</u>

<u>Tribe</u>	<u>Sub-divisions</u>	<u>No of Males</u>
(a)	(b)	(c)
4. Bubakr	Ahl Sharab	150 men
	Ahl Umar	100 men
	Ahl Hasab	150 men
	Ahl Hamud	60 men
	Ahl Aswad	60 men
	Ahl Shiri	30 men
	Ahl Mansur	30 men
	Ahl Handum	<u>30 men</u>
		610 men
5. Da'ari Al Harath	Ahl Hadhrani	150 men
	Ahl Ghuseil	100 men
	Ahl Koshishi	<u>50 men</u>
		300 men
6. Da'ari al Hajuf (offshoot of Da'ari at Harath, above)	No altogether	<u>100 men</u>
7. Dhanbari	Ahl Shaib	50 men
	Ahl Muhammad	100 men
	Ahl Kor	80 men
	Ahl Dahook	50 men
	Ahl Radfan al Kadhun	50 men
	Ahl Said	<u>50 men</u>
		380 men
8. Mahla'i	No altogether	<u>100 men</u>
9. Nazabis	No altogether	<u>50 men</u>
10. Soiyde (living with various sub-divisions above)	No altogether	<u>260 men</u>
	Total Radfan Males:	<u>6,010</u>

Total Radfanis approximately: 27,000

Appendix 2 to Annex B
to RADFAN Report

AIR PHOTOGRAPHY

1. During the first five months of 1964, the number of prints produced by the Command Photo Centre for the Photographic Interpretation Section exceeded the total output for 1963. Two-thirds of this year's prints have been produced since the start of the RADFAN Operation.
2. PR Canberras have flown 24 sorties over RADFAN. From these sorties, and from existing photography, 45,084 contact prints, 1,392 mosaics and enlargements and 168 reproductions of photos have been produced, making a total of 46,644 prints.
3. FR Hunters have flown 85 sorties, producing 23,500 feet of film. 4,258 prints have been made from 1,080 negatives.
4. The Photographic Intelligence Section consists of only two photographic interpreters. JARIC (NE) provided a third interpreter when demands on the section were greatest.

Appendix 3 to Annex B
to RADFAN Report

Extracts from a Report on Subterranean Arms Cadres

1. General. Information has been received that many RADFAN villages have concealed subterranean silos which are used for the storage and concealment of arms, ammunition and grain stocks during periods of tribal/village emergency.
2. This report has been confirmed by patrol activity. Patrols discovered 15 such silos in DHANABA village (9203); one in SUWAD (9104) and three in SAFA (9202).
3. Description. All the subterranean silos examined were built to the same design, with slight local variations from village to village.
4. The average silo is in the form of an oblate spheroid cavity, excavated below ground level, with a very narrow stone-walled shaft or neck connecting it with the surface.
5. The dimensions are as follows:
 - a. Depth - 10 to 12 feet.
 - b. Width at widest part - 6 feet.
 - c. Entry shaft or neck - 18 to 24 inches wide and extending 2 to 3 feet below ground level.
6. The bottom of the silo is usually lined with a hard clay or plaster inner shell which keeps the contents dry.
7. For security and concealment the bottom of the shaft or neck is closed by large flat stones, and, above them, the shaft is filled with soil. This soil filling is usually continued above ground level to cover and conceal the stones lining the shaft.
8. A sectional diagram is attached.
9. Location. These silos have been used for centuries by the MAHLAI, HUJAILI and DA'IRI tribes, and they are probably used by other RADFAN tribes.
10. All silos found so far have been located outside the villages, at distances varying between 5 and 100 yards from the nearest house of the village.
11. Due to the nature of their construction, the silos are often found in an area of friable bedrock or other rocky outcrop (the brittle rock is obviously easier to work by primitive means, and soft soil would be liable to cave in).
12. In rare cases the location of the silos can be seen by one or more of the stones forming the head of the shaft showing above ground.
13. The method of locating silos which has been found slow but effective is to have a patrol armed with pickaxes go slowly over a belt 100 yards wide around a village feeling for the head of the shaft.

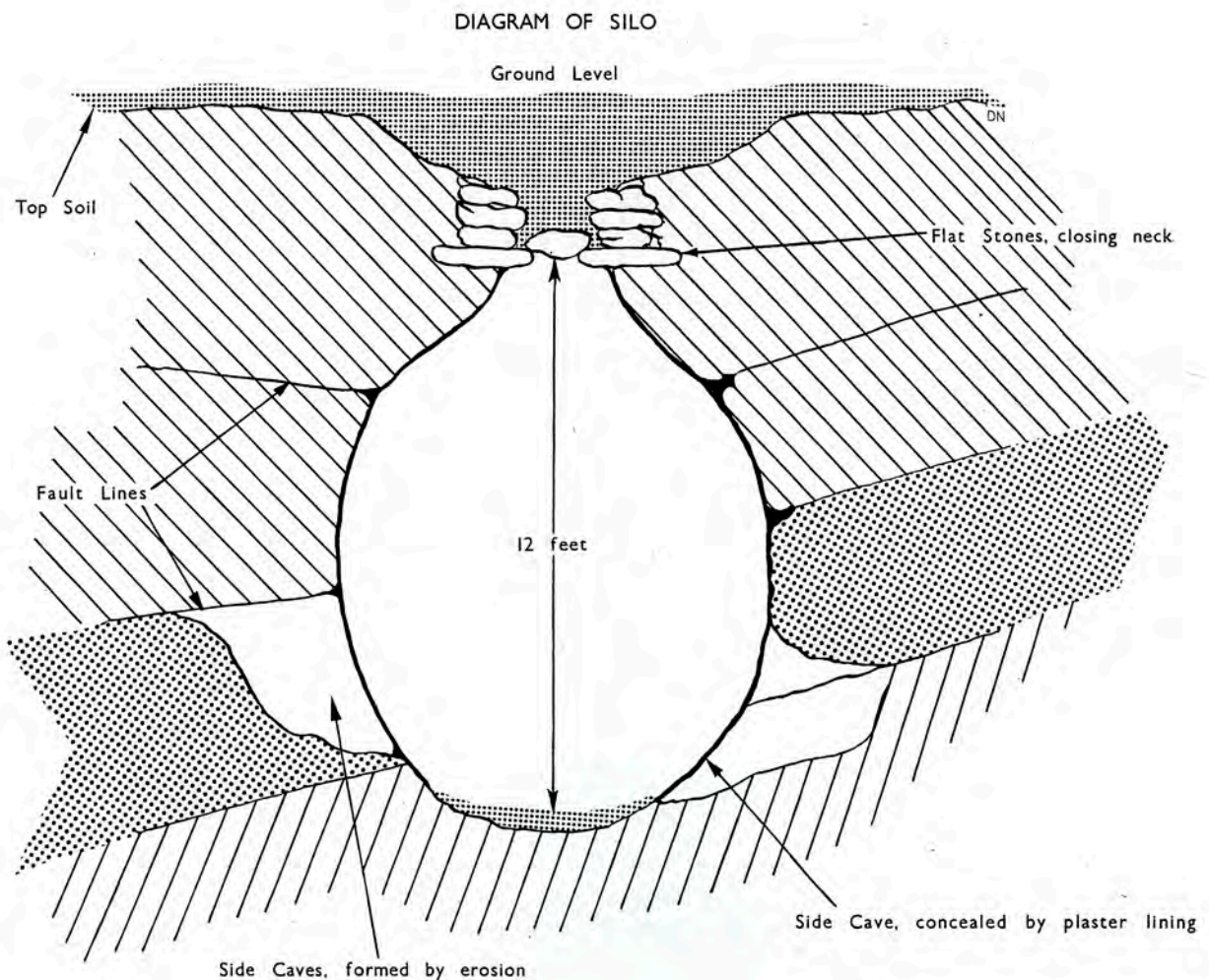
14. Other Characteristics. Where there are existing fault lines in the rock, secondary niches or hiding places have developed by erosion over the ages. These niches cannot be searched for arms by the simple means of lowering a torch, and it is recommended that the shaft be widened by explosive until a man can be lowered to search the silo thoroughly.

15. These subterranean silos can contain unlimited quantities of arms, foodstuffs and ammunition. It is calculated that each has an average capacity of 300 cubic feet.

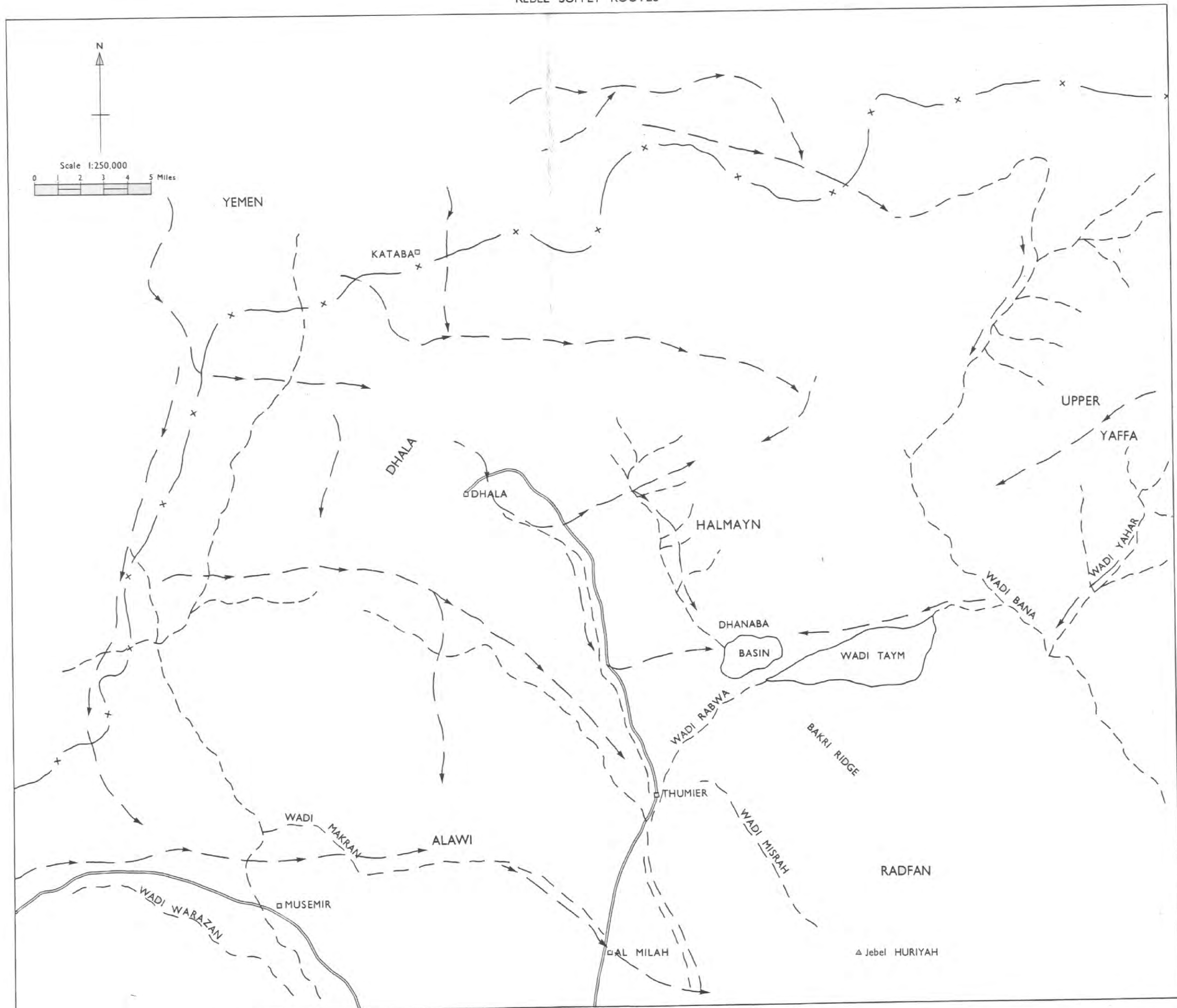
16. Even the tribesmen find it a long job to open a silo, to lower a boy on a rope, and to haul up the contents piecemeal via the narrow shaft, after which the neck must be filled in again and concealed.

17. A probable explanation for the lights seen by night in unoccupied villages and the discovery by patrols of fresh grain in burnt-out houses, is that the dissidents are opening their silos by night to draw on their stocks and are caught by dawn before they can carry the more bulky items away.

18. While these silos exist the tribesmen have at their disposal adequate supplies of ammunition and food.



REBEL SUPPLY ROUTES



PUBLIC RELATIONS

1. Public interest in the joint operations in the RADFAN mountains was so great that it became necessary to open a Press Centre at Headquarters Middle East Command to deal with the requirements of the large number of visiting Press, Radio and TV correspondents. A Press Camp, with overnight accommodation and messing facilities, was set up at the Force Headquarters at THUMIER, and the Joint Public Relations Staff remained open twenty-four hours a day for over a month dealing with Press enquiries and facilities.
2. All this fell into line with the public relations policy of giving the Press every reasonable assistance to report the operations in an objective and accurate manner. This policy paid dividends in terms of goodwill, and was generally reflected throughout in the great volume of Press, Radio and TV publicity, highlighting the activities of the Forces, and projecting an image of British Servicemen carrying out a constructive task under difficult conditions.
3. An assessment of these results is now being carried out from which it is clear that the Middle East Command Forces have received greater coverage on TV at home and overseas than they have ever done before.
4. Against the general run of favourable publicity generated for the three Services, and the Federal Regular Army (whose public relations were handled almost exclusively by the JPRS with particularly good results on the Arabic Service of the BBC and the South Arabian Radio and in the local Arabic Press) hung a backcloth of sensitive political problems in which the Forces inevitably became entwined, and the exploitation of these produced publicity of an adverse nature which could not easily have been avoided at the time.
5. It had, of course, been recognised that, in providing facilities for the Press to give full coverage to the operations, there was a risk that certain aspects would be open to criticism, and that political problems might be exposed and dragged out into the open. It was decided, however, that this risk had to be taken as the only alternative would have been to impose restrictions, a policy which would not only have had far-reaching effects on the goodwill and co-operation that exists between the Forces and the Press, but would have also had an adverse effect on the coverage of the operation itself.
6. The implementation of such a negative policy would have undoubtedly created far more problems and difficulties than actually occurred, and was quite clearly unacceptable.
7. An indication of how the Press would have reacted to any unreasonable restrictions may be gained from the fact that when a 3-day pause on Press visits to the forward areas was extended by 24 hours, a party of correspondents, who refused to believe the very good reasons given for this, hired civilian transport and made their own way up to discover what was being concealed from them. After a long, dusty journey by road at their own expense, they were disappointed and irritated to find that the Forces had nothing to hide.

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8. Press visits to the forward areas were arranged almost daily by the JPRS, usually by air but occasionally by road convoy. A total of 349 press visits were organised for 68 local and visiting Press, Radio and TV correspondents from GREAT BRITAIN, FRANCE, GERMANY, KENYA and the UNITED STATES, and 86 overnight stays at Force Headquarters were made. In ADEN, a steady flow of news and background information has been produced, and altogether 81 official communiques, totalling over 13,500 words, have been made. The information contained in these has been widely used by the Press, and, in addition, 3,500 captioned photographs have been produced, some of which were published in British national and overseas newspapers.

9. The JPRS also provided dark-room facilities for visiting photographers who wished to radio pictures to LONDON; despatched film for TV correspondents; filed copy for agency men and other reporters staying up country; met correspondents at the airport; made hotel bookings and provided transport; and arranged 69 group and individual briefings, and Radio and TV interviews with Commanders, other officers and troops, in addition to the scores of individual briefings given by PR officers themselves.

10. In one period of 24 hours, when the Press interest was at its peak, 132 press enquiries were dealt with on the telephone. PR reinforcements were called forward from GREAT BRITAIN and KENYA to assist, but most arrived too late to relieve the strain on the members of the permanent staff who were working under very considerable pressure throughout the whole operation, but particularly during the first ten days.

Annex D to RADFAN ReportFORCE BUILD UP AND REINFORCEMENT

1. In the early stages of the operation it became apparent that a considerable reinforcement of MELF would be necessary. It was possible with the concurrence of PRPG, to withdraw elements of 3 PARA battalion group from LFPG for limited periods. Within the Command certain minor unit moves were also ordered from BLFK, but moves of major units were not permitted.
2. Most of the units and individual reinforcements required, had therefore to be found from outside the Command. It is appropriate to record here our appreciation of the understanding way in which calls for help were received by MOD(Army). All reinforcement matters were dealt with very promptly, and in almost every case our bids were met in full.
3. A summary of the units and individual reinforcements which were provided is at Appendix 1. These are listed in the order in which they arrived, and unless otherwise stated all came from the UNITED KINGDOM.
4. The time spent in operational areas by units/sub units is shown at Appendix 2.

Appendix 1 to Annex I
to RADFAN Report

REINFORCEMENT OF MELF

SER	UNIT/INDIVIDUALS	DATE OF ARRIVAL	REMARKS
(a)	(b)	(c)	(d)
1	B Coy 3 PARA	21 Apr	From LFPG. Coy returned to BAHREIN on 11 May.
2	A Sqn, 22 SAS	24 Apr	Originally visiting MELF for training. Sqn returned to UK on 25 May.
3	1 KOSB	2 - 4 May	
4	Sect I Bty, 7 PARA Lt Regt RHA.	5 May	From LFPG
5	HQ 39 Inf Bde Gp and 213 Sig Sqn.	6 May	
6	GS02(INT) for Army element of Command HQ.	7 May	
7	Tp 34 Indep Fd Sqn	6 - 7 May	From BLFK
8	a. One comp Pl RASC b. One Air Sup Con Sect c. Two Air Sup Sects d. One Transit Sect e. Two pioneer sects	7 May	
9	a. Ops Room Staff for Army element of Comd HQ. b. Individual rfts for HQ 39 Inf Bde Gp and THUMIER base.	9 - 10 May	Incl one GS03 from BLFK (HQ 24 Inf Bde Gp)
10	a. 3 PARA less two coys b. Tp 9 Indep Para Sqn RE.	12 - 14 May	From LFPG. Returned to BAHREIN 30 May.
11	Additional PR Staff	13 May	
12	a. One pl, 60 Coy RASC b. Aslt pl, 1 Inf Wksp c. 24 OFP	15 - 17 May	From BLFK. Sea tails arrived 26 May.
13	a. 1 RS b. 3 Indep Fd Sqn	21 - 24 May	Sea tails arrived 16 Jun.
14	Sect 170 Med Bty	22 May	From FARELF in HMS CENTAUR.
15	Tp, 4 RTR	23 May	From Sqn based at SHARJAH.
16	Sect HQ 39 Inf Bde Pro Unit	28 May	Unit underimplemented when despatched from UK.
17	Fd Cash Office	31 May	For THUMIER base.

SER	UNIT/INDIVIDUALS	DATE OF ARRIVAL	REMARKS
(a)	(b)	(c)	(d)
18	Individual REME rfts	6 Jun	1 offr and 30 ORs
19	Individual R SIGS rfts	17 Jun	21 ORs
20	a.Fd Pk Sqn dets and plant b.Six STALWARTS and crews.	23 Jun	In LSL Sir LANCELOT on maiden voyage from UK
21	Individual ACC refts	25 - 27 Jun	18 ORs

Appendix 2 to Annex D
to RADFAN Report

UNIT SUB/UNIT	PERIODS SPENT IN OPERATIONAL AREAS
ad hoc FORCE HQ (incl admin element)	20 Apr - 11 May
HQ 39 INF BDE GP (incl admin units)	11 MAY - to date
<u>ARMOUR</u>	
16/5 L Sabre Tp Recce Tp	15 May - 30 May 15 May - to date (incl six day rest period, by sects, in ADEN)
4 RTR D Sqn C Sqn B Sqn	25 Apr - 20 May 20 May - to date 24 May - 28 May
<u>ARTY</u>	
J Bty 3 RHA (less one sect) one sect (Bull's Tp) 7 PARA RHA one sect 170 Med Bty	19 Apr - to date 10 May - to date 24 May - to date
<u>ENGR</u>	
2 tp 12 Field Sqn 1 tp 12 Field Sqn 2 tp 34 Indep Field Sqn 3 tp 9 Para Sqn 3 tp 12 Field Sqn 3 Indep Field Sqn Det 261 Courier & Postal Unit Det Engr Stores Section, Ord Depot ADEN	19 Apr - 12 May 28 Apr - 13 May 9 May - to date 16 May - 29 May, 10 Jun - to date 17 May - 29 May 25 May - to date 25 Apr - to date 20 May - 23 Jun
<u>SIGS</u>	
254 Sig Sqn 603 Sig Tp (Aden element) 213 Sig Sqn	19 Apr - 17 May 17 May - to date 11 May - to date
<u>AAC</u>	
elements 653 Light Ac Sqn	19 Apr - to date
<u>INF</u> (NB. Sometimes only a part of a major unit was in the operational area at the times shown below.)	
1 RS	24 May(one coy) - 8 Jun joined by balance.
1 E ANGLIAN	19 Apr - 19 May, 29 May - 20 Jun
1 KOSB	6 May - 10 Jun, 18 Jun - to date
45 Cdo RM	29 Apr - 9 May, 19 May - 29 May
<u>3 PARA</u>	
Tac HQ A Coy B Coy C Coy D Coy	15 May - 30 May 15 May - 30 May approx 24 Apr - 11 May 15 May - 30 May 8 Jun - to date
A Sqn 22 SAS	24 Apr - 10 May, 12 May - 20 May

Annex E to RADFAN Report

FEDERAL REGULAR ARMY

The following notes on the Federal Regular Army, produced by the Federal Ministry of Defence, are included to assist the reader who is unfamiliar with the nature of this force.

Role

1. The Army of the Federation of South Arabia has two main roles; the defence of the Federation against any outside aggression, and, when so required, action in support of the Federal Guard to maintain law and order within the Federation.

History

2. The origins of the force may be traced back as far as the First World War when locally enlisted Arabs were formed into an Infantry Battalion which had its headquarters at Sheikh Othman, and furnished garrisons on PERIM and KAMARAN Islands.

3. In 1928, when the Royal Air Force became responsible for the protection of ADEN and the adjacent hinterland, the Infantry Battalion, which had been disbanded in 1925, was reformed as the Aden Protectorate Levies.

4. Lt Col Lake, of the Indian Army, who had previously commanded the Infantry Battalion, was recalled to command this force, which was employed on the protection of airfields, Residency Guards and again provided garrisons for PERIM and KAMARAM. In 1929, the Camel Troop was formed.

5. Until 1939, the Force remained relatively unchanged, carrying out guard, garrison, and ceremonial duties.

6. With the outbreak of the Second World War an Anti-Aircraft Wing was formed within the Aden Protectorate Levies, who then became solely responsible for the protection of ADEN's airfields against attacks from both ground and air. Shortly after ITALY's entry into the war in 1940, the newly formed Anti-Aircraft Wing scored its first success with the destruction of an Italian bomber over Isthmus.

7. In the post-war years the calls upon the Levies to carry out military action in the Western Aden Protectorate increased considerably, and, in 1957, the Force became the responsibility of the British Army, whereupon it was reorganised on orthodox military lines.

8. In 1961, operational control of the Force became the responsibility of the Federal Government, and it was redesignated the Federal Regular Army. In 1964, the Federal Government also assumed full financial control.

Organisation

9. The Federal Regular Army currently numbers about 4000 all ranks, and, as shown in Appendix 1 is primarily an Infantry Force, but is nevertheless, self-contained, and equates approximately to a British Infantry Brigade Group less its Artillery.

10. The nature of its tasks, coupled with its wide-spread deployment in Battalion Garrisons throughout the Federation makes three particular demands of the organisation.

11. Firstly, in order to maintain efficient command and control, communications within the Force must be of the highest order. The Signals Squadron maintains daily 24 hour contact between the Headquarters in ADEN and all up-country garrisons and troops operating anywhere in the Federation.

12. Secondly, bearing in mind the appalling terrain which separates these battalions from their Headquarters, the maintenance of equipment and supplies, both operational and routine, necessitates a closely co-ordinated and extremely flexible system for their provision and transportation. This is achieved by the balanced use of Royal Air Force transport aircraft (including helicopters), and military vehicle convoys for the movement of operational and warlike stores, and civilian charter aircraft and vehicles for the lifting of routine supplies.

13. Thirdly, the urgent operational movement of units from their garrison location to a particular trouble-spot at minimal notice. This entails the highest possible degree of planning and co-operation at every level, and, by virtue of considerable practice over the past years, all the Battalions have become adept at every conceivable method of re-deployment, be it the movement of heavy vehicles by large transport aircraft, tactical moves by sub-units, including descent by ropes from helicopters, or lifting of mortars over otherwise inaccessible terrain on camel-back.

14. The backbone of the Force is, of course, its four fighting battalions, whose soldiers, armed with rifles, light machine guns and grenades, must number amongst the world's most agile and best trained mountain troops, specialising in patrolling, ambush and picquetting operations.

15. Each battalion has its own support weapons, which include medium machine guns, mortars and anti-tank weapons also, in some cases, a light anti-aircraft troop equipped with heavy machine guns.

16. There is, as yet, no artillery in the Federal Regular Army but close support is currently provided by an attached British Field Battery. Certain officers and NCOs in each battalion have been trained to direct the fire of these guns, and some have also learned to direct ground attack aircraft on to targets.

17. The Federal Regular Army's Armoured Car Squadron, equipped with Ferret Scout Cars, is responsible for patrolling the vast tracts of land which lie beyond range of the Garrison's normal sphere of influence, and for the escorting of convoys through potentially hostile territory.

18. The Force is, indeed, a completely self-contained Army. In ADEN, at its Headquarters, are to be found its Workshops, MT Company, Stores Depot, Records and Pay Offices.

19. Medical support exists in the form of a Royal Air Force doctor with each battalion, and a Royal Air Force Hospital on Khormaksar Beach, where British Service doctors, assisted by Arab administrative Staff and medical orderlies attend not only sick soldiers, but also their entitled dependents.

Recruitment, Training and Promotion

20. There is never any shortage of volunteers for recruitment into the Federal Regular Army. This is indicative not only of the high regard in which the Force is held throughout the Federation, but also of the fact that it can be extremely selective in its choice of recruits as regards health and general integrity.

21. Apart from the maintenance of an overall balance within the Force, recruiting, and, indeed subsequent training and posting, is carried out without regard to tribal affiliation. The result of this policy has been the emergence of a new loyalty to the Federal Regular Army, (and hence to the Federation), - which is daily becoming stronger without in any way impinging upon the soldiers' innate tribal loyalties.

22. The Training Battalion at Lake Lines is responsible for all the training in the Force. Besides recruit training, courses are run for specialists such as mortar and machine gun detachments, for NCOs and for potential officers, as well as officers' pre-promotion courses.

23. Education Wing of the Training Battalion includes the training of boy soldiers as clerks, apprentices and potential leaders. A recent innovation is the School for Soldiers' Daughters, which is also run under the auspices of Education Wing.

24. Each year, approximately 20 specially selected officers and NCOs attend courses in UK, so that the Force is kept constantly in touch with the latest equipment and techniques. A most significant advance will occur in December 1964, when four senior officers of the Federal Regular Army attend the British Army Staff College Course at Camberley.

25. Promotion throughout the Force is based purely on ability, and officer selection, which is usually made from amongst senior NCOs who already have considerable service experience, is carried out by a Selection Board which sets the very highest standards as regards suitability, and gives particular attention to personal integrity and educational achievements.

The Future

26. Within the last year, great advances have been made towards the Arabisation of the Federal Regular Army at all levels, and, in conformity with a similar process currently taking place throughout the Federation, this will continue in accordance with a carefully planned programme.

27. The Senior Arab Officer in the Force holds the rank of Colonel; in each of the four battalions an Arab Lieutenant Colonel is understudying the British Commanding Officer, and one of these is formally to take full command of his Battalion in July 1964. In practice, however, owing to tactical re-groupings two of the battalions which were recently engaged in active operations were commanded by their Arab Lieutenant Colonels throughout, and with notable success.

28. Another step towards improving the flexibility of the Force may be seen in the setting up of two Area Headquarters, initially commanded by British Colonels, each with a joint Arab-British

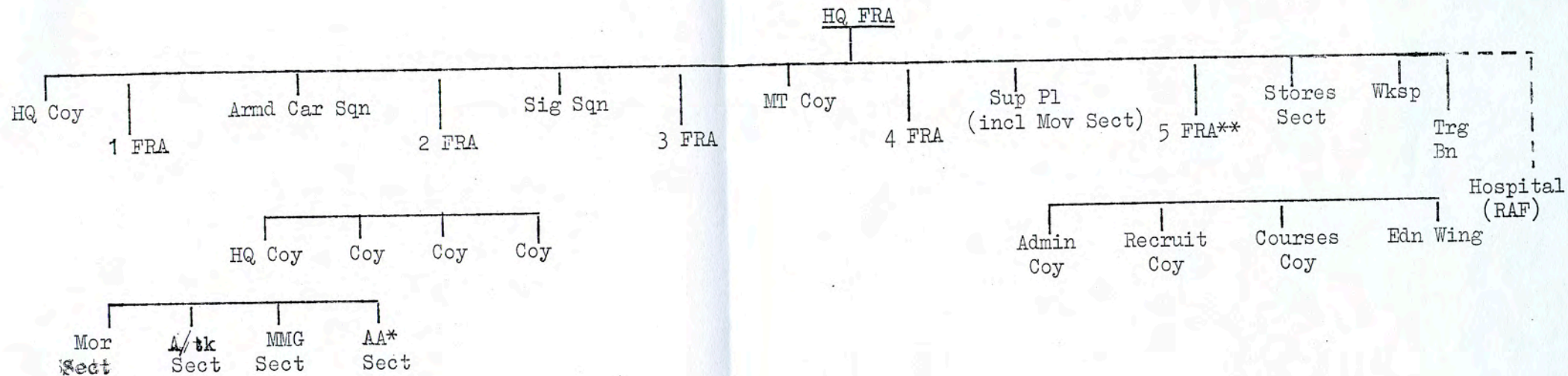
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These headquarters will decentralise command so that battalions located in the eastern and western areas respectively will have immediate access to a superior co-ordinating authority without having to refer direct to Force Headquarters in ADEN.

29. A fifth battalion is currently being formed, and will be operational by the end of 1964. This will enable the Force to retain a battalion in reserve, and to rotate battalions so that in turn they are each able to rest and refit for a period.

30. The fact that for the past two years, all four of the Federal Regular Army's battalions have been operationally committed is a significant indication of the service which this small but efficient force renders to the Federation.

ORGANISATION OF THE FEDERAL REGULAR ARMY



Notes - * not yet established in all Bns
 ** 5 FRA, currently being formed

ARTILLERYEquipment

1. The 105-mm pack how suffers from a number of mechanical defects but it is not proposed to comment on them here. The gun is not sufficiently robust for use as a field gun in the terrain of Southern ARABIA, nor is it truly man-portable. However, the equipment's mechanical defects have never seriously interfered with the support required from the weapon. This has been achieved by a steady flow of spare parts, the hard work and competence of attached REME craftsmen, and a rigorous insistence on daily maintenance.
2. The 5.5-in equipment has behaved well and no serious mechanical shortcomings have occurred in the limited time they have been in action in the theatre.

Manpower

3. Due to MELF's limited artillery resources gunners have had to remain in the operational area while infantry units have been rotated for rest. OP parties have been particularly hard pressed and the present establishment of signallers is insufficient in prolonged operations.

Deployment

4. The deployment problem in mountainous country lies in finding gun positions and fulfil the following requirements:
 - a. Far enough forward to provide the necessary range beyond forward troops.
 - b. Accessible by vehicle.
 - c. Free from crest problems.
 - d. Possible to locate on a map to within 1000 metres.
 - e. Big enough to take at least three guns.
 - f. Do not have a solid rock platform area.
 - g. Suitable for defence.
5. Positioning Guns. The short range of the 105 mm pack how (10,000 metres) further restricts selection of gun positions and this range is decreased by the large angles of sights necessitated by big differences in height between guns and targets.
6. Portability. Thirteen camels are needed to carry one 105 mm pack how and few local camels are strong enough to carry the slipper. In addition, one camel will only carry six rounds of ammunition. Insufficient camels were available to make this form of transport practicable.
7. The gun is not easily man-portable; a gun was moved by man pack over a distance of 600 yds on COCA COLA ridge and it took some 50 men more than an hour. The move involved some climbing but this is a typical yardstick.

8. Airlifting Guns. Helicopters were in short supply and their lift was limited by heat, height and turbulence. The following illustrates the Belvedere helicopter lift requirement to move a section of three 105-mm pack hows with a first line of ammunition, but no vehicles:

- | | |
|--|------------|
| a. Three guns | 3 sorties |
| b. Detachment, CP staff and stores | 2 sorties |
| c. Gun stores, rations, water, etc. | 1 sortie |
| d. 375 rounds HE, 25 rounds Smoke
plus VT fuses | 10 sorties |

Bearing in mind the few helicopter hours available and the many other tasks for them, this was an unwelcome bill made worse by the fact that unless a road was constructed all further resupply had to be by air. Considerable engineer effort was therefore diverted to making and improving tracks for the guns.

9. Use of Medium Guns. The 5.5-in gun with its greater range has been invaluable in providing reach in front of forward troops beyond the range of the 105-mm pack how. It is not however a close support weapon and does not overcome the need to deploy 105-mm guns as far forward as possible. 5.5-in guns would be needed in any future similar operations, unless a lighter gun with a better range than the 105-mm were to become available.

10. Crest Problems. Finding a gun position free of crest problems presents considerable difficulty to the GPO as no heights are available on the map on which to base any sort of calculation. This has been overcome only partially by obtaining heights from ancient altimeters when they are operating in the area. The fact remains however that it is quite impossible to guarantee that any position occupied will be able to engage down to the line ordered.

11. The high angle capability of the 105 mm, although valuable and frequently used with great success, is inhibited by the lack of range in this position. (6400 metres). By far the greatest number of targets engaged have been between 7000 and 10,000 metres.

12. Survey. Although recent issues of maps are an improvement on the 'Brown Wash' 1:100,000 version previously available, survey still remains a problem. Although 'known points' are available for resection it is very seldom that they can be seen from the gun position. Recent survey has improved the situation in RADFAN area, but most parts of the Federation remain inadequately mapped.

13. Various solutions have been tried with varying degrees of success. The two most interesting are, first the engagement of a known feature, followed by the deduction of reduced bearing and range, plotted in reverse to arrive at gun centre coordinates. This assumes the line is correct and as can be expected does not produce particularly good accuracy. The second method is the use of a helicopter hovering at a predetermined height over a known point and the calculation of an aerial triangle to fix gun centre. Experiments with this method continue.

22. Trials are being carried out on aerial siting and more and longer aerial to aerial leads are required to help these experiments. Due to the insufficient numbers of particular types of SR, 38 mcs was used as a common frequency with SRs A41 and A42 as manpack sets on one net; more SR A42 are needed.

Ammunition

23. 105 mm pack how. The range of ammunition available was:

- a. HE.
- b. Smoke, white phosphorus. (Limited quantity only).
- c. VT fuzes.

24. The standard HE round is subject to a fairly high 'Blind' rate which would appear to be in the order of 15% to 20%. When the fuse is set to delay, the percentage failure rate goes as high as 70% eg. 14 rounds failed on one delay shoot out of 20 rounds fired. These blinds are thought to be caused by the fuze snapping off on striking hard rock at an angle. A number of partially detonated rounds have also been picked up, the round simply split in half.

25. The smoke round, being white phosphorus is not ideal for screening but can be used if in sufficient quantity. However, it is in very short supply. There is a need for a base ejection smoke round for screening purposes.

26. The VT fuzes although sparingly used, due again to limited supply, have been extremely effective against dissidents sheltering behind rock and have successfully dispersed them and caused casualties on several occasions. The storage of the fuze with its critical temperature limit of 130 F is a problem. The only answer found so far is to leave them vacuum packed until needed. This causes a delay in firing, but would appear to be the only way of guaranteeing their proper functioning. A mechanical time fuze would be appreciated.

Air Safety

28. There was a considerable density of air traffic over the operational area and this posed a safety problem. A system of control was devised by which BASO was informed when, where from and where to, guns were firing. This enabled aircraft to be warned and briefed on safe routes. Within the airfield area infantry mortars were also brought onto the artillery net to enable the same degree of control to be exercised. When it was essential for aircraft to operate in an area that was unsafe due to gun or mortar fire, guns and mortars would be stopped by use of the gunner net.

29. This system of control was only possible because only one gunner net was in use and all aircraft were on one net. It was only a partial solution to the problem and inevitably the interests of gun and air support often conflicted. Because of the need for air supply of forward areas the engagement of opportunity targets by guns and mortars was restricted. The one essential insisted on was a two hour period, immediately before last light, when gun and mortar registration took priority over air requirements.

14. Gun Platforms. Gun areas of sufficient size are hard to find, particularly if rocky platform areas are to be avoided. The usual solution is to accept a very restricted frontage. A three gun section often having a frontage of less than 40 yds and six guns less than 60 yds.

15. On rock platforms the gun bounces to such an extent that on one occasion, a gun overturned and a layer was almost trapped underneath. The bounce also takes the gun well off for line and necessitates a fresh line being passed for nearly every round.

16. Observation of Fire. The main difficulty experienced by FOOs was in locating targets on the map for the initial round. Their ability improved with experience particularly in the estimation of range which is extraordinarily difficult in a country where visibility is so good. The normal issue 6 x 30 binoculars are not nearly powerful enough and a request has been made for the provision of 12 x 50 and also x 50 telescopes. These more powerful optical instruments are essential in this type of operation where positive identification is required before shooting.

17. DF Registration. The registration of DF is essential as prediction has been found to be unreliable. This is caused by the problems of survey and from the fact that in country of this nature forecast met is seldom accurate for any given point but provides only a general indication. Even registration is not entirely reliable as the proper reduction of data is not possible due to the lack of heights and tremendous effect of consequent false angle of sights on the range. It has therefore been found necessary to carry out DF registration as near last light as possible to avoid the major temperature change. Gun data so produced is then used as fired.

18. Datum point procedure has been tried but again is only of limited use due again to differences in target height even in comparatively close areas, and the met conditions differing from target to target.

19. The crest problem is ever present and can only be determined by shooting. It is essential that OPs carry out a substantial amount of zone registration on the occupation of any new position. Quite frequently even at maximum range the angle of descent is still not steep enough to clear occupied crests and allow engagement of close targets. High angle is normal procedure when within range.

20. Gun Accuracy. The general accuracy of the 105 mm is good and on many occasions fire has been brought down to within 200 yds of our own troops when necessary. All the guns have shot well together since Range Table MV has been used. The new guns of J Battery having never been calibrated and the guns of I Battery last being calibrated in UK. The use of their calibration led to considerable spread on the ground.

21. Communications. The present range of Radio Stations has been good. The SR C45 and the SRs A 41 and A42 have given excellent communications over distances of up to 30,000 yds. This in mountainous country where line of sights between OP and guns is scarcely ever possible.

ENGINEER

1. During Mar and early Apr 64 2 Tp 12 Field Sqn consisting of two senior NCOs and twenty men had been in support of the FRA at THUMIER. This troop provided the initial RE support for the Radfan Force. Their tasks included water supply from wells in THUMIER village and at AL HUMRA, and daily mine sweeps of the airstrip and the routes to the wells. The troop also provided lighting for Force Headquarters.
2. A detachment of 261 Courier and Postal Unit provided postal services at THUMIER from 25 Apr.
3. On 27 Apr a party from 2 Tp checked the Wadi RABWA for mines and reported it clear. The following day 1 Tp moved up from ADEN and checked the first 1,200 yards of PALL MALL for mines, continuing the next morning as far as the Wadi BORAN. By 4 May the troop had opened a 3-ton vehicle route as far as the Wadi BORAN.
4. No ground reconnaissance into the Wadi BORAN had been permitted up to this time, but reports from limited air reconnaissance indicated that the 3-ton route might reach the DHANABA BASIN with one night's work. A party of 1 Tp, moving forward with 45 Cdo RM on the night 4/5 May found the 15-30 yard wide BORAN thickly strewn with large boulders, weighing up to 40 tons, and broken by outcrops of bed-rock. It was not until 11 May that 3-ton vehicles and scout cars were able to reach the DHANABA BASIN. It was often found during the operation that while air reconnaissance was invaluable for spotting clearly impassable routes, ground reconnaissance was essential before aligning a track or estimating the labour needed.
5. Until Jan 64 the only link between the Wadi RABWA and the Wadi TAYM was a paved camel track which climbed the RABWA PASS with many tight hairpin bends. During the FRA operation in Jan 64 the route had been improved to take $\frac{1}{4}$ -ton vehicles, but landslides due to heavy rains and enemy activity had later caused considerable damage. Early on 8 May, 2 Tp attempted to re-open the route. Too much damage had been done however and the troop was unable to make this good before the end of the day, when it was withdrawn to continue its previous tasks. In moving up, the troop discovered a Mark V mine, laid on the main track near the foot of the pass.
6. On 9 May 2 Tp 34 Indep Field Sqn reached THUMIER from KENYA and joined the troop at work on PALL MALL. Between them the two troops employed up to 200 local labourers and used five tons of explosives in opening the $2\frac{1}{2}$ mile route through the Wadi BORAN to the DHANABA BASIN.
7. The two troops of 12 Field Squadron returned to ADEN on 12 and 13 May. The rather larger troop of 34 Indep Field Sqn took over mine clearance and water supply duties around THUMIER, provided a detachment for work on the RABWA PASS and water point parties at the foot of the pass and in PEGASUS village. The pass was re-opened to $\frac{1}{4}$ -ton vehicles on 17 May. Improvements to the track continued with the aim of opening it for 3-ton vehicles.

8. 3 Tp 9 Indep Para Sqn moved to THUMIER as part of 3 Para Gp on 16 May. Their main task was to improve a camel track forward from the top of the RABWA PASS via the battalion B echelon area at SHAB TEM towards the BAKRI RIDGE positions occupied by the battalion on 19/20 May. This troop, assisted by civil labour, had a race against time during 23 and 24 May in order to reach the nearest feasible gun position to cover the battalion in its advance south towards the Wadi DHUBSAN, at last light on 24 May. The last half mile to the new gun area involved considerable side hill cutting. In all major battalion advances the troop acted as battalion porters. The remaining section moved via THUMIER and PALL MALL to start the work on an aerial ropeway, intended to supply the positions on top of CAP BADGE. The aerial ropeway was designed by OC Mideast Port Sqn, and some of the stores were fabricated in H.M.S. Sheba, the Royal Navy shore establishment in ADEN.

9. During 17 May 3 Tp 12 Field Sqn arrived in the Wadi TAYM and by 18 May had opened up a SRT strip (PADDY'S FIELD). On 19 May the troop started improving PALL MALL, but were moved to another SRT strip (MONKS FIELD) on the withdrawal of the 1 KOSB; since the picquet/working strength ratio for continued work would have been uneconomic. Instead the troop began work in the Wadi LOSSUM (PARK LANE) to provide a lateral link between the DHANABA BASIN and the Wadi RABWA.

10. Meanwhile the troop of 34 Indep Field Sqn at work on the RABWA PASS had begun an additional lateral (FLEET STREET) at the head of the pass, designed to link the DHANABA BASIN with the Wadi TAYM.

11. Rain, during the afternoon of 25 May, flooded the Wadi RABWA and caused damage which temporarily closed LUDGATE HILL and the DHANABA entrance to PALL MALL. All routes were re-opened by 1030 hrs next morning, but two day's work was needed to make good the damage.

12. In the base camp at THUMIER a further detachment from 12 Field Sqn erected a 6,400 gallon Braithwaite tank to hold a reserve of water and provide a piped supply for jerrican filling in the Composite Platoon area. The mine clearance parties of 34 Indep Field Sqn erected a 10 ton cold store for the Comp Pl. Progress on both of these tasks was disappointing, due to lack of familiarity with the equipment and the fact that Braithwaite components came from several different manufacturers.

13. 3 Indep Field Sqn arrived in ADEN from ENGLAND on 21 May and moved to THUMIER on 25 and 27 May. On 29 May the squadron was considered to be sufficiently acclimatised to start heavy work and took over all tasks except those of 34 Indep Field Sqn, who continued operations in the RABWA PASS area. The troops relieved returned to ADEN.

14. Work progressed rapidly with three troops deployed on track construction throughout the area. In addition to the routes previously mentioned, improvements were made to tracks through the Wadi TAYM (OXFORD STREET) and DHANABA BASIN (REGENT STREET). The fourth troop provided the water supply and mine clearance parties in the THUMIER area and, supported by the park troop, improved the facilities of the base area. This involved erection of camp structures and showers, extending water supply arrangements, improving tracks and providing concrete bases for medical tents and generally dust-proofing the area.

15. From 1 - 11 May a troop was deployed in support of the operations in the Wadi MISRA for mine clearance, water supply and improvement of the route (ST JAMES), to take 3-ton traffic and tractor towed medium guns. The track follows the wadi bed for 9 miles and although in daily use is liable to be closed for up to a week after rain on the surrounding hills.

16. By 14 Jun all routes except PARK LANE were open to 3-ton vehicles, but the following day a storm caused extensive damage to PALL MALL. The rain running off the steep sides of the wadi filled it again with large boulders. These were cleared and at the end of Jun reasonable 3-ton running time THUMIER - MONK'S FIELD was forty minutes.

17. On 12 Jun a troop was moved to the Wadi TAYM to provide support for 1 RS. As operations developed down the SHAB LASHAAB towards Jebel WIDINA a rough track (PILGRIMS WAY) was opened from PADDY'S FIELD to the south and east to move guns forward and bring up equipment for airstrip construction. Future development of this track depends on the administrative requirement. SRT airstrips were constructed at the northern end of the SHAB LASHAAB (BLAIRS FIELD) and on a feature in the south east of the Wadi TAYM (TABLE TOP). These were opened on 20 Jun and 25 Jun respectively.

18. PARK LANE was negotiable by the end of Jun, but it was estimated that about ten days more work was required to open it fully. The two mile length is almost entirely side hill cut on the eastern bank of the steep sided Wadi LOSSUM. This alignment was chosen to avoid extensive damage by rain. The route has involved much blasting and manual labour to remove rock. It includes considerable lengths of dry stone retaining wall up to 20 feet high.

19. During the storm on 15 Jun lightning damaged the upper gyn of the aerial ropeway and this had to be replaced and the cable re-tensioned. It was found that manual haulage was impractical to lift stores the 900 ft the cable rises in its 1,700 ft length. Attempts to improvise with vehicle winches and wheel capstans proved unsatisfactory. At the end of Jun a Wild Kite winch to power the ropeway arrived from UK.

20. Daily minesweeps, water supply and improvements in the AMA were still continuing at the end of Jun. The wells used and their output, tasks in the AMA, and details of airstrips constructed are listed in Appendix 1. Other tasks being undertaken included disposal of unexploded munitions (some fifty targets to date) and assistance to the local population with irrigation works under Operation FLAVIA. A section was accompanying the leading troops developing operations into the Wadi DHUBSAN.

21. Future development of tracks may well be limited during the rainy season by the maintenance commitment on existing routes, most of which are in wadi bottoms and liable to extensive damage from the spates which follow rainfall.

22. All roads and airstrips constructed during the operation are marked on the map at Annex P to the report.

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Appendix 1 to Annex G to RADFAN
Report

1. AMA Tasks

Amenity (a)	Qty Req'd (b)	Qty Complete as at 1 Jul 64. (c)
Showers	12 (76 roses)	11 (70 roses)
DTL	12 (105 seats)	9 (94 seats)
Desert Roses	48	17
Water Tanks	12	9
Concrete Cookhouse Base	15	3
Ration Store	10	4
Ablution Benches	24	8
Braithwaite Tank	1	1
10 Ton Refrigerator	1	1
Jerry Can Filler Point	1	1
Concrete BBP	1	1
Bowser Filling Stand Pipe	2	2
Camp Road	2 Mile	1 $\frac{3}{4}$ Mile
Helicopter Landing Pad CCP	1	1
Perimeter Wiring	6000 yds	6000 yds
POW Compound	80 yds	30 yds
Concrete Base CCP	1	1

2. Airstrips

Strips (a)	Length (b)	Used by (c)	Runs (d)
THUMIER	1000 yds	Beverley, Twin Pin, Auster, Beaver	N - S
MONKS FIELD	618 yds	Twin Pin, Auster, Beaver	NE - SW
PADDYS FIELD	600 yds	Twin Pin, Auster, Beaver	NW - SE
BLAIRS FIELD	580 yds	Auster, Beaver	E - W
TABLE TOP	620 yds	Twin Pin, Auster, Beaver	N - S
HURIYAH (Projected)	430 yds	Auster, Beaver	
WIDINA (Projected)		No Site Suitable	

3. Wells

Serial No	Location	Output G.P.H.	Qty Used G.P.D.
(a)	(b)	(c)	(d)
1	AL HUMRA (825940)	1200	9000
2	THUMIER (855930)	900	5000
5	MONKS FIELD (881030)	1200	3000
6	PEGASUS VILLAGE (934018)	450	1000
7	WADI LOSSUM (896001)	1500	3000
9	AL LAKAMA (895932)	1000	5000
13	EL DANEIBA (922901)	900	4000
15	PADDY'S FIELD (957037)	1000	4000
23	BLAIR'S FIELD (024036)	900	3000
55	PILGRIMS WAY (021956)	1000	2000

Annex H to RADFAN ReportSURVEY

1. Introduction. The following extract from a report by Capt M.O'C. Tandy, RE, in command of the ADEN Boundary Survey Detachment of the Survey of India from December 1901 to October 1902, shows that things have not changed much in the RADFAN since those days. The HURIA that Tandy speaks of is the Jebel HURIYAH, the highest peak in RADFAN, occupied in Phase 3 of the operation.

"On February 18th, a party started with the intention of visiting HURIA, an intersected point of the old survey on the RADFAN range; three marches to the south-east of DHALA, and previously unvisited; after slight difficulty with the local Arabs, a village within 2 miles of the top of the hill was reached, but from here owing to the open hostility of the natives who fired on the party, it had to beat a hasty retreat without doing any work; this failure was a great disappointment, as from these hills a large tract of quite new country could have been surveyed".

2. Survey Support. Operational Map Coverage of the RADFAN area, on 1 Apr, was provided by the adjacent quadrants of four sheets of the 1:100,000 Series K667. The area of operations was so limited that neither the 1:250,000 nor the 1:500,000 maps were of any practical value.

3. A new survey had been started in the Western Aden Protectorate in Jul 63. This was designed to provide a completely new 1/100,000 series to replace K667. This new survey had not, however, been able to cover the RADFAN area due to the activities of the local tribes. Indeed, apart from one surveyor who accompanied a limited operation in the Wadi RABWA in Jan, no surveyor had been able to penetrate this area since Capt Tandy's operations in 1902.

4. On 18 Apr, DD Survey, was advised by the G(Ops) staff of the scale of operations which had been approved on 17 Apr. Instructions were issued to 13 Field Svy Sqn to prepare and print 500 copies of four sheets at 1/50,000 scale to be known as "Radfan Area Intelligence Overprint" Sheets 1, 2, 3, and 4, and allotted the series number MDR Misc 12600.

5. The sheets were produced by photographing the adjacent quadrants of the K667 colour copies of sheets 1344B, D, 1345A, C, at an enlargement of 2 to 1. The resultant enlargement was printed as a grey monochrome and overprinted with tribal names and boundaries in blue and with additional names and minor revision to tracks in red. Grid figures were printed boldly around the edge of the map and on the sheet face. The initial distribution of these sheets was made on 25 Apr.

6. The first reactions to the series were good and the additional information, now clearly portrayed, proved useful. However, because the topography was depicted only by an enlargement of the original K667 photomosaic, it provided no indication to the troops on the ground of the type of country in which they were operating.

7. As it was hoped that confirmation of details provided by interrogation, and, perhaps further detail, would become available from the forces operating in the area, it was decided, on 27 Apr that 13 Field Svy Sqn should prepare a fully coloured enlarged version of the K667 rather than the grey monochrome.

8. On 5 May, DD Survey visited the Force HQ at THUMIER and immediately decided that an attempt must be made to formline the second edition, despite the lack of adequate height control and stereo plotting equipment.

9. The first attempt at formlining Sheet 1 was completed by 9 May. Proofs were submitted to DD Survey, but the results were not adequate. He therefore instructed 13 Field Svy Sqn to recompile the form lines, paying greater attention to ridge lines and escarpments. Meanwhile copies of the plastic proofs were submitted to Force HQ and A Sqn 22 SAS, for comment.

10. In order to avoid delay in the publication of Edition 2, of all four sheets, it was decided to retain the original format for Sheet 1, but to formline only the area of interest. During the time that the proof of Sheet 1 was being examined Sheets 2, 3 and 4 were redrawn, formlined and reduced in size to conform with the standard 1/50,000 sheet lines of the K766 series which covered the DHALA area to the north.

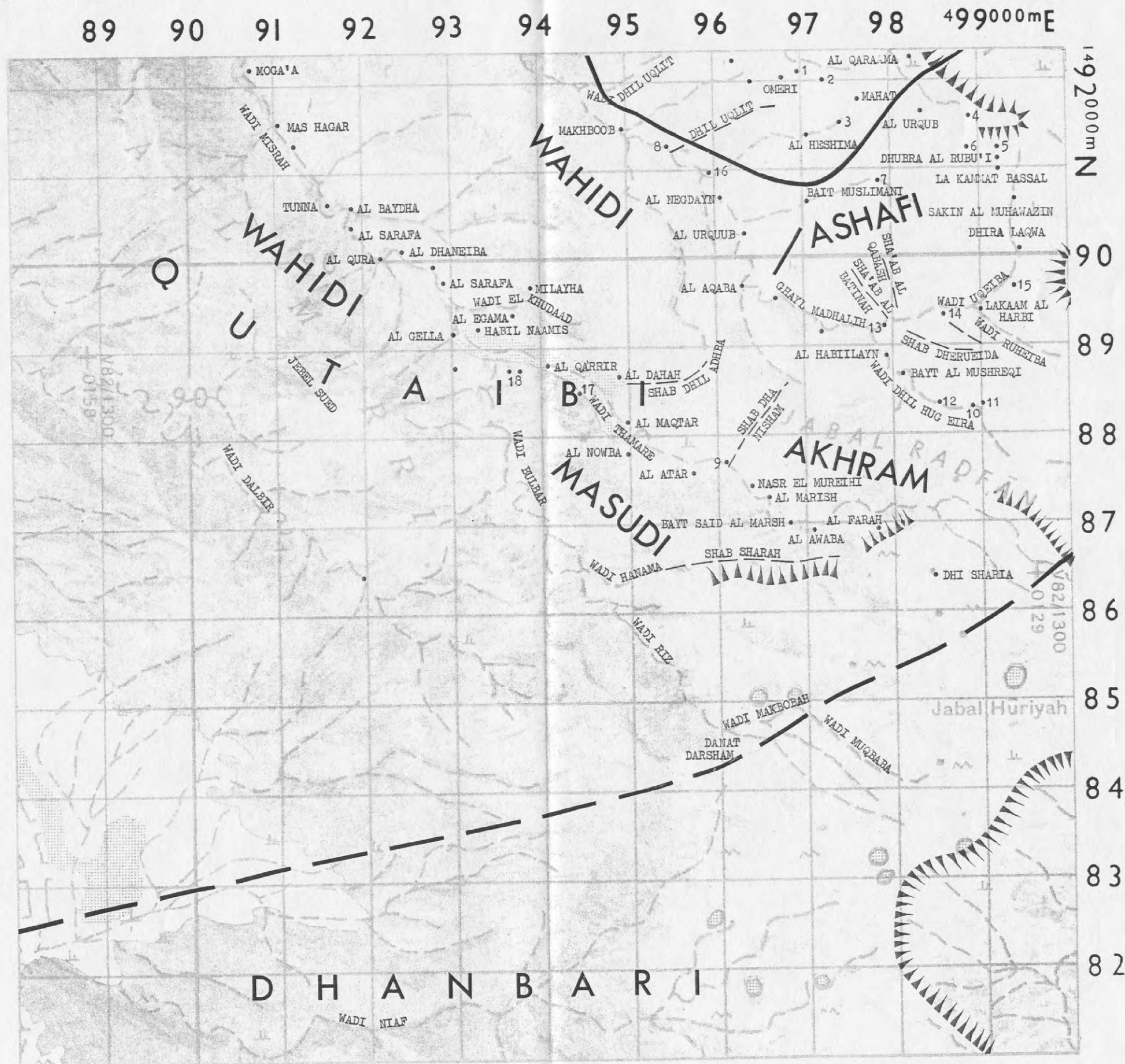
11. Because of the change of style between Editions 1 and 2, all four sheets in Edition 2 were issued simultaneously. This was done on 20 May, by which time stocks of Edition 1 were down to less than 10 copies. 1200 copies of the new sheets were printed but despite stringent control by Survey Branch of all issues, stocks on 10 Jun were down to about 200 copies.

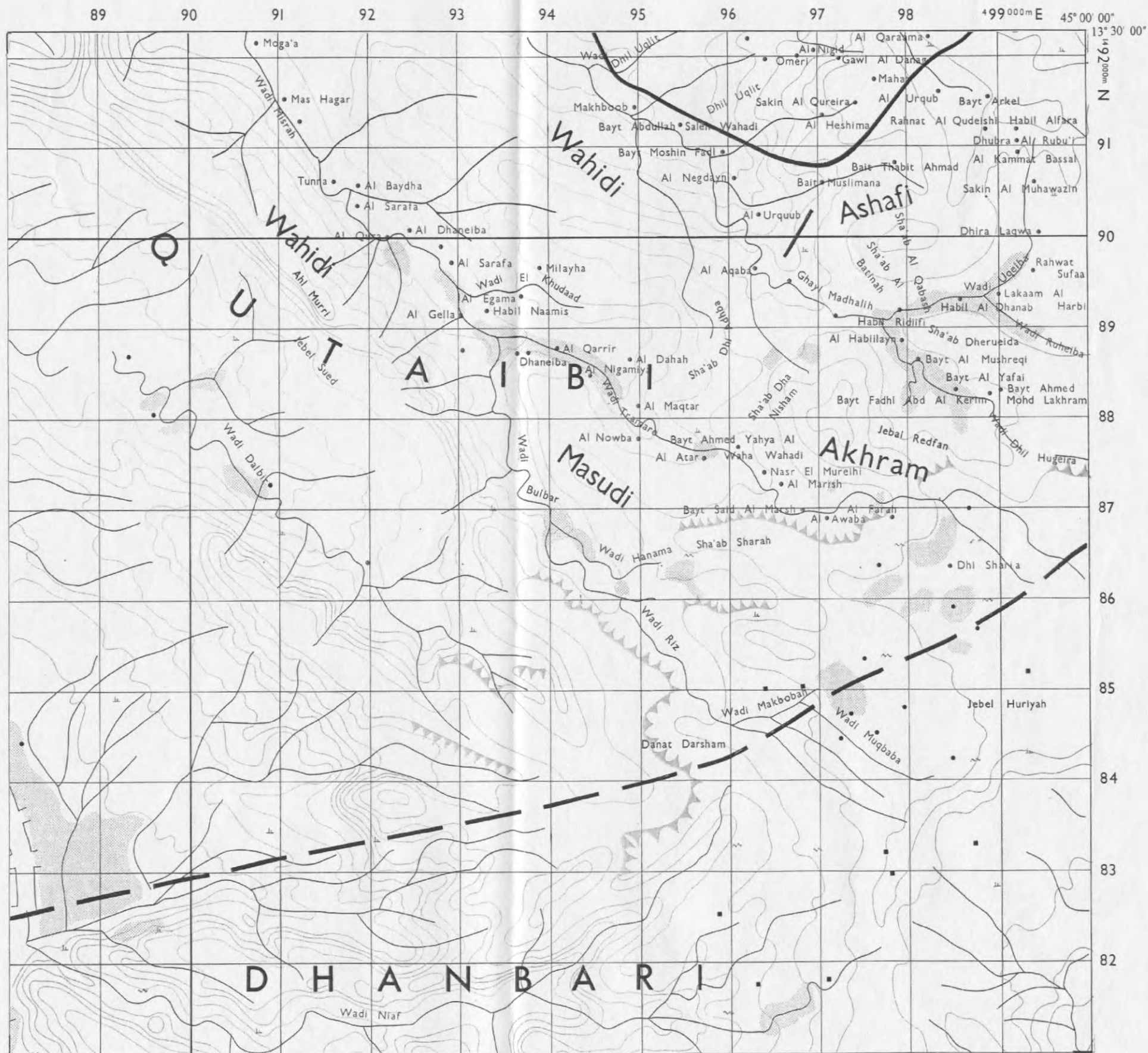
12. On 30 May a detachment of one officer, seven surveyors and one interpreter, was attached to 39 Inf Bde Gp, to carry out ground annotation of 1/50,000 air photography and establish height control, from positions occupied by 39 Inf Bde Gp. The detachment was immediately flown to the BAKRI RIDGE where working in pairs they spent 24 hours on three stations before the area was evacuated and handed over to air control. The detachment was then moved across to the WADI MISRA by helicopter with a party on the high ground on each side of the wadi and one party in the wadi itself. It was soon found that the party in the wadi was not only restricted in movement but also in view, it was therefore withdrawn and placed by helicopter on Jebel EL BATHA (locally nicknamed CAP BADGE) to cover the DHANABA BASIN and the Wadi TAYM. By 10 Jun the Topo Parties had carried out photo annotation for the whole of the Wadi MISRA and a large portion of the DHANABA BASIN and Wadi TAYM, having been moved from station to station by helicopter, and were ready to move forward to Jebel HURIYAH. In addition, height control had been fixed in this area and the observations for the northern end of the Wadi MISRA passed back to 13 Field Svy Sqn. The Topo Tp continues to operate with 39 Inf Bde Gp.

13. Whilst these field survey operations were in progress Carto and Litho Tps 13 Field Svy Sqn, revised the original material of the second edition to incorporate further names which were supplied by the Political Officer, prepared a new formline model using the height data from the det, and using 1/10,000 Air Photography flown for the operation were able to identify accurately the villages and settlements whose location had hitherto been supplied by interrogation.

14. The third Edition of the overprints was published on 13 Jul.

15. Samples of the three editions of the RADFAN Intelligence Overprint 1:50,000 are included in Appendix 1. During the period covered by this report only the first two editions were available.







COMMUNICATIONS

Forward Communications

1. The initial signal plan allowed for the force being split into two main groups, the FRA group and 45 Cdo RM, controlled by Force HQ.
2. HF radio was to be the primary means of communication as it was considered that VHF would be basically unsuitable in the terrain, and there was a shortage of VHF radio sets. In view of the limited size of the original Force HQ, only a rudimentary line layout was catered for.
3. HQ Middle East Command is a joint headquarters, and the voice rear link from THUMIER was to have been provided by the RAF; this proved unsatisfactory, and in due course an Army HF link was established. Hand speed morse rear links were also provided to HQ FRA and COMCEN ADEN. Initially, no SDS or ADS facilities were planned.
4. Requests for air support were catered for by using the comd nets to FORCE HQ where BASO was established. His rear link to HQ MIDEAST (AIR) and KHORMAKSAR was a Joint TAR/ALN net provided by RAF Signals.
5. The Battery Commander of J Bty sat with BASO in the HQ, and had a C45 on the Bty Comd Net. Patrols likely to need artillery support could come up on the Bty Comd Net using a channel on SR A41.
6. Initially, personnel of 254 Sig Sqn (ADEN) were deployed at FORCE HQ under OC 254 Sig Sqn to provide the communications needed. The first signals detachment moved up with the FORCE HQ on 19 Apr after a reconnaissance by the OC on 17 Apr.
7. After the reconnaissance on 17 Apr, it became clear that the line requirement was far greater than had been thought. Initially, it was considered that the sig pl 1 E ANGLIAN would be adequate for local lines and exchange manning. A Sgt and 7 men were provided but the revised commitment meant that Royal Signals linemen had to be deployed. Apart from local lines in the HQ area which had been allowed for, others were needed to run to picquet posts on the high ridges guarding the approaches to THUMIER. It is unusual in the signalling field to connect a Bde HQ direct with platoons and mortar base plate positions. Conference call facilities on the exchange provided a simple alert procedure.
8. Operations began on the 30 Apr and, as an insurance, the HF command net had a relay station deployed by camel on high ground about a mile from FORCE HQ. This was a SR C13 ground station moved in six camel loads and was manned by two men. During the first critical night the set was officer manned and succeeded in relaying all orders and sitreps.
9. On the second day, having foraged the necessary equipment, a VHF overlay on the command net was established. Later as more sets became available, VHF became the main net with HF back-up for some locations. The VHF worked well due mainly to an automatic rebroadcast relay using two SR C42 sited over 3,000 ft high on the COCA COLA feature. The relay was deployed by Belvedere helicopter. It was manned by the same two Royal

Signals operators for two weeks and protected by a platoon of FRA holding the feature. A radio diagram is at Appendix 1. The VHF frequency used on the Command net was compatible with the SR B47 fitted in AAC aircraft, this enabled the Force Commander to operate when airborne and gave an 'in flight' briefing facility.

10. An air despatch service based on two runs a day was established on 30 Apr 64 using Auster aircraft of 653 Lt Ac Sqn. Messages were cleared between THUMIER and KHORMAKSAR where Royal Signals personnel met the aircraft and cleared messages via the Message Centre at Singapore Lines, ADEN.

11. 213 Sig Sqn arrived with HQ 39 Inf Bde Gp and on 17 May this Sqn took over the existing communications established by 254 Sig Sqn and consolidated. The Bde HQ was subsequently moved 1,000 yds or so further from the air strip, which caused a large increase in the line commitment. A gradual process of improvement in accommodation and facilities took place, with a lot of hard manual work. The UK and BAOR reinforcements of 213 Sig Sqn (about half the Sqn strength) took time to settle down in the field even after ten days in the Transit Camp ADEN. Having the nucleus of the Squadron as an entity and knowing the HQ staff, greatly assisted in settling in the reinforcements. ADS forward and SDS runs in the HQ - AMA area were organised.

12. The existing VHF Comd Net with HF back-up was taken over by 213 Sig Sqn. The automatic rebroadcast detachment deployed by 254 Sig Sqn on the COCA COLA feature was replaced by a 213 Sig Sqn det on CAP BADGE. The det was manned by three radio operators and an electrician/driver, and was sited within the defended perimeter of a company of 1 E ANGLIAN.

13. The arrival of 3 PARA in the operational area, and the subsequent increase in the scope and size of the operation up to and including the BAKRI RIDGE and Wadi DHUBSAN extended the VHF Comd Net considerably. The rebroadcast det was re-deployed several times, always as far forward as possible. As a result of this, the VHF net became so reliable that the HF back-up was dispensed with. It is also worth noting that during almost the whole of the op, 3 PARA used SR A41 on their rear links. The principle of rapid redeployment of the rebroadcast det has been applied in all operations since then, with complete success.

14. A VHF Admin net has been provided to fwd units; using SR C42 without rebroadcast but with elevated antennae at all locations, this too has been entirely successful. A radio diagram is attached at Appendix 2.

Rear Communications

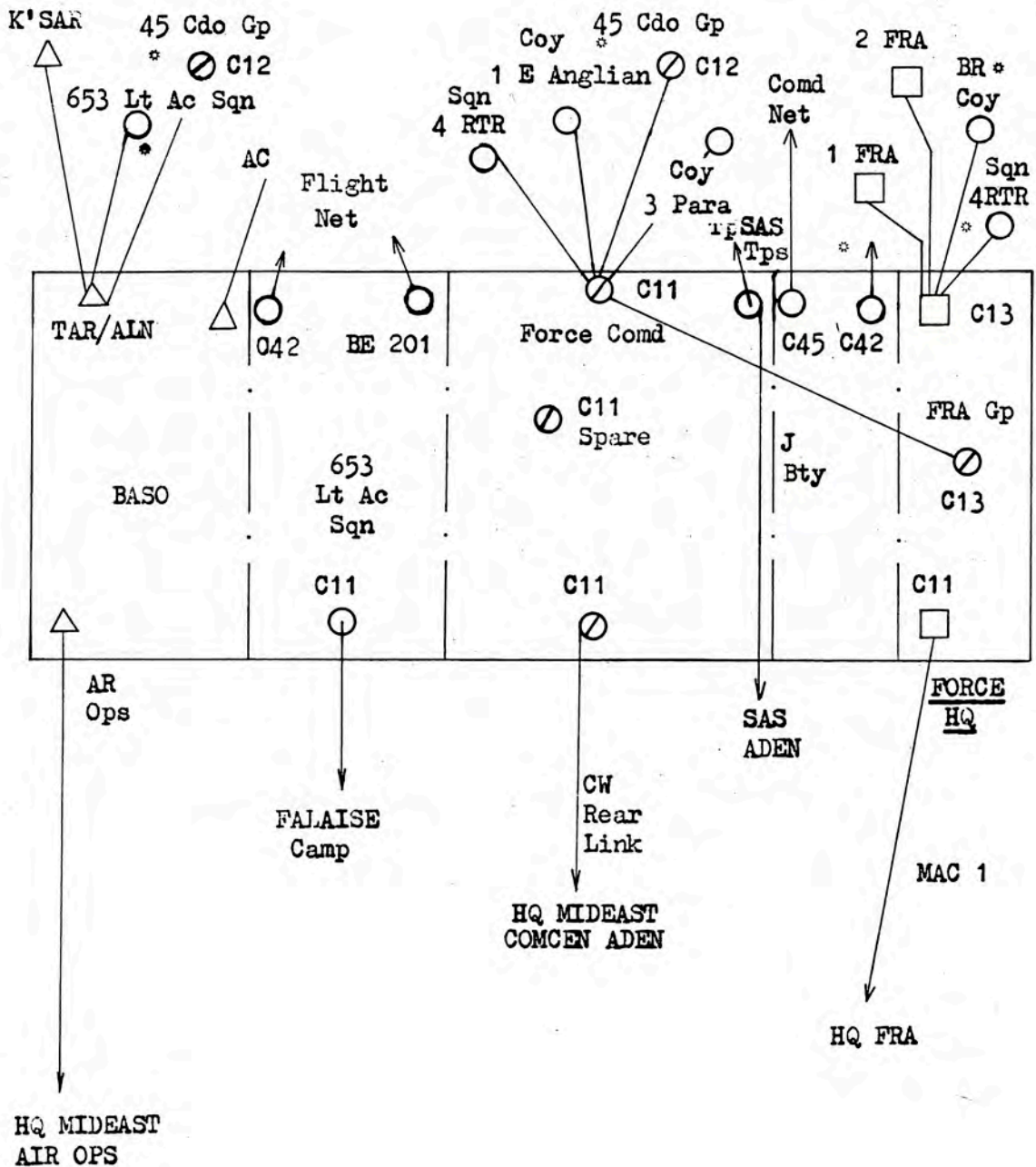
15. At first, the degree of control to be exercised over the operations in RADFAN by HQ Middle East Command was unknown, and this affected the signal plot and requirements. Initially, one hand speed morse rear link (SR C11) to COMCEN ADEN with off-line cipher was provided by 254 Sig Sqn. Voice communications were to be provided by the RAF. The distance involved (50 miles) is an extremely difficult one for HF radio and the low power RAF circuit had only limited success. A Royal Signals SR C11 voice circuit was therefore installed.

16. A Royal Signals, vehicle mounted, SR D11 station operating to a terminal in Singapore Lines, ADEN, was moved to THUMIER. Remote control to G(Ops) HQ MIDEAST was provided over landline. This improved voice communications still further but the quality was variable, particularly at night. When not needed by the staff the link was used to help clear formal traffic by voice or morse. A second hand speed morse circuit was opened to COMCEN ADEN on 26 May.
17. The combined ALN/TAR net was considered by the Air Staff to be inadequate and a separate TAR net provided by 603 Sig Tp (ADEN Element) from Air Ops KHORMAKSAR to THUMIER. The traffic load on this link was always light but the traffic was urgent as it concerned air support.
18. Once HQ 39 Inf Bde Gp had been established at THUMIER and it became apparent that the Commander did not intend moving his HQ, consideration was given to providing a radio relay system as the rear link. This would have provided an economic and speedy system for both voice conversation and formal traffic with an on-line cipher capability. Unfortunately, the necessary men and equipment were not available. As an alternative solution a SR C 42 circuit was established from G(Ops) HQ MIDEAST to HQ 39 Inf Bde Gp using Yagi aerials at each end. The THUMIER terminal was situated on high ground 800 yards outside the HQ area and the set remotored to the operations room by cable. Later the set was moved into the HQ area after improved aerials had been constructed.

Statistics

19. Some facts and figures are given at Appendix 3.

Appendix 1 to Annex J to RADFAN Report

PROPOSED RADIO DIAGRAM

1. FRA Gp moved from FORCE as ops started.
2. A43 avail in units to work to AC.

⊗ R SIGS

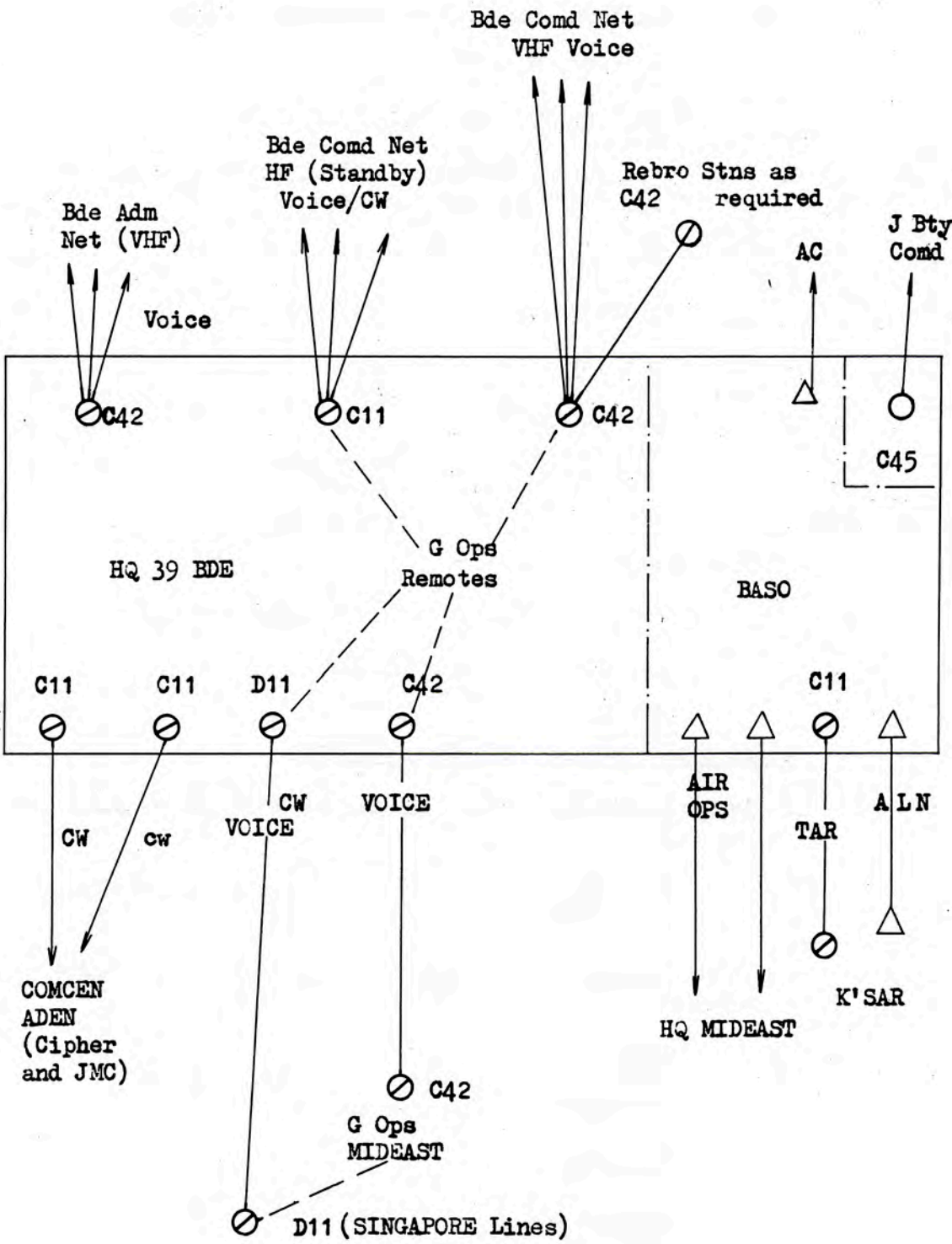
○ UNIT DET

□ FRA

△ RAF

* Not Implemented

RADIO DIAGRAM 39 BDE



Appendix 3 to Annex J to RADFAN ReportSTATISTICS1. Initial Deployment 254 Sig Sqn 17 Apr to 17 May

- a. Average strength at FORCE HQ was 1 Offr and 35.
- b. Lines laid in FORCE HQ area - 23 miles (D 10 and 7 pair).
- c. The total formal messages handled between 21 Apr and 15 May by FORCE Message Centre were:

Emergency	-	15
Op Immediate	-	436
Priority	-	879
Routine and Deferred	-	351
Total		<u>1681</u>

of these, crypt - 1061 messages

unclas - 620 messages

Total Crypt Groups 119,480

2. After deployment 213 Sig Sqn on 17 May

- a. Average strength at Bde HQ was 4 Offrs and 70 (Estb Bde Sig Sqn 5 + 111).
- b. There were 33 local telephone extentions in THUMIER, with over 50 telephones and 25 miles of line.
- c. Formal messages to HQ MIDEAST only handled by 39 Bde Message Centre on a typical day were:

Emergency	-	2
Op Immediate	-	42
Priority	-	42
Routine and Deferred	-	50
Total		<u>136</u>

(of these 56 were
crypt messages with
7000 groups).

ARMY AIR CORPS

1. The role of 653 Light Ac Sqn during the RADFAN operation was to give close support to the ground forces. The Auster was used for reconnaissance, AOP, airborne FAC and for SDS. The Beaver was also used for reconnaissance, airborne FAC, casevac, liaison flights, and re-supply forward, both by landing and by parachute drops. The Scout was used as a ubiquitous maid of all work in the forward areas.
2. The Sqn had been supporting FRA operations and escorting convoys on the THUMIER - DHALA road before the RADFAN operation started and two Austers and two Beavers were damaged by dissident small arms fire during that phase. In all, two Austers, three Beavers and four Scouts were damaged by small arms fire.
3. Initially, the Sqn operated from its base at FALAISE (LITTLE ADEN), and flew to THUMIER the necessary aircraft each day, at first light, returning at last light. This involved a large number of unproductive flying hours and also introduced an unacceptable factor in pilot fatigue since the first flight was started, and the last flight completed at night with a pre-dawn take-off, and a post-dusk last landing. To obviate this, and at the same time completely to identify the Squadron with RADFAN force, Tac HQ together with two Scouts, two Beavers, and two Austers moved to THUMIER and established itself in a camp alongside the airstrip on 7 May. It operated forward from there, maintaining a rear link with its base at FALAISE.
4. By keeping a 24 hour service going the scheduled periodic inspections could be done at night, the aircraft being flown down from THUMIER at last light returning by first light. The ordinary daily maintenance was carried out at THUMIER and any irregular arisings were coped with by calling forward a repair team with the required parts from FALAISE.
5. The Scout had the more glamorous role, being in close support of the forward troops and providing the necessities of life when overland supply was not possible, but Austers and Beavers also did good work. The parachute resupply by Beavers on PEGASUS Village during the 5 May and later the supplies landed by them at MONK'S FIELD and PADDY'S FIELD, the dawn and dusk patrols over the Wadi TAYM and the Wadi NAKHALAIN and the very mundane trips between THUMIER, KHORMAKSAR and FALAISE all played an important role in the main Sqn effort.
6. On 29 Apr an SAS patrol was lifted from THUMIER into the Wadi RABWA by Scout. This was done in three lifts at last light, a creeping barrage being placed in front of the helicopter. This was completely successful although the pilot described it as 'like flying in porridge!'. An attempt to lift another patrol in two Scouts into the Wadi TAYM at last light on the 30 Apr came unstuck when both helicopters came under LMG fire, one being hit in the fuel tank and the other in the tail rotor, and the sortie had to be abandoned.
7. A quieter period followed with routine reconnaissances until 5 May when 45 Cdo RM group secured CAP BADGE. Since there was some doubt about the security of the proposed HLG a Scout was sent in with an urgent resupply of water and ammunition at 0800 hours. The helicopter came under fire on leaving CAP BADGE but was not hit and the two sorties relieved the situation.

Later in the day, supplies were dropped in four sorties by two Beavers to 3 PARA who were pinned down in PEGASUS Village.

8. With the consolidation of our forces in the Wadi RABWA, the DHANABA BASIN, GIBALTAR, CAP BADGE and the Wadi TAYM, routine sorties were carried out. The two headless bodies of the two SAS killed on the 30 Apr were brought out of a very difficult HLG by a Scout.

9. On 18 May, the CO 3 PARA carried out a reconnaissance in a Scout to find possible routes from his base at SHAB TEM to his first objective, JAHWAR. The reconnaissance revealed a camel track that was subsequently used and the night advance was successfully carried out. A Scout reported to the new position at first light on 19 May, and shuttled backwards and forwards between SHAB TEM and JAHWAR carrying water, ammunition, rations, mortar pl and the MMG pl. A reconnaissance was also carried out forward and another track discovered for the night march. The aircraft was fired on by dissidents but was not hit. The helicopter returned to 3 PARA in the late afternoon together with another one, and again a shuttle service was run until last light. With the intensification of the flying effort a third Scout was positioned at THUMIER.

10. By first light on 20 May, a Scout reported to 3 PARA's new position near HAJIB and the shuttle service of water, supplies and ammunition continued. During the afternoon the casevac of a prisoner was carried out from HAJIB and the helicopter came under fire and was hit in one of the main rotor blades. The helicopter was flown back to FALAISE, new blades were fitted and tracked over night and the helicopter was back at THUMIER by first light on 21 May.

11. Early morning and evening sorties were continued in support of 3 PARA as they moved up the BAKRI RIDGE to ARNOLD'S SPUR. Reconnaissances were carried out and aircraft were almost invariably fired upon, although not hit, and the method of flying either very high or very low, fast and twisting seemed successful. One of the pilots adopted pheasant tactics and another was told that he was thinking like a woodcock. It was never discovered if this was an allusion to the pilot being bird-brained!

12. Sorties were continued until after dark. On one occasion the helicopters were guided into a courtyard with a torch. Cloud was the greatest hazard, on the early morning sorties to ARNOLD'S SPUR. Cloud flying was accepted and the Scouts were able to creep up the hill in visual contact with the ground and find the HLG at PAPA 4 but the descent back to the start line was complicated by the power contribution at low pitch settings.

13. The descent from ARNOLD'S SPUR into the Wadi DHUBSAN was carried out by 3 PARA during the night 25/26 May and the Bde Comd visited their HQ by Scout as soon as the cloud cleared enough to get in. Resupply was then carried out by Scout until, flying forward to the new HQ position, it came under heavy fire and was so damaged that a landing had to be carried out on the bed of the wadi. Although it was exposed and in full view of the dissident positions no further fire was brought to bear upon it and no further damage was done.

14. Two more Scouts were placed in the Wadi DHUBSAN and carried out all the casevac and resupply. When it was possible to reach the downed helicopter it was examined and an airmechanic was despatched by Auster to get the necessary replacements from FALAISE. Two airmechanics were then flown into the Wadi DHUBSAN and instructed to have the helicopter in a condition to fly out of the wadi at first light. A Scout flew into the wadi as soon as was possible on the morning of 27 May, and after rapidly refuelling the downed Scout, it was flown back to THUMIER and then on to FALAISE.
15. With the withdrawal of 3 PARA from the Wadi DHUBSAN there was a period of quiet with routine sorties while the force regrouped itself for the assault up the Wadi MISRA to the Jebel HURIYAH.
16. The advance up the Wadi MISRA entailed picqueting the high ground on both sides and the Scouts were fully employed in carrying the FACs and urgent supplies to isolated peaks - on one occasion the whole of 2 FRA were supplied with a cooked meal of rice and double goat at a spot that was otherwise inaccessible.
17. The final assault from L2 to the Jebel HURIYAH was carried out by 1 E ANGLIAN during the night 10/11 Jun and the HLG was established at first light; fifteen minutes later, at 0530 hours the first Scout landed on the Jebel HURIYAH with a load of water and thereafter two Scouts shuttled forwards and backwards from L2 to HURIYAH carrying men, mortars, ammunition, supplies and water. During this phase 8.55 hours were flown and 116 landings were carried out.
18. During the 12 Jun a reconnaissance was carried out by the CO 1 E ANGLIAN in a Scout and as a result it was decided to make an assault landing on the eastern edge of the Jebel RADFAN on the morning of 13 Jun. This was successfully carried out on 13 Jun and one platoon, together with rations for 72 hours, was lifted forward from L4 to what became known as L5. The whole operation took 30 minutes using two Scouts, each of which did 20 landings.
19. The following appendices are attached:
 - Appendix 1 General Statistics, hours flown, sorties and landings for the period 27 Apr - 30 Jun.
 - Appendix 2 Engine life and associated mechanical troubles.
 - Appendix 3 Damage, repair and recovery.
 - Appendix 4 Report on move of patrol of 22 SAS on 30 Apr, with Sketch Map.
20. A detailed report on the Scout helicopter is to be published separately.

Appendix 1 to Annex K
to RADFAN Report

GENERAL STATISTICS, HOURS FLOWN, SORTIES AND LANDINGS FOR

THE PERIOD 27 Apr - 30 Jun

GENERAL STATISTICS

1. Altitude. Up to 5,700ft.
2. Temperature. Up to 42°C. Density Altitude up to 9,300ft.
3. Types of Load. Pax, ammunition, water, arms, personal kit, defence stores.
4. Casevac. Own troops: 85
Enemy: 4
5. Crew Strain. (Ground and Air). This subject is to be dealt with in a detailed report on Scout operations, to be published separately.
6. No details of the weight lifted are available. Every load offered was accepted and aircraft seldom took off with less than maximum cargo.

HOURS FLOWN, SORTIES AND LANDINGS, 27 Apr - 30 Jun.

7.	<u>15 FLIGHT</u>	<u>Ac No</u>	<u>HRS FLOWN</u>	<u>SORTIES</u>	<u>LANDINGS</u>
	<u>BEAVER</u>	XP 773	54:00	60	95
		XP 774	66:15	91	201
		XP 775	116:05	159	307
		XP 777	121:10	149	316
		XP 819	72:05	95	178
		XP 827	126:00	172	369
		TOTAL	555:35	726	1466

8.	<u>13 FLIGHT</u>				
	<u>AUSTER</u>	XP 238	117:35	119	282
		XP 245	117:20	112	198
		XN 436	80:15	79	135
		XN 439	68:20	75	163
		TOTAL	383:30	385	778

9.	<u>13 FLIGHT</u>				
	<u>SCOUT</u>	XR 600	122:30	*	595
		XR 601	120:35		785
		XR 628	56:05		426
		XR 629	104:10		1238
		XR 630	147:30		1142
		TOTAL	609:50		4186

*The number of Scout sorties is difficult to determine. Each Scout made several landings in the course of each mission, so the total number of sorties would depend on the definition of sortie. If a sortie is a flight, then the number of sorties equals the number of landings.

Appendix 2 to Annex K
to RADFAN Report

ENGINE LIFE AND ASSOCIATED MECHANICAL TROUBLES

1. General. Three types of Army Air Corps aircraft were used during the operation and each type is considered separately.

AUSTER Mk 9

2. Data

- a. Number of aircraft held - 4
- b. Average hours flown per aircraft - 95:02
- c. Engine: Balckburn Bombardier 20801
4 cylinders in line, inverted engine
- d. Engine overhaul life normally 800 hours.

3. Mechanical Troubles. The engine in this aircraft has experienced excessive mechanical trouble in ADEN during the past year and a half because:-

- a. the power output is too low for the size of the aircraft in these climatic conditions
- b. the engine air intake filter is inadequate to cope with dirt and abrasive matter entering the engine hence causing excessive wear
- c. the oil cooler is inadequate to enable the oil to be cooled sufficiently which has numerous side effects upon the functioning of the engine and its ancilliary components

Much research has been made within the squadron and on three occasions firm's engineers have visited FALAISE Airfield for prolonged periods to attempt to improve the serviceability. At present two local modifications have been introduced which have enabled the aircraft to achieve the present flying intensity albeit with a reduced pay load. These modifications are a redesigned engine air intake and filters and a dual oil cooler arrangement. Consequently engines are now achieving 200 hours whereas hitherto even new engines were being rejected. Three engines were changed during the RADFAN operation, but this was necessary in any case in connection with trials, on previously rejected engines for low oil pressure, to develop the dual cooler modification as well as to maintain the daily requirement of operational aircraft.

BEAVER

4. Data

- a. Number of aircraft held - 6
- b. Average hours flown per aircraft - 93:32
- c. Engine: Pratt & Whitney Wasp Junior R 985
9 cylinder, radial engine.
- d. Engine overhaul life normally 800 hours + 15%.

5. Mechanical Troubles. Two engines were changed during the period but this was routine scheduled servicing for life engines. The Beaver aircraft normally reaches its intended life in this theatre although in the last hundred hours evidence of engine wear in the form of weak compression, low max revs, high fuel consumption, high oil consumption, high operating temperature is more obvious than in temperate climate operating zones.

SCOUT Helicopter

6. Data

- a. Number of aircraft held: 27 Apr - 10 May - 2
11 May - 30 Jun - 5
- b. Average hours flown per aircraft held: 140:24
- c. Engine: Bristol Siddeley Nimbus 10201 Free Turbine
- d. Engine Overhaul Life: - 300 hours

7. Mechanical Troubles. A defect trend developed during the operation which involved unscheduled servicing to the extent of changing every component or rotating part from inclusive the engine to main rotors with proof testing after each component change. This was necessary to isolate the cause of the defect and to be able to report to the AACC accordingly.

8. Defect. Eventually, the defect was attributed to the free turbine governor and was introduced when the transient and static droops of the old governor was below limits. This necessitated fitting a new governor which introduced a severe lateral oscillation of the aircraft accompanied by varying torque of 8 - 10%. Bristol Siddeley Engines Test Pilot and Development Engineers visited 653 Sqn and fitted a new, UK, proven governor to the suspect engines and the defect was reintroduced. Tests were made with a vibrograph recorder and, briefly, it was found that governors with a steep droop line characteristic tend to become unstable in the governed speed range mainly due to the high temperature (500C) of the fuel, and hence low density for which it is unable to compensate automatically.

9. Solution

- a. short term: to by pass some of the fuel from the governor provided the side effects upon the flight idle guide condition are not too severe
- b. long term: design, develop and introduce a mechanical governor override for the higher speed range.

10. Engine Life. Of four engines changed, the average life was 127 hours. However, there is nothing in the symptoms which led to engine changing which can be considered as a direct result of the operating conditions in the RADFAN. This can only be verified or contradicted when the manufacturers' strip examination report of each engine is published.

- 123 -

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Summary

11. There was an obvious increase in manhours, spares consumption and unscheduled rectification but as far as engines are concerned there is no evidence from which it can be concluded that operating conditions in the RADFAN are the cause of unserviceability because the squadron does not normally operate from dust free hardstandings anyway. In fact the increases above mentioned are merely a reflection of a flying intensity which was almost double the normal and are proportional to it.

Appendix 3 to Annex K
to RADFAN Report

DAMAGE, REPAIR AND RECOVERY

1. General. In this report, differentiation is made between fixed wing aircraft and rotary wing aircraft. However, a general assessment of damage shows three main causes which are applicable to the operation.

- a. particularly stony landing strips, dust and high proportion of landings to number of hours flown i.e. short sorties due to the small operational area: propellers, tyres, tail plane leading edges experienced excessive wear.
- b. passengers who are not familiar with the type of aircraft they were using together with careless equipment handling when speed was essential.
- c. SA Fire damage.

Fixed Wing Aircraft

- 2. a. Propellers. Normal consumption is one per 450 flying hours - this increased during the operation to one per 92 hours. It became routine after flight procedure to smooth ragged leading edges with a round file because each take-off and landing produced a new area of stone damage. These figures would have been still higher had pilots not taken particular care to reduce ground running, taxiing and shut down procedures to an absolute minimum.
 - b. Tyres. (Covers outer main wheel) Consumption increased from a normal of one per 125 flying hours to one per 71 hours. This was anticipated with shorter sorties and rough forward strips. However few covers had to be rejected for cuts before 75% of tyre wear had been reached.
 - c. Tailplane leading edges. These are normally protected by the incorporation of a 'Special Order Only' modification applicable to ADEN and KENYA only. This consists of a protective covering moulded to the leading edge for protection against stones from the mainwheels and propeller. There were several instances of stones cutting the metal skin for two to three inches on the underside of tailplanes. Mod kits are in short supply and a new aircraft recently received from the UK does not have this modification and damage to it has been excessive. Skin repairs have been made but usually small dents on leading edges have to remain unless there is doubt concerning further structural damage to ribs and spars within the component.
3. Careless handling. There have been few instances of this in fixed wing aircraft. Door catches and restrainers have been forced and in one case a non-European pulled the jettison lever to open the door before the engine had stopped causing other minor damage as the door struck the aircraft. However, nothing serious or irreparable occurred.

4. SA Firea. Auster Mk 9

1. Bullet penetrated underside of mainplane in vicinity of aileron Bell Crank but there was no damage internally. Fabric patch repairs to the bottom and top surface rectified the damage.
2. Bullet entered tailplane and passed through fin causing internal structural damage to both. Items renewed. Second bullet passed through rudder - also renewed. Third bullet entered rear fuselage and damaged a cross member, tail wheel Bias levers port and stbd and shock absorber outer casing. Items all renewed and fuselage fabric repaired. The cross member was repaired by 3rd line personnel of 131 MU RAF.

b. Beaver

1. Bullet entered stbd mainplane from below emerging through the top surface having damaged an internal stringer en route. Repairs were made in Sqn Wksps.
2. Several bullets entered the fin and rudder both of which had to be renewed in Sqn Wksps owing to the nature of the internal damage. Several bullets entered the rear fuselage and tail cone which were repaired by Sqn Wksps. One bullet entered the stbd mainplane from below and emerged at the top without causing internal damage. Skin repairs were made by Sqn Wksps.

Rotary Wing Aircraft

5. Erosion. Due to the loose and dusty surface of the area, severe main and tail rotor blade erosion was anticipated together with engine compressor and turbine blade wear. Rotor blades are measured for depth of wear along the leading edges at 50 hour intervals and although erosion is severe, it is unlikely to cause any reduction in overhaul life if the same rate is maintained i.e., minimum limits of thickness will not be reached in less than 300 hours. As far as the engine is concerned, no adverse effects on blade erosion are yet known. There is no repair scheme to refurbish blades in the Service as far as leading edge erosion is concerned.

6. Handling. Damage occurred as follows:-

- a. many door restrainers forced, bent and jammed in the cab frame causing secondary distortion to frame members. Repairable in Sqn Wksps resources.
- b. cabin roof perspex panels broken by rifles or equipment of passengers protruding through - 3 cases. One repairable in situ and two in squadron workshops.
- c. severely beaten side panels of aircraft due to rear seat lap straps left unsecured when passengers get out and doors have been removed. Often the pilot could not shut down and get out before taking off again owing to the nature of the landing ground and was committed to return to base with buckle ended straps beating in the skin stream.

- d. jerry cans unloaded in haste were dropped onto the skid undercarriage damaging non slip pads and handling wheel jack housings.
- e. a satchel was left hanging on the upper VHF aerial - the after flight inspection revealed dented tail rotor blades, bent tail rotor blade tips and remains of the strap entwined on the tail rotor hub. Repairable by unit.

The Scout is very strongly constructed and was able to withstand harsh treatment without adverse effects to availability.

7. SA Fire

- a. bullet damaged the tail rotor blade.. New tail rotor was fitted in the field after return to base camp.
- b. bullet entered port electrics bay access panel, passed through a primary structure member and entered the flexible fuel tank causing a rapid loss of fuel. The aircraft landed at the base camp with barely sufficient fuel. A new fuel tank was fitted in the field and the aircraft returned to FALAISE for second line structural and skin repairs. Bullet was recovered inside the unserviceable tank.
- c. bullet passed through one (RED) main rotor blade from the underside at 18" from the tip and one inch from the trailing edge. The aircraft flew back to FALAISE where a new set of blades was fitted as no repair scheme was available to the service at that dimension and station on the blades.
- d. multi bullet strike as follows:-
 - (1) five through the side of the cabin upwards through the roof perspex, penetrating from the inside. Aircraft flying with doors removed.
 - (2) one struck side of gearbox casting, deflected onto hydraulic pipe partially severing it and entered the cabin from the outside at the back passing forward emerging through the rear seat back rest. Rear seat was also removed and passengers were sitting on the cabin floor.
 - (3) bullet struck the port aft skid undercarriage post at the base causing it to crack and deflected through the electrics bay access panel and through a floor bracket.
 - (4) bullet entered the booster pump and fuel filter bay access panel and passed through a bracket into the fuel tank sump severing the fuel pipe from the aft booster pump to the low pressure warning light switch thereby necessitating a forced landing.

Repairs were effected and recovery completed by fitting a new fuel pipe during the night, replenishing sufficient fuel and flying the aircraft back to base. All other repairs were completed within second line resources.

8. Summary. Despite arduous conditions of operation only one repair was beyond category 2, i.e. beyond unit resources (Auster fuselage) and serviceability was maintained by increasing working hours and carrying out repairs by night as necessary. Furthermore, discounting expense stores, demands on the Stores Section for spares were 921 from which:

814 were issued over the counter

74 were issued from 114 MU

33 were issued from the UK of which 13 were 'OP EXPRESS'

Appendix 4 to Annex K
to RADFAN Report

REPORT ON MOVE OF A PATROL OF A SQN 22 SAS

ON 30 APR

Sketch Map attached

1. A requirement existed for the marking of a DZ in the eastern Wadi TAYM, for a proposed drop by B Coy 3 PARA on the night of 30 Apr/1 May.
2. A patrol of A Sqn 22 SAS had set out overland to do this task, but had been discovered and engaged by the enemy. It was therefore decided on 30 Apr, to try to send in another patrol by helicopter from the forward base at THUMIER at last light to a point in the hills fairly close to the DZ.
3. Two Scout helicopters of 653 Light Ac Sqn, were used, each carrying 4 SAS. In order to accomodate this number with their kit, the doors were removed and the fuel load reduced. Since it was planned that the troops would leave the aircraft at speed, and that the aircraft would take off again immediately, the safety straps were also removed.
4. The effect of these measures was that the aircraft were taking off at maximum all-up weight, that they had to operate at the limits of power, and that their range and manoeuvreability were reduced.
5. It was clearly likely that the expedition would be fired on during their run in, and the SAS patrol were briefed on points to watch when firing from a helicopter, and instructed to open fire on anyone seen firing at them.
7. The two aircraft took off at 1810 hours, Lt Col F. GRAHAM-BELL piloted the lead aircraft, XR601, and Major C. SURGEON piloted the second aircraft, XR600, taking up a position in loose echelon to starboard.
8. They flew along the route shown; north up the DHALA road to milestone 27, and then NE to the S DABAB, which they followed to the SE. They flew at 5000ft and at an indicated speed of 70 knots. Just before they reached the SHAB MEGHAZ, they reduced height to turn up the wadi on their new course for HUMERA 946060, (not shown on sketch map).
9. As the aircraft passed AMAK, by the SHAB MEGHAZ at 890044, they came under fire from machine guns firing tracer. Both aircraft were hit and the patrol in the second aircraft returned the fire.
10. The leading aircraft had been hit in the fuel tank, and Major SURGEON called Lt Col GRAHAM-BELL on the radio to tell him that he could see fuel pouring from the underside of the aircraft.
11. Lt Col GRAHAM-BELL then calculated that he would not have enough fuel to complete the sortie and so turned to starboard to regain the DHALA road, and return to THUMIER. Major SURGEON asked if he should continue the sortie, but since the patrol leader was in the leading aircraft and it was inadvisable to put only 4 men on the ground, Lt Col GRAHAM-BELL ordered him to return to THUMIER and to escort him out.

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12. During the turn back to the Wadi BORAN the aircraft were engaged by fire from several points, and this fire was returned by the SAS troopers from the rear aircraft.

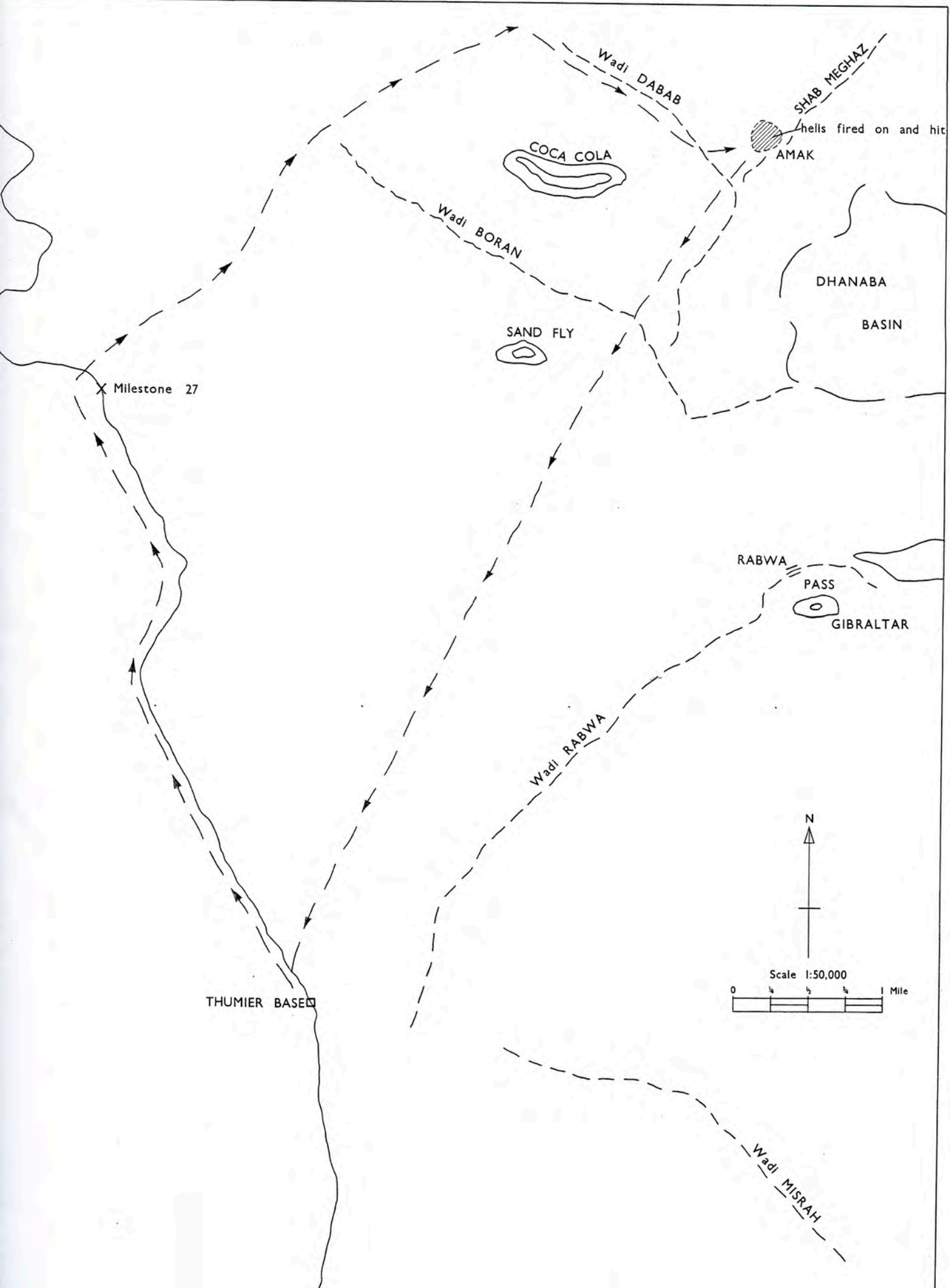
13. Both aircraft landed safely at THUMIER, and there were no casualties in the expedition. Damage to the Scouts was:

a. XR 601 - Main fuel tank holed.

Main port longitudinal stress member holed.

b. XR 600 - Leading edge of tail rotor struck 4 inches from the top.

ROUTE TAKEN BY SCOUT HELICOPTORS, 30 APR.



Annex L to RADFAN ReportACCOUNTS OF PARTICULAR OPERATIONS

The following reports by units are included to amplify the operational narrative:

		<u>Pages</u>
Appendix 1	Extracts from a report by A Sqn SAS	133 - 142
Appendix 2	Report by OC B Coy 3 PARA on the engagement, 5 May, with sketch map	143 - 146
Appendix 3	Report by CO 4 RTR on armoured operations in the Wadi MISRA, 19 May, with sketch map	147 - 150
Appendix 4	Report by CO 3 PARA on the advance up the BAKRI RIDGE and the raid into the Wadi DHUBSAN, with sketch map	151 - 157
Appendix 5	Report by OC X Coy 45 Cdo RM on the raid into the Wadi DHUBSAN, 26 - 27 May, with sketch map	158 - 161
Appendix 6	Report by CO 4 RTR on the operations of WATFORCE, 24 - 28 May, with sketch map	162 - 164
Appendix 7	Report by CO 1 E ANGLIAN on the advance up the Wadi MISRA and the capture of Jebel HURIYAH, 30 May - 19 Jun, with sketch map	165 - 170
Appendix 8	Account of the occupation of Jebel WIDINA, 22 - 28 Jun	171

COPY
EXTRACTS FROM A REPORT ON
A SQN 22 SAS OPERATIONS
IN RADFAN

GENERAL

1. 22 SAS were due to provide one sqn for one month's trg in Mideast from approx 25 May 64. The aim of this trg was terrain familiarisation and the trg of one sqn in counter guerilla ops on foot in desert/mountain conditions.
2. As a result of HQ Mideast decision to mount ops in Apr against dissident tribesmen in the RADFAN, and 22 SAS ability to accelerate the sqn's move to ADEN, the trg ex scheduled for May became an actual op in Apr under comd of the HQ controlling RADFAN ops - HQ RADFORCE, subsequently HQ 39 Inf Bde Gp.
3. The sqn was placed under comd of HQ RADFORCE on arrival in Mideast. This restricted SAS ops to an already mounted op and resulted in the employment of the sqn on local ops in sp of the immediate tac battle. The sqn was therefore largely employed as inf, and did NOT exercise many of the SAS capabilities in the form of long distance comms, Arabic speaking, demolitions, etc, as there was no requirement or opportunity for them.

OPERATIONS AND DEPLOYMENT

4. Familiarisation Op 26-28 Apr

The sqn, having arrived in ADEN on 24 Apr was moved to THUMIER on 25 Apr. On 26 Apr, the first patrol was deployed. This was sqn str splitting up into half tp str in the lie up area. Elements of 3 tp had to RTB due to a heat casualty. During the return they ambushed a rebel supply caravan killing or capturing the camels. The drivers escaped but were detained the next day by the local political officer. The sqn suffered acutely from water shortage, due to lack of acclimatisation. The water supply of 10 pints per man for 36 hours was carried individually. Limited information on enemy movement was obtained.

5. DZ Op 30 Apr - 1 May

- a. On return from this op the sqn was briefed to secure and mark out a DZ some 20,000yds behind the en FEBA. A Coy of the Parachute Regiment was to be dropped in on the ni of 30 Apr/1 May. 3 tp was given this task. They infiltrated on the ni of 29/30 Apr and being unable to reach the DZ area that night lay up some 5,000yds short in the area of SHAB TEM. This was overlooked by other high ground and, as was later discovered, the area selected was in the centre of the Rebel base area. The patrol was discovered by a shepherd who wandered onto their position at 1100 hours, on the morning of 30 Apr. The rebels then proceeded to surround the position and snipe it for the remainder of the day. They were held at bay until dusk by GA aircraft and artillery directed by the tp. By use of dead ground, however, they managed to surround the position by dusk. At dusk they launched an attack with some 90 men. When it was clear that the position was going to be overrun Capt Edwards, the tp comd, led an assault to break out.

Tpr Warburton had been killed just before this assault and three other men, including Capt Edwards, slightly wounded. Capt Edwards was killed in the break out. The remainder of the patrol returned to base, ambushing three rebels attempting to follow them.

- b. If 3 Tp failed to reach their objective, 1 Tp was to be deployed by AAC hel to the DZ area at last light on 30 Apr. 1 Tp was briefed and left at 1800 hours. The hels were shot at and damaged despite members of the tp returning the fire with IMG from the aircraft. The hels had to RTB with one hit in the petrol tank and the other in the tail rotor.

6. Obsn Op 2 May to 8 May

As a result of the 3 Tp action the sqn was deployed with all tps mutually supporting but split up into four man ptls. Their task was to lie up on the high ground overlooking the SHAB TEM base area and report and direct fire on rebel mov. During this op up to five targets a day were engaged resulting in the break up of the en in the area of SHAB TEM. The ptl had two air resup of water and food. These were at dusk and dummy drops were made for deception purposes.

7. Wadi TAYM Op 13 - 19 May

This op was designed to obtain information on en movement at the eastern end of the TAYM basin. The sqn lay up in mutually supporting ptls for three days, during which it was established that the en were withdrawing from the TAYM to the BANA. On the third day the sqn moved to the village of NAQB with the intention of patrolling at night in tp str and lying up by day in two tp gps overlooking the Wadi BANA. In the event the Sqn was recalled on the fifth ni before this could be implemented. During this ptl 1 Tp had a contact at ni with a rebel caravan, wounding one man and killing a camel. 1 and 4 Tps also ambushed two rebels in the area of the pass from the TAYM to the BANA, killing both. The Aqil of NAQB walked into the sqr lie up position in the village and was captured by 2 Tp. On the 18 May the rebels fired on the sqn from a distance of 300 yards at 1900 hours. A subsequent ptl located the en fire positions and recovered empty cases.

TACTICS

8. SAS

- a. Gen. The Arab by tradition has a dislike of working during the hours of darkness. In the RADFAN ops the en was not sufficiently well organised to operate at night. Hence SAS ops were based entirely on night movement and lying up by day. The only casualties inflicted on SAS were caused when lie up areas had been discovered by day and the en was able to attack them during the day. At no time did the en take the initiative during the night.
- b. Night. All SAS movement was by night. Moves varied from sqn strength to ptl strength of 5 men. Although in the early stages SAS movement was noisy and clumsy, as time went on the whole sqn was able to move without a moon and with little noise. There is no doubt that the uncertainty caused by this ability to move at night was a deciding factor in the withdrawal of the enemy from the Wadi TAYM over the period of 13 to 19 May.

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- b. As the ability of British ops to op in this type of country became apparent to the en so their confidence waned and they discarded their uniform and military org.
- c. Although the en has radio, mortars, and automatic weapons these are in small nos and in the case of the mortars they have little idea on how to use them and little ammo.

SP ARMS10. Arty

- a. J Bty 3 RHA was in sp of Sqn Gp during all ops. Although SAS were only one of many users, all requests were met promptly, and a large number of useful targets were recorded. Cas inflicted are not known, but from direct obs must have been numerous.
- b. Tp Comds were given instructions on OT procedure for calling for fire sp both before and during op. Latterly fire sp was called for through sqn base, and this procedure worked well. More practice is required in OT procedure by Tp Comds.

11. Air

- a. Sp was provided by Hunter Sqns RAF and again numerous strikes were called for and met, especially during 3 Tp action. En cas are unknown.
- b. Sp was co-ordinated via Base on A41 and tel and this procedure operated well. Owing to weight restriction A43s were not carried so FACs were not deployed. More trg in FAC work must be carried out by senior NCOs.

12. RM

1 offr and 11 marines were instructed in basic SAS tac and SOP, and accompanied sqn in Wadi TAYM op. Although trg and co-operation was good, owing to short time aval only superficial trg could be given.

13. Dress

SAS dress on ops consisted of OG with desert boots and jungle hats. The jungle hats served as a most useful means of recognition during the night. The desert boots are a prerequisite to quiet movement by night and to avoidance of accidents due to falls on the mountainside. The DMS boot is noisy, lacks grip and is quickly cut to pieces on the volcanic rock. In desert mountain country OG offers good camouflage while KD is a liability.

14. Eqpt

- a. Each man carried two lightweight air panels and these proved invaluable for directing fighter ac. They could be laid out inside a sangar thus not giving own troop's position away to en on the ground. Heliographs were carried and were excellent for attracting the attention of ac.

- 135 -

The main problem introduced by night movement was the difficulty of selecting RVs. This was also made difficult by the inadequacy of the maps. The system employed was that night RVs were selected at places known to both parties or locs which could be seen in daylight and mutually agreed on over the radio. The rate of movement by night was 1,000yds an hour without moon and up to 3000yds an hour with a moon, depending on the going. These figures are based on a move of sqn strength; ptls could of course, move faster if necessary.

- c. Day. At no time did SAS troops move during the day. The principle employed was to move onto high ground by night and split the tp into four or five man obsn ptls. Each ptl was mutually supported by fire and was sighted in sangars covered by camouflage nets. All cooking and movement was restricted to the area covered by the net. Due to the shortage of water most men could pass the day without relieving themselves, thus keeping the sangar sweet. It was found that little difficulty was experienced in sitting positions at night so that they had a good field of vision by day.

d. Misc

1. In view of the mine threat all SAS travel by veh was restricted to 3-ton fully sandbagged and without canopies.
2. The loc of SAS ptls was given to the Force HQ, Arty Comd and Comd of any unit operating near SAS or which SAS were likely to have to pass through. In the latter case the route and aim of SAS ptls were not passed on. This security, in a country where news passes so quickly, is an essential to any unit operating behind the en lines and relying on secrecy for its protection.
3. Each SAS soldier was issued with a blood chit by the High Commissioner's Office offering a reward of £1,000 for the safe delivery of any man captured by the enemy. This had a salutary effect on morale, but was not put to test in practice.
4. No firing, except at a definite target was a strictly enforced rule which paid off on several occasions. In the 3 Tp action, although engaged by the enemy for 7 hours of daylight, the patrol still had two thirds of its ammunition left. When the sqn was fired on on 18 May in a village lie up at 1900 hours no fire was returned and the en withdrew due to lack of knowledge of SAS positions.

9. En tac

- a. In the initial stages the en was bolstered by high morale as a result of their successes in Op NUTCRACKER. While this lasted they moved freely by day in small uniformed gps. They were prepared to take on any of our own tps by long range sniping and if they thought they outnumbered them they were prepared to assault our positions. These assaults invariably took place at last light; the en positioning themselves by skilful use of ground. At no time did the en attack or fire on a position where they were unable to pin-point each sangar.

- b. Every man had a camouflage net of six face veils sewn together. These proved effective in concealment from ranges of over 150 yards. If an approached closer than this it was possible to pick out the net itself.

15. Wpns

The only weapons carried were SLR and LMG. These proved excellent. It was found that the GPMG was not suitable. It was slow into and out of action compared with the LMG. The ammo gleams in the dark and the sun when the belt is carried across the shoulders. The rate of fire is too fast when only limited amounts of ammo can be carried. Weight is too heavy when all personal kit and rations and water have to be carried for periods of up to seven days. There was difficulty in carrying the belt ammo when wearing a bergen rucksack.

MED

16. Heat

There were only two minor cases of heat exhaustion despite the fact that the men were deployed on an arduous ptl within 36 hours of landing. All men felt lethargic during the first seven days of ops and this had to be overcome by self discipline. Water was rationed to 10 pints a day in the early stages. This covered an eight hour night march and lying up in the open throughout the hours of daylight without shade. In the first week this caused extreme thirst and a degree of weakness in the legs. Also it was necessary to force oneself to eat. However, as the men became acclimatized it was possible to cut the ration down to 8 pints a day. For short periods of up to two days it was possible to manage on as little as five pints a day. This required strict self-discipline and planned drinking. There were no cases of sunburn. Adequate quantities of salt were taken throughout the op and it was interesting to note that with acclimatization the salt intake was cut by two thirds.

17. Water

Water was obtained from rock pools and from springs. At no time was any illness caused by bad water. All water was sterilised with double dose of the issue tablets. Each man carried at least three and up to five water bottles and the day's rations had to be collected at night and taken to the lie up position. In addition each man had a 1 gallon metal can. These were most useful but they soon rusted up and they made a considerable noise at night. They should be replaced by 1 gallon soft plastic containers. Each ptl carried a canvas bucket and cord to draw water from wells.

18. Cas

There were no SAS casevac from ptls during the month of ops. In all cases the wounded, of which there were a total of five, had to be treated by SAS med orderly and then had to march out as it was not tactically possible to helivac them. On one occasion a man had 25 stitches and spent the day lying up and then marched out the next night. There is no doubt that had it not been for the advanced trg of the med orderly this man would have suffered lasting damage.

COMMS

ADM AND LOG

20. a Org

With the Force HQ at THUMIER it was possible for routine sup to be conducted by the SQMS through this HQ. However, this did not allow for special requirements. This side was handled by the QM direct with HQME Q(Ops). The QM was the only officer who remained in ADEN, and he operated a liaison link and ensured the smooth flow of all SAS indents. There was a small staff of three, one veh, and radio link with THUMIER. This arrangement was found to be satisfactory.

b. Tpt

Tpt was loaned by a local unit for the period it was required. Apart from the sqn's arrival there was only one $\frac{3}{4}$ -ton aval. Although this was sufficient for day to day needs it was found that there was the greatest difficulty in obtaining additional tpt when people came down from up country.

c. Eqpt

Certain items of kit had to be purchased locally and other items required were not held by the Regt.

21. FAC and Artillery Support

There is a serious deficiency in SAS training in that there are no personnel trained in FAC or Artillery control duties. All SAS Squadrons must have at least one instructor in these duties and steps should be taken to place senior NCOs on FAC Courses which at present are open to officers only.

22. Challenging

The present system of challenging within the Regiment is not satisfactory. There is no 'all theatre' method laid down in Regimental SOPs. This important subject must be clearly laid down at a Regimental level, and the same system should be employed under all types of operations. The system currently practised in some cases of using the word SAS within the challenge is open to the enemy overhearing it and is bad security as it can give away the identity of the patrol. The numbers system is recommended as that to be adopted by the Regiment.

23. Night Movement

The value of operating and moving entirely at night was underlined by there being no casualties to any British troops throughout the period of the operation during the hours of darkness. Daylight movement should be forbidden except in cases of extreme urgency.

24. PR

The Press release of the fact that the SAS were on operations in ADEN when the families of the men did not know they had even left England caused much unnecessary mental suffering and a lowering of morale. In view of stringently applied SAS security regulations Press releases should first be cleared with SAS Commanders.

25. Infantry Patrols

Several bad mistakes occurred in the arrangements for patrols moving in and out of THUMIER base by night. These were largely due to lack of co-ordination by the HQ concerned, but SAS must appreciate the necessity thoroughly to tie up out/in routes and methods when operating from a defensive base camp, or casualties will needlessly occur.

26. Signals

- a. RSO should be included on all recce parties to cope with changes required in signals plan. He will also be able to deal with AQ matters.
- b. A41 useful up to 10 mile range.
- c. RT procedures and security require practice.
- d. RS 128 can be used at short range if correct antennae used.

27. Adma. Clothing required for ME Ops

*OG Slacks, Shirts, Hats.	2 each per man. 50% reserve
Bottles Water	1 each per man extra. 25% reser
Containers Plastic 1 Gal.	40 per Squadron.
Misc Rope	
Whip Cord	
Buckets Water Canvas	
Heliographs (Mirrors Steel)	
* Theatre issue is KD.	

b. Standing Authority for local purchase required

Boots Desert (Standing auth to purchase)
 Cameras (A robust L/W 35-mm should be developed for forward obs)
 Binoculars (These should be lighter than the present ORD issue and of greater magnification)

- c. 7.62 IMG should be retained and NOT withdrawn on completion of GPMG issues.

Annex A3 TP ACTIONEN INT OBTAINED

1. Gen. En generally appeared to be well org and to recognise a leader or leaders who rallied them by shouting. It was plain that most, if not all, of them came from the villages along the escarpment running from about GR 9400 through HAJIB and SE and that these men also provided guards or picquets for other features in the RABWA massif. En appeared to be confident, disciplined and versed to some extent in military tactics.
2. Dress. Majority were in an olive green type jacket and shorts with turban. Apparent leaders were dressed in khaki drill jackets and shorts.
3. Wpns. All men carried rifles, possibly Mausers, some semi-automatic rifles similar to SLR, or Bren guns of which five or six were identified. 3 mortar bombs were fired at own tps, probably 81-mm approx calibre. Impression was gained that en did not know how to use this weapon.
4. Tactics. It was evident that en were fully conversant with use of sangars and mtn picquets to con approaches. Sangars were found with built up communication sangars between them, and en had obviously a well known and used system of picquets on the high ground approaching the head of Wadi RABWA and to the interior towards HAJIB. There is a well used path from HAJIB to the wadi near 3 Tp's posn leading to SHAB TEM. Fire was very accurate incl LMGs, and en used good fire posns.
5. Radio. 3 Tp on return route definitely identified a radio in use by one en picquet from the 'mush' which could be clearly heard.
6. Morale. Morale is evidently high. The fact that en were subjected to some 6 hours continuous air attack by cannon and rocket, and was still apparently undemoralised bears this out. The fact that en engaged fighter ac attacking betokens a contempt for, and also acquaintance with this type of attack.

Annex BSIGS PTS1. ADV PARTYa. Sig Plan

After the Sqn had been given its role and area of op the sig plan was based on the fol:

- b. RS 128 Net. One RS 128 per tp with control at ADEN. Tac HQ at THUMIER being an outstation.
- c. A41 Net. One per half tp on a Sqn net with THUMIER as control.
- d. Although at the time no A41s were held against our G1098 estb, steps were taken to draw them direct from ORD in UK. A41 were sel for the fol reasons:
 - (1) Voice capability
 - (2) Comm with RA
 - (3) Comm with AAC
 - (4) Rapid voice comm within the Sqn

2. OP PERIOD

- a. 128 Net. This net was used during the trg op when ptls were 5 miles distant from THUMIER. Comms worked satisfactorily both to THUMIER and ADEN. The better sig str was received at THUMIER and was due to the aerals being used in a ground wave role i.e. pointing at THUMIER and lying on the ground. However, as a result of the good comms achieved by the A41 the use of the RS 128 was discontinued.
- b. Link to ADEN. Throughout the op a link was estb with the QM in ADEN. Due to the manpower split this link worked on an hourly schedule.
- c. A41. This set was used as the ptl set and was found satisfactory. The fol points are to be noted for further ops.
 - (1) Battery life can be planned on the assumption of at least 20 hours working.
 - (2) Due to calibration under ni conditions it is suggested that all freqs be allotted to the full Mc/s e.g. 51 Mc/s - 59 Mc/s.
 - (3) The range is not completely line of sight but siting is fairly critical and best results can be achieved when line of sight is taken. Ranges of up to 10 miles using the 10ft aerial are workable. During the final stages of the Op when ptls were 13 miles from THUMIER comms were at times estb without the aid of the Relay. It was found that in many cases at this extreme range control could be heard but could not hear any outstations. At this extreme range line of sight was not possible.

- (4) The base aerial for the A41 net was mounted on top of a telescopic aerial giving an additional 20ft of height.
- (5) An AF Amplifier fitted to the base A41 is beneficial for all working in the Ops Room as it enables everyone to listen in.
- d. RT Procedure. This has always been given a low priority within the Regt, due to the fact that it has never had to be used before. Considering that fact, procedure was, at the conclusion of the Op quite fair. Steps are being taken to increase the amount of Sig trg allocated to voice procedure.
- e. Security. Due to the speed of this op and the employment of SAS, security in the form of SAS Code was restricted solely to the reporting of locations and future intentions. All other traffic was sent in clear when it was realised that the en had a radio (and therefore monitoring) capability the use of Brandy Code and codewords were used in conjunction with plain language.

Appendix 2 to Annex L
to RADFAN Report

REPORT ON THE ACTION OF B COY 3 PARA

IN THE WADI TAYM ON 5 MAY

Sketch Map attached

1. B Coy 3 PARA formed part of 45 Cdo Gp whose objectives on the night of 4/5 May were two features dominating much of the DHANABA BASIN and the Wadi TAYM. These features are nicknamed CAP BADGE and GIN SLING.
2. B Coy 3 PARA was the freshest company in 45 Cdo Gp and was given the longest route to assault CAP BADGE from the east.
3. At first light, after a long night march, the company was moving along the base of the foothills of the 3786ft high CAP BADGE feature. The company was in open formation, with the leading platoon carrying out pepper-potting drills as they moved forward. The order of march was:
 - 5 Pl
 - Coy Tac HQ and FOO
 - 6 Pl
 - Coy HQ, ACT, MMG Sect, two med orderlies
 - 8 Pl
 - 4 Pl (well in rear, bringing along two exhaustion cases)
4. Fire was opened on the company at 0515 hours from a line of hillside ambush positions about 1000 yards long. The range varied from about 400 yards to 100 yards, in the case of the leading platoon.
5. The Coy Comd immediately gave orders for the fort to the point platoon's immediate front to be captured and together with the Pl Comd led an attack on the fort. The enemy did not wait for the final rush but pulled out to sniper positions on the slopes behind the fort.
6. Once in the fort the Coy Comd was in a commanding position to observe and direct the battle and to give some support. By this time, 0525 hours, the whole coy were moving into fire and attack positions by well executed fire and movement drills.
7. At 0530 hours, 4 Pl carried out an attack on an enemy position occupying sangars above them. In this attack at least six enemy were killed and four wounded; two of the wounded were not expected to live. Isolated opposition was dealt with by section attacks. This attack was most vigourously carried out, with fleeing enemy being chased and shot.
8. At 0530 hours, an enemy mortar dropped at least ten bombs on and around the company position. Although some dropped extremely close to sub unit positions no casualties were caused by this mortaring. *

9. The FAC very quickly directed G/A aircraft against enemy strong points lying further back up the slopes. These attacks were extremely accurate and at least three enemy strong points were silenced, the most important being the large grey fort and buildings at the head of a re-entrant and in the most dominating position.
10. Another useful attack was against the fort adjacent to and giving trouble to the Tac HQ fort. Throughout the day the airstrikes were accurate and effective, particularly the strike at 1150 hours which had to go in only 15 yards to the left and 150 yards beyond Tac HQ fort.
11. Once in position in the fort the Coy Comd gave orders for 6 and 8 Pls to capture the west edge of the village. When this was completed 6 Pl was to capture the fort above the village. 4 Pl with balance of 5 Pl was then to leapfrog 8 Pl and clear the remainder of the village and put it into a state of defence. They also had to set up an aid post.
12. By this time, OC 5 Pl, having lost his command either to the Coy Comd or to 4 Pl Comd, took it upon himself to evacuate two casualties who had been wounded in the initial burst of fire. This casevac and the redeployment of the company across 1000 yards of open wadi was carried out in a very professional manner, making very good use of fire and movement with local 80 grenade smoke.
13. Opposition on these objectives was only light, and all attacks were successful. Two enemy were killed during this period, at least four wounded, and the remainder took to the hills whence they began sniping all the company positions. Own casualties during this period were four wounded.
14. The company was completely re-organised in the village and two forts above the village by 0930 hours and in a position to direct mortar and MMG fire and air strikes. The company position was just within the range of own artillery but the proximity of the enemy and the difficulties of observation precluded close artillery support.
15. It was after OC 4 Pl had reported into Coy HQ and was leaving with one of his sections that he and his party came under accurate fire from a sniper or snipers on the hillsides. The Pl Comd had carried one of the wounded from the open to behind cover, and was in a crouching position administering morphine when he was shot. He died instantly. Two of the wounded were later carried to safety. Together with the Pl Comd's earlier action this was the most courageous action of the day.
16. Following this incident, the main task became the elimination of the snipers. At least one sniper was killed, his body being found later in the day. Two others were certainly hit further to the east, as were two more firing from the bends in the wadi to the south of the village.
17. Mention must be made of the water and ammunition supply by AAC Beaver. This was to the two platoons occupying the village and was quite accurate. One soldier was killed while recovering ammunition from this drop. The Surgeon Lt RN stated that death must have been instantaneous.

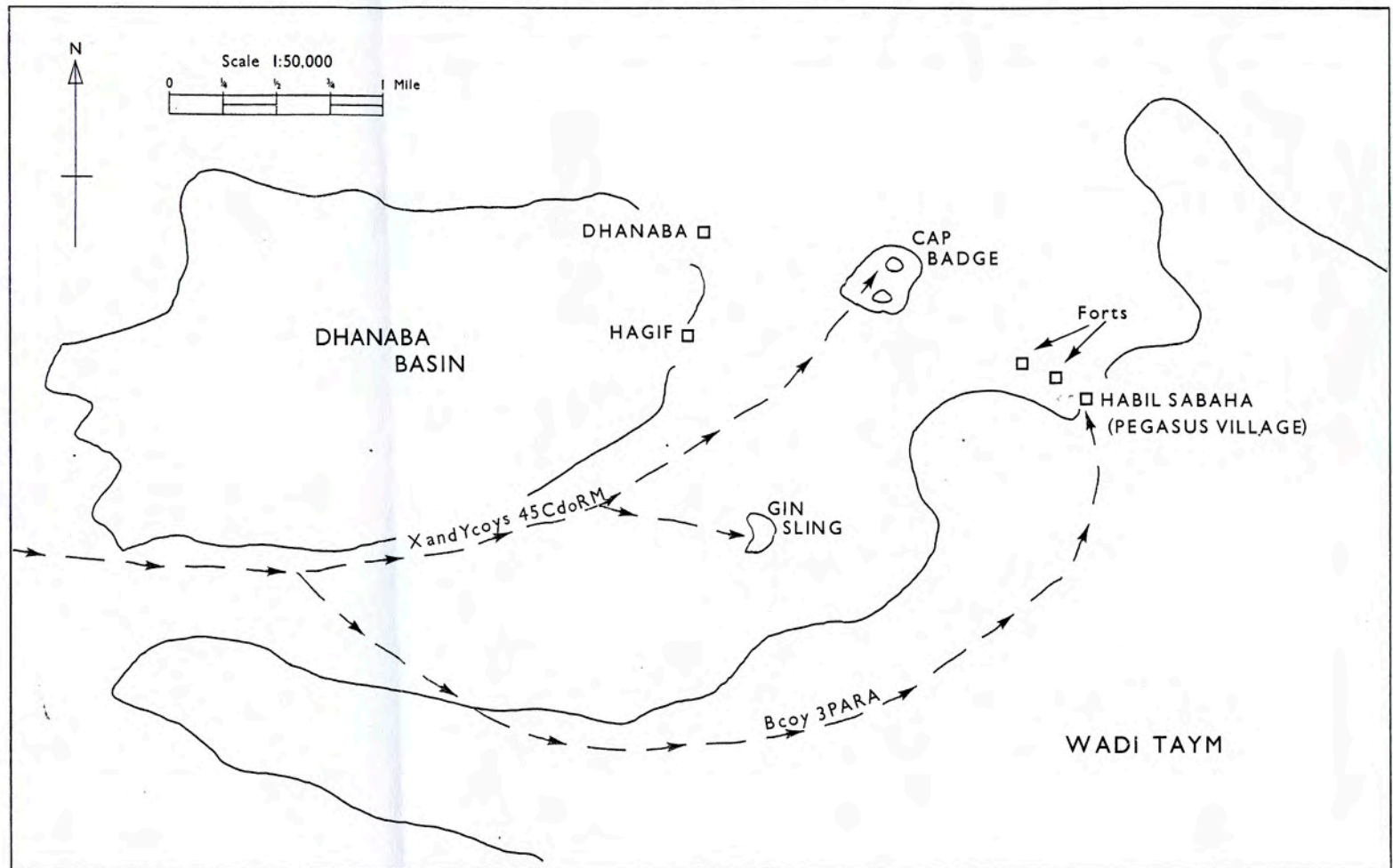
18. During the afternoon a company of 45 Cdo RM moved down the spurs running from CAP BADGE to give added protection for the Belvedere casevac.

19. The casevac was successful, but only the wounded were taken out. The dead, their equipment and arms, the equipment and arms of some wounded some items of enemy equipment and the ammunition from the resupply could not be taken on the aircraft and had to be carried up the hill. The dead were buried behind the village, a Padre being present. A small covering party was left behind until this was completed, Z Coy 45 Cdo RM having by this time been recalled up the hill. By 1830 hours, B Coy Gp was complete on CAP BADGE.

20. The total enemy strength is very difficult to assess accurately. A very conservative estimate by the commander puts it at 60 armed persons and a mortar group. Total casualties to enemy were estimated to be 12 killed and a similar number wounded.

*Editors Note: There were persistent reports of enemy mortar fire during operations in RADFAN, but no real evidence of their use. In this case, it is known that 45 Cdo RM fired mortars in support of B Coy 3 PARA and that a few rounds of 105mm pack how were fired before it became clear that close arty sp was unsafe, due to the extreme range. These bursts may have been regarded as enemy bombs by OC B Coy 3 PARA.

APPROXIMATE ROUTES TAKEN BY 45 CDO GROUP 4/5 MAY



Appendix 3 to Annex L
to RADFAN Report

ARMoured OPERATIONS IN THE WADI MISRA

19 MAY

Sketch Map attached

Introduction

1. On 11 May CO 4 RTR was ordered to plan an armoured show of force up in the Wadi MISRA, using C Sqn 4 RTR and one troop 16/5 L for this purpose. The date fixed for this operation was 18 May.

2. At noon on 17 May, the Political Officer informed CO 4 RTR that he had received reliable information that an advance up the Wadi MISRA would be fiercely resisted. It was therefore agreed that a request for proscription of the area would be put to the Political Office without delay. Comd RADFORCE agreed to a postponement of 24 hours for the operation.

3. Proscription was refused. After consultation, the following rules for the use of 105mm and 76mm fire from the AFVs were agreed:

- a. Sangars and likely defended localities, other than buildings, could be engaged at will.
- b. No forts to be engaged, other than with MG fire, unless the Squadron Commander was certain, by reconnaissance that they were empty.
- c. No houses to be engaged unless all attempts to silence by MG fire failed and soldiers were imperilled.
- d. Houses which might contain women and children were not to be engaged.

4. With such limitations the only possible aim was: "To make a display of armed force down the Wadi MISRA, destroying the sangars and suppressing resistance." This was disappointing, as it had been hoped to make the destruction of the fort at HADIJA 901928, which dominates the wadi and is the home of a known dissident, the main task.

Composition of the Force

- | | |
|----------------------------------|---|
| 5. <u>Commander</u> | Captain DDA Linaker, RTR (mounted in a Saladin Armoured Car) |
| <u>4 RTR</u> | Two Heavy troops (each two Saladin Armoured Cars and two Ferret Scout Cars) |
| <u>16/5 L</u> | One troop Centurion tanks (105mm)
One Centurion ARV. |
| <u>FRA Armoured Car Squadron</u> | One Ferret troop. |

6. One section J (Sidi Rezegh) Battery and one Auster of 13 Recce Flight, were in support.

7. An FOO and a Political Officer (Mr Nash) accompanied Squadron Headquarters. IO 4 RTR acted as FAC. All were mounted in Ferrets.

Action

8. Plan. As a result of aerial reconnaissance, it was planned to move the tanks to a series of pre-planned fire positions on the north side of the wadi, to cover the armoured cars forward as they moved across the cultivation and up the wadi bed. On reaching HADIJA the column was to withdraw to base.

9. Sequence of Events. Owing to bad going, which made it difficult for the tanks to get out of the wadi and the breakdown of the troop leader's tank, the operation did not really start until 0920 hours, twenty minutes late.

10. From an excellent position at 882949, the tanks engaged sangars and likely enemy positions on the north side of the wadi at 888946 and 898938. Meanwhile, the armoured cars, led by the FRA Troop, were moving up the wadi bed and having great difficulty in finding a way out. However, the leading Saladins were able to engage Sangars from the area of MINAH 8794. They then moved forward and secured the area of a new fire position for the tanks at HABIL GILAH 8893 from which they fired again whilst the tanks began to move forward. During this time the tops of the hills on each side of the wadi were engaged by the section of guns.

11. At 1000 hours the Commanding Officer made his first reconnaissance flight to the head of the wadi in an effort to find an exit for the scout cars and to look for signs of movement or likely resistance. He observed several women moving within the area of the fort at HADIJA. This ruled out any possibility of engaging the fort with tank and armoured car gunfire at long range.

12. The tanks found the going very difficult and the troop commander lost both tracks off his vehicle.

13. After waiting thirty minutes, the armoured cars pressed on and a second reconnaissance was flown. On this occasion women were seen on the roof of the fort and in its yard.

14. At 1210 hours the leading car of the FRA Troop came under fire from buildings astride the wadi at 895935. This was replied to with MG fire, whilst the Saladins engaged sangars in the hills nearby and an area near MATWIL FAWQ 8893, from which automatic fire was coming. After ten minutes the fire slackened and the advance was resumed.

15. At about 1310 hours the Auster was sent up as an Air OP for the guns. Rain began to fall heavily. The Auster was fired on from MATWIL FAWQ but, in view of the restrictions on engaging buildings with gunfire, the area was engaged with MG fire only. The pilot warned the squadron commander that considerable quantities of water were coming off the hills down the head of the wadi. As the wadi bed was already becoming soft from the rain, the Squadron Commander was ordered to withdraw at his own discretion.

16. The squadron began to withdraw almost at once, destroying further sangars as it went.

17. Serious mechanical troubles beset the tanks at this stage and it was not until 1845 hours that the last vehicles finally reached base at THUMIER.

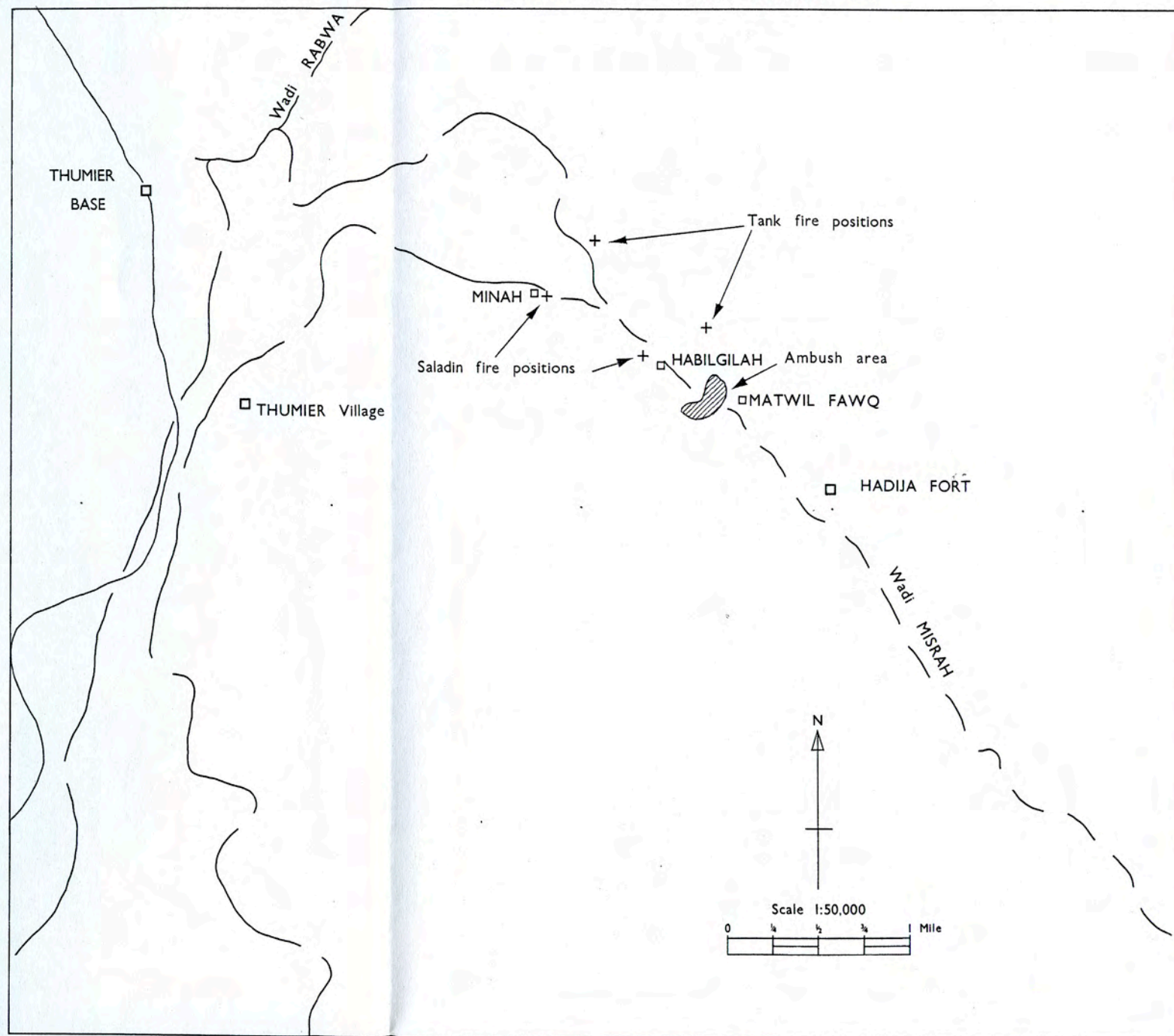
Conclusion

18. Although apparently somewhat abortive, the operation gave a considerable fillip to the soldiers' morale. All shot well and were impeturbable under fire.

19. A lot of damage was done to sangars and there is every likelihood that some casualties were inflicted upon the dissidents. There is no doubt that the relative ease with which the force penetrated the wadi and withdrew at will, will have made an impression on the Quteibi and have lowered the reputation of the MISRA as a stronghold.

20. Possibly the most valuable achievement was the immense boost the day gave to the morale of the FRA Armoured Car Squadron who were fighting their first action of this type.

ARMoured OPERATIONS IN THE WADI MISRAH-19 MAY



Appendix 4 to Annex L to
RADFAN Report

REPORT BY CO 3 PARA ON THE ADVANCE UP THE
BAKRI RIDGE AND THE RAID INTO WADI DHUBSAN

Sketch Map attached

Background

1. On 12 May, B Coy 3 PARA returned to BAHREIN and Bn HQ and two coys of 3 PARA, with 3 Tp of 9 PARA Sqn RE arrived in ADEN on 14 May. They moved up to THUMIER on 15 May and went into a reserve position in the Wadi RABWA to train.
2. On 16 May, the Bde Comd ordered CO 3 PARA Gp to be prepared to move forward from his reserve position in the Wadi RABWA to occupy the SHAAB AL DHARJI feature. The advance was to begin as soon as possible but was subject to administrative limitations. No Belvedere lifts would be available to support the march, and it was possible that none would be available for the first day or two after occupation of the feature.
3. In these circumstances, it was clear that the only means of maintaining a minimum of ammunition, water and rations with the force would be the use of unit fighting porters. In such case, it was important to establish a road head as far forward as possible, and SHAB TEM was selected for the purpose. Troops were to march forward as soon as stores and man-pack carriers had been dumped at SHAB TEM.
4. Unfortunately, the new track from THUMIER up to the Wadi TAYM was temporarily blocked at the pass before the transport of 3 PARA Gp could use it. The advance, therefore, had to be delayed 24 hours while the pass was re-opened to allow the forward movement of stores.

Stages of the Operation

5. Preliminary Phase. The delay enabled reconnaissance patrols to investigate the routes forward of SHAB TEM, and during the night 17/18 May, in the strong light of a waxing quarter moon, it was possible to eliminate the centre and left of the three possible approaches.
6. The next morning, 18 May, a Scout helicopter reconnaissance confirmed the suitability of the camel track forming the right hand route to 920980. In the meantime the protection of SHAB TEM was undertaken by the Anti-Tank Pl in a rifle role.

Night March 18/19 May. Having regard to:

7. a. The broken and sometimes precipitous route

-
- b. The amount of ammunition and stores to be carried by the fighting porters (5-6000 lbs in addition to personal arms, ammunition and equipment),

it was decided to advance about halfway to the final objective on the first night. This was a direct distance of about 7000 yards from the Wadi RABWA, but was more like 10,000 yards measured on the map along the route taken, and somewhat more when account is taken of ascents and descents.

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Moreover, the fighting porters took only their small arms and water forward from SHAB TEM when carrying their loads and so had to return to SHAB TEM for their own battle kit after dumping their loads forward.

8. By mischance, the pass gave out again during the morning of 18 May, and this meant that ammunition and stores had to be manhandled between transport on the upper and lower sections of the pass. This task employed the bulk of the force and prevented their resting for the night march, although the excellent arrangements made by the QM and MTO ensured the best use of time and labour.

9. By 1900 hours on 18 May, the advance began, preceded by a reconnaissance party. A Coy Gp led the main body, while C Coy, elements of Support and HQ Coys and 3 Tp 9 PARA Sqn RE provided the fighting porters. There was no opposition of any sort, and by first light on 19 May, a position had been established at 948968 with ample reserves of small arms and mortar ammunition, water and rations for the force. All the fighting porters had returned safely to the SHAB TEM road head.

10. Day, 19 May. One, and later a second Scout helicopter of 653 Light Ac Sqn provided the most enterprising close support during the morning and late afternoon, including an air drop. Distant OPs were moved out on to features, reconnaissances were carried out for the next night's march, and much ferrying was done, all by the Scouts.

11. There was intermittent long range sniping throughout the day, which was in no way threatening. The 105mm of J and I Btys RHA registered targets, as did the battalion's 3" mortars. A fighting patrol was made ready to lay an ambush during the night.

12. Night 19/20 May. At 1830 hours, the ambush party left to take up a position at 971948 with the task of lying up behind the village of LETHOOM to catch any enemy withdrawing before the approach of the main body.

13. At 2030 hours the main advance started again, led by C Coy with most of the remainder carrying ammunition and water as porters. Since A Coy provided the ambush party, some stores had to be carried by those with full kit. The average load was 80-90lbs a man, but some carried 106lbs.

14. The distance travelled, taking the flat measurement off the map, was under 10,000 yards and did not prove exhausting, despite a final ascent of approximately 2,000ft.

15. Bright moonlight again assisted navigation but hampered the ambush party who encountered an enemy party of seven moving up the spur 966947 half a mile west of LETHOOM, when a running fire-fight ensued. This lost surprise and denied an effective ambush later. The final objective was occupied with no opposition other than negligible sniping on the route at 2030 hours by an automatic weapon firing from AHL SAID ALI which was silenced by a few rounds of mortar fire.

16. Following its march from the Wadi RABWA through the HAJIB area, the battalion group was established in the area 969947 near LETHOOM immediately west of the HAJIB Gorge from 19-23 May.

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17. On 20 May, the anti-tank pl under command of CSM Arnold cleared the AL DAHIRA ridge (ARNOLD'S SPUR) flushing out some twelve dissidents, of whom three were taken as PW with their arms from the village of AR ZUQM. One of these men attempted to escape during the return journey to Bn HQ; but though he knocked down his immediate escort he was shot by a second guard lying back. Despite attention by the RMO, this PW died next day. The Scout helicopter which brought him medical aid was sniped at en route and received a bullet through the main rotor blades.

18. By the evening 20 May, the high ground of the BAKRI RIDGE had been cleared as far as the 92 northing but a host of sources made it clear that pockets of enemy remained in the lower ground immediately east and west while the area to the south and south east were known to be dissident strongholds. Air control had been ordered to the east and south. While this was being maintained, 3 PARA Gp began to clear the western border of the BAKRI RIDGE.

Patrolling

19. Contacts. Fighting patrols from A and C Coys; reconnaissance patrols from A Coy and under the QM and RSM operated throughout the SHAAB KHULILA, SHAAP WAHIBA and south, and throughout the SHAAB SUMAAN for three days and nights. Two contacts were made by fighting patrols, each with enemy parties 7-10 strong in well-prepared positions. Due to inexperience as much as any factor, PW were not taken on either occasion. An important lesson was learned that the fire fight in an encounter may be exciting but it is only a means to an end. The reconnaissance patrols reported the presence of dissident hiding places, against which the 105mm pack how section of I Para Bty, 7 RHA, and the battalion mortars were used. As with the fighting patrol actions, these helped to drive the enemy completely from the region by the morning of 23 May. It was clear, however, that there were numerous aged, women and children sheltering in caves in the area.

20. Arms, ammunition and supplies. Patrols had also discovered amongst the many natural rock fissures in the cliff faces weapons, equipment, ammunition and supplies. A few SMLE and No 4 rifles were recovered, a large quantity of French Lebel 7.92 rifles, mainly of 1897-1905 manufacture, other French rifles of .433 calibre, Spanish rifles and ammunition and several stores of modern (1956-58) British and German SAA. Tons of flour and grain, sacks of coffee and nuts, gallons of cooking oil and kerosene found in these hides were destroyed. Cattle and goats kept in the area were driven down from the hills. The odd sets of Khaki uniform - principally bush shirts - were sent to HQ 39 Inf Bde Gp for investigation; but the majority of the many tribesmen's cartridge belts acquired were destroyed.

Advance to the end of the BAKRI RIDGE

21. With the completion of air control and the clearance of the low ground to the west, it became possible on 22 May to plan a new advance. The immediate aim was to clear up to the end of the BAKRI RIDGE to the HABIL ALFARA feature, now named ARNOLD'S SPUR from its connexion with ARNOLD'S RIDGE. The overall aim remained the same: to manifest the power of our arms to the enemy by demonstrating our ability to enter his territory at will.

22. A Coy was selected to advance to the eastern tip of ARNOLD'S SPUR; C Coy was to clear the village complex to inclusive MAHAR as a preliminary during the afternoon of 23 May.

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23. Despite the earlier action by CSM Arnold's patrol, the villages were clearly occupied by dissidents. For as soon as C Coy approached, there was considerable fire from rifles and automatic weapons. With close support by elements of I and J Btys and the mortar pl, the company cleared the first two villages with sufficient speed to prevent the enemy removing one of his dead; but they were held up by the open saddle of QUDEISHI, on the far side of which were a number of watch towers characteristically built of thick dry stone walls. At this stage, it became a battalion battle: C Coy being moved into an FUP while two successive Hunter DF/GA missions were directed skilfully on to the target by the ACT while the leading riflemen were brought up to within 150 yards of the strike. Again, the enemy were sufficiently closely pursued to be forced to leave a dead man with his rifle in the area. C Coy cleared through the saddle as A Coy was launched on to ARNOLD'S SPUR, which it occupied without further action by nightfall.

24. An interesting feature of this area was the profusion of escape tunnels mined through the rock between watch towers and into escape routes in dead ground. Clearly this was the work of decades at least, perhaps centuries; a task undertaken to permit deployment or the removal of dead and wounded during local internecine warfare. The system accounts for the great difficulty in taking dead and wounded. There had certainly been casualties in the C Coy action as one wall of a watch tower held against them was marked by a huge new blood stain almost 12 feet in length, probably the consequence of one of the accurate Hunter cannon strikes. In a separate context, the bravery of the dissidents is evident; for during one such strike, when a fort 50 yards distant had been struck, a tribesman in its neighbour opened fire again before the dust of a rocket explosion had dispersed.

Descent into the Wadi DHUBSAN

25. The possession of ARNOLD'S SPUR gave observation into the enemy stronghold along the Wadi DHUBSAN, an area hitherto remote. Moreover, it permitted observation of the head of the Wadi MISRA, an established centre of dissidence. Traffic in men and arms between these two valleys had hitherto been free. On 23 May, the Bde Comd gave orders for a final operation in the current phase in the RADFAN; the principal aspects being the temporary occupation of the DHUBSAN area and the combing out of the MISRA. Due to rainstorms and other factors, the latter action was postponed. But from the 24 May onwards, 3 PARA Gp (to be reinforced by X Coy 45 Cdo RM) made ready to descend the 2,200 feet into the DHUBSAN.

26. Thanks to unstinted helicopter support, the stocking of forward areas became possible during 24 and 25 May. Meantime, the problem of routes down from ARNOLD'S SPUR was studied. The most attractive was an easy circuit via the Wadis RUHEIBA and DHURA'A, which would have brought a force into the DHUBSAN from the south east. Unfortunately, it was also the most obvious route. On the night 24/25 May, two patrols sought paths down the steep slopes descending directly from the spur to the wadi. One narrow but adequate track was discovered beneath Jebel HAQLA; while the head of the Wadi DHUBSAN was found to be passable despite an initial descent of a thirty foot cliff face and a subsequent steep boulder strewn course.

27. The operation was scheduled for two days: entry on the 26 May; recovery on the 27 May. At 1900 hours on the evening of the 25 May, C Coy less one platoon in battalion reserve, established a picquet line across to the Jebel HAQLA. At the same time, the machine gun platoon and CO's party began to rope down the cliff into the head of the Wadi DHUBSAN. At 2230 hours, A Coy with a guide from the intelligence section moved down the narrow track leading below. In view of the uncertainty of the weather which might limit Hunter and helicopter support next day, and the fact that the only artillery in range was a medium section in the mouth of the Wadi MISRA, all reserve ammunition for small arms was carried down on the backs of officers and men. Fortunately, it was not necessary to carry mortar bombs as both base plate positions were behind on high ground.

28. The machine guns were in position by first light after their slow, precipitous descent. A Coy were also ready to debouch into the first area, an exceptionally fertile basin round the village of BAYN AL GIDR. The high ground was quickly picqueted and the area searched. A Scout LZ was marked. When the Bde Comd arrived by helicopter at 0600 hours, he was met with the news that the basin was completely deserted. It now remained to see what opposition remained in the lower valley.

29. X Coy 45 Cdo RM had been ordered at first light to march down the track used by A Coy. Arriving in the basin at 0635 hours they were instructed to continue on down the wadi, clearing the high ground as far as HAWFI 0289.

30. Approximately 50 minutes later, reports from numerous air and ground OPs showed that whilst a large column of women and children were to be seen making away distantly to the south east, considerable numbers of armed men in small groups of 7-12 were returning to the wadi from the south. It seemed likely that they had been lying up on the easy access route (see para 26) in ambush. Shortly, there was no time for speculation as a hot small arms fire was opened on X Coy and the advanced element of Bn HQ.

31. Immediately prior to this opening fire, and as a result of the reports concerning the accretion of dissident groups, the CO had begun to ferry his headquarters forward by Scout. Due to a misunderstanding, the Scout flew almost 500 yards ahead of the leading marines. It was sniped by riflemen at 200 yards range, the fuel tank and lines were punctured and it was necessary to land in the open wadi under the enemy's arms. Major Jackson, the pilot, made a skillfully appraised descent. As the party made for cover, the intelligence officer was found to have a flesh wound.

32. From this time on, throughout the morning, the enemy attempted to deny possession of the wadi by firing rifles and light automatics continuously from the general area a few hundred yards east of LA'ADHAB. Their numbers did not exceed 50 and may have been as few as 35. Six light machine guns were noted in action simultaneously but it is possible that two of these were automatic rifles.

33. X Coy progressed about 600 yards into the wadi, clearing the high ground immediately on either side. A Coy (less one platoon) passed round on their left, while the reinforced reserve platoon of C Coy began to clear from Jebel HAQLA towards LA'ADHAB.

This action, combined with the fire support of five Hunter missions, the medium section and battalion mortars drove the enemy out. Three were confirmed killed by A Coy, three by Hunters. One wounded man was observed moving south of HAWFI. In co-operation with the left hand commando platoon, A Coy completed exploitation to 025897.

34. During reorganisation, a search was made for arms, food and documents. 11 French rifles, $2\frac{1}{2}$ tons of foodstuffs and 18 cans of kerosene were destroyed. 3 Flit guns and a quantity of Flit liquid were also destroyed in the house of Labousa, the dissident leader. From these quarters, documents and photographs were brought back.

Return from the DHUBSAN

35. It was originally planned to recover the force in the DHUBSAN by Wessex helicopter on 27 May, but the potential pay load, in the event, of any one aircraft was too low to make this a practical proposition. It was therefore necessary to march out. However, before any movement could be permitted, the recovery of the Scout helicopter was paramount. Two REME NCOs of 653 Light Ac Sqn had worked throughout the previous evening to effect repair. At 0620 hours, this work proved successful: the Scout flew out under its own power, once again piloted by Major Jackson. The march-out followed the wadi being cleared without incident by 1040 hours. Thanks to a ready acceptance of loads on the crest of Jebel HAQLA and ARNOLD'S SPUR by RN Wessex helicopters, the withdrawal of the battalion group to THUMIER was completed by 1740 hours. X Coy remained temporarily on the BAKRI RIDGE as a holding party.

ADVANCE BY 3 PARA GP UP BAKRI RIDGE AND RAID INTO WADI DHUBSAN



Appendix 5 to Annex L
to RADFAN Report

RAID INTO THE WADI DHUBSAN

26-27 MAY

Sketch Map attached

1. X Coy Gp, 45 Cdo RM was placed under the command of 3 PARA at 1200 hours on 25 May. The company group consisted of three rifle troops at approaching full strength, a section of MMGs, and a section of 3-inch mortars.
2. The company group was relieved in position in the Wadi TAYM by elements of 1 KOSB and lifted to the summit of the BAKRI RIDGE by Wessex helicopters of 815 Sqn RN (from HMS CENTAUR) during the afternoon of 25 May. This was the FEBA of 3 PARA. At dusk, X Coy relieved A Coy 3 PARA which was holding the summit of the ridge.
3. The plan was to penetrate the Wadi DHUBSAN during the night 25/26 May and to clear as much of it as possible during the night and the ensuing day. Having achieved this deep penetration into a dissident area of both military and prestige significance, a rapid withdrawal by helicopter and on foot was planned for 27 May.
4. The detailed plan was as follows:-
 - a. Moving at dusk on 25 May, C Coy 3 PARA were to take the features HIGH TOWER and the Jebel HAQLA, which dominate the upper and southern reaches of the Wadi DHUBSAN.
 - b. A Coy were to move at about 2200 hours into the upper basin of the wadi.
 - c. X Coy was to be in reserve, to be ready to move, probably by helicopter, from 0400 hours onwards.
5. The advance went according to plan, without encountering any opposition. At dawn A and C Coys were in their allotted positions and, at 0545 hours 26 May, X Coy was ordered to march into the head of the wadi, bad visibility preventing the use of helicopters.
6. At approximately 0800 hours, X Coy reached the forward positions held by A and C Coys and was ordered to clear the wadi for a further thousand yards to a point where the wadi curved broadly to the left. This was to be the limit of the battalion advance.
7. A picquet from 1 Tp was ordered to take up a position on an intermediate spur (marked A on sketch map) on the left of the valley, to command a bend in the wadi and provide covering fire for the next picquet, and further advances. On attaining its position on the spur the picquet found its field of fire blocked by a second spur some 200 yards ahead. The picquet commander left a GPMG to provide covering fire and advanced towards the second spur. He shouted down that he could hear voices in the mist above him and a little later spotted approximately five dissidents moving on the hillside opposite him. He opened fire and probably wounded at least two.

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8. The remainder of 1 Tp was ordered to go up into the area of its picquet, and 3 Tp was ordered to resume the advance. 3 Tp placed a picquet on the right hand side of the wadi (marked B) and then placed a second picquet in the area of a burning house (the fire having been caused by a Hunter strike) on the left hand side of the wadi (marked C). Good progress was now being made to the final curve in the wadi which was the battalion objective. 3 Tp was ordered to exploit forward one further step, its final objective being a large house on a spur running into the valley from the right (marked D).

9. The troop advanced towards this house but came under fire from its left front. Fire was returned. At this juncture a Scout helicopter flew down the wadi just beyond the forward troops and was hit by enemy fire; however, it managed to turn and land, just behind the leading sections. The helicopter contained the CO 3 PARA and his IO, who was shot in the forearm.

10. X Coy moved towards the crashed helicopter and an SBA was sent forward to dress the wounded. Quite soon after this the Company HQ came under sustained and accurate sniper fire. The company second-in-command was severely wounded while putting out an air panel to direct the Hunters onto a hillside from which fire was being brought down on 3 Tp and he was carried to the rear, despite heavy sniper fire.

11. The leading section of 3 Tp soon to be followed by other elements of the troop, captured the house on the spur but were under constant fire from a broad front and were unable to locate the enemy. While sheltering near the house one man was struck on the head by a cartridge case fired by a Hunter cannon, and was very severely injured.

12. 1 Tp less one section was then ordered to clear the high ground along a ridge above and to the right of 3 Tp (marked E). It was suspected that sniper fire was coming from this area. When the troop attained the ridge it came under accurate fire from the front and flanks. One marine was severely wounded in the leg. A little later the men were dashing for cover when they came to realise that they were also being fired at from their rear. One man was shot through the back and died almost instantly. Eventually, all the men found effective cover.

13. 2 Tp which had been in reserve, was now ordered to take the high ground along the spur above the picquet at C. The troop, later followed by Coy HQ, crossed the wadi under fire and gained the ridge.

14. It was now approaching mid-day and the supporting arms, in the form of Hunters, medium artillery and 3-inch mortars were being used, and assisted by the fire of the infantry, quietened and eventually silenced the opposition. A further important, contributory factor in silencing the enemy was the advance down the right hand containing ridge of the wadi of C Coy. A platoon of A Coy during the late afternoon, passed through X Coy and occupied a hilltop feature some 200 yards further down the left hand containing wall. By evening the forward troops were therefore dominating the curve in the wadi which had been designated the battalion objective.

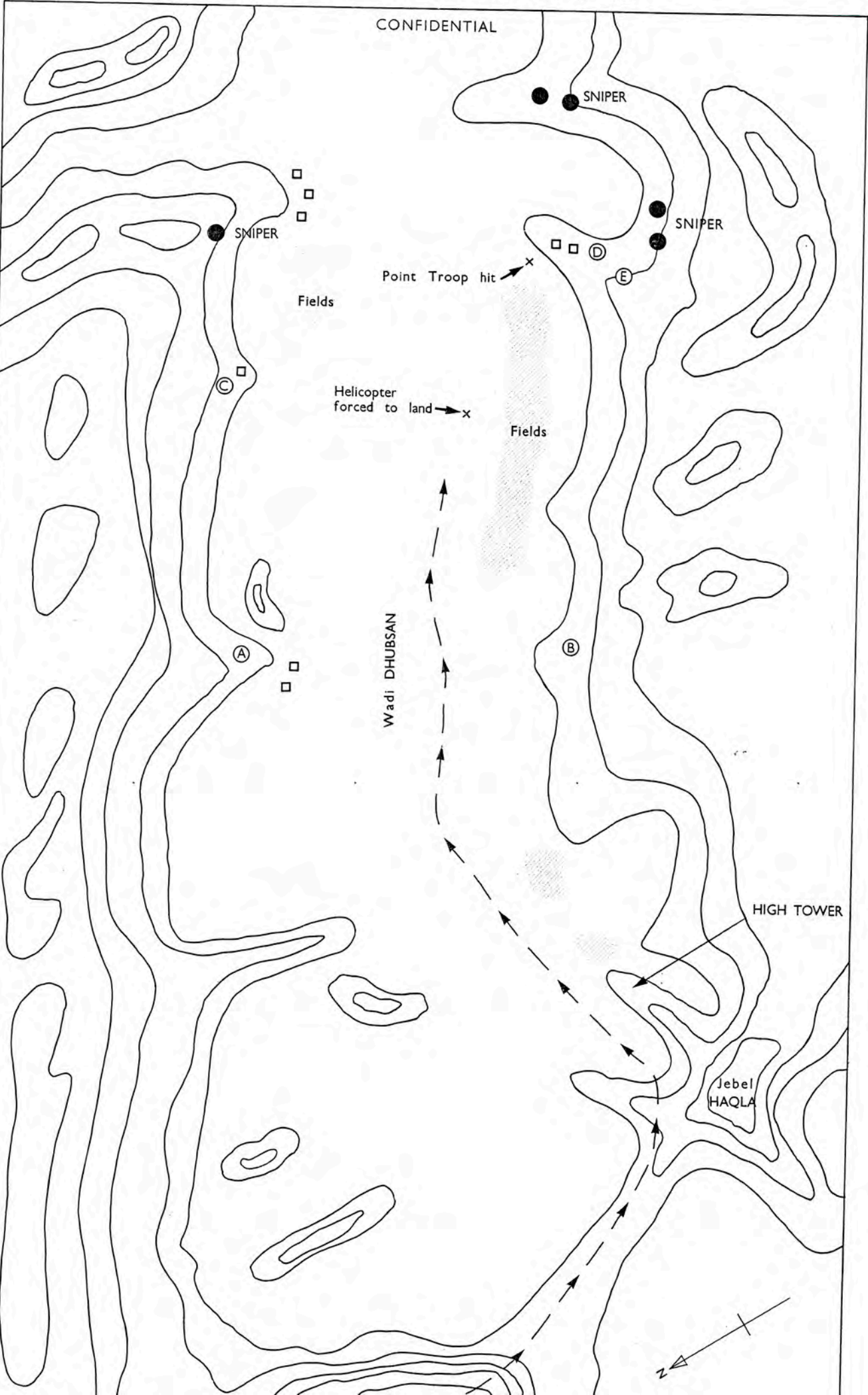
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15. Soon after first light on 27 May, the helicopter, which had been repaired during the night, was flown out. X Coy then marched out of the wadi and was lifted by Wessex helicopters from the Jebel HAQLA back to their original positions on the summit of the BAKRI RIDGE. There was torrential rain during the night.

16. On the morning of 28 May, X Coy was flown by Wessex to THUMIER, having been relieved by 2 FRA.

ROUGH SKETCH OF WADI DHUBSAN (NOT TO SCALE)
ACTION OF X COY 45 CDO RM 26-27 MAY

CONFIDENTIAL



Appendix 6 to Annex L to
RADFAN Report

OPERATIONS OF WATFORCE 24-28 MAY

Sketch Map attached

Background

1. The enemy were believed to have moved to the southern part of Jebel RADFAN as a result of pressure in the north and camel trains were known to be taking supplies from YEMEN through the Wadis NIAF and NAKHALAIN. CO 4 RTR was ordered to establish a force of armoured cars and infantry (WATFORCE) in the area of the Wadi NAKHALAIN by last light 24 May.

Tasks

2. The mission of WATFORCE was to dominate the area bounded by the Wadis NIAF and NAKHALAIN by aggressive patrolling. In addition CO 4 RTR was specifically ordered to carry out an armoured reconnaissance to the head of the Wadi NAKHALAIN on 25 May, as part of the brigade plan to bring pressure to bear on the enemy in the Jebel RADFAN area. The area was not declared subject to military control.

Composition

- 3. Comd CO 4 RTR
- 4. Troops
 - elements Tac HQ 4 RTR
 - B Sqn 4 RTR
 - B Coy 1 E ANGLIAN
 - one sect aslt pnr pl 1 E ANGLIAN
 - water det 3 Field Sqn
 - one Auster, 13 Recce Flt, on call
 - one LO, FRA Arm'd Car Sqn
 - one FAC

Execution (see attached sketch map)

5. CO 4 RTR made a reconnaissance by Auster and selected a base at NEW CORK on 16 May. OC B Sqn 4 RTR subsequently found a route from milestone 13 down the west side of the wadi area south east of milestone 13.

6. The operation was mounted from ADEN. An advance party left ADEN at 0430 hours 24 May and was followed by the main body two and a half hours later. The 'going' from milestone 13 was difficult and the main body was not complete in NEW CORK until 1700 hours. An infantry patrol set off that night and penetrated GLASS JAR as far as the cultivated area between FINE FEATHERS and GOOD EGG.

7. The patrol returned at first light 25 May, and reported no movement in GLASS JAR. At 0700 hours 25 May, B Sqn 4 RTR left NEW CORK and after nearly three hours difficult 'going' the leading cars had reached FINE FEATHERS. So far no movement had been seen.

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8. By 1030 hours 25 May, the leading troop was approaching GOOD EGG over bad going. Several sangars and fortified caves had been destroyed by 76mm fire. At 1240 hours 25 May, the second troop was fired on from the area of LIONS DEN. At the same time the commander of the leading troop was fired on as he started to reconnoitre the area of DOOR POST on foot. His driver, who was with him, was wounded by a ricochet. He was able to carry on and drove for the rest of the day with the bullet lodged in his back. All cars were now heavily engaged by enemy firing from sangars and caves all along the wadis leading to DOOR POST and LIONS DEN. The fire, which included at least two machine guns, is estimated to have come from about twenty men. A number of 76mm HESH rounds were placed within caves from which tracer had been seen and it is morally certain that a number of dissidents were killed. After extensive damage had been done to the fortifications in the LIONS DEN area, the fire slackened.

9. Because it was essential to be clear of GLASS JAR by last light and the move forward had taken five hours, CO 4 RTR ordered B Sqn to begin withdrawing at 1415 hours 25 May. An airstrike which had been requested on a group of enemy at BALD PATCH had to be cancelled due to low cloud. At 1615 hours the Brigade Comd ordered a similar operation to be carried out on the following day in conjunction with airstrikes in order to show the enemy that the withdrawal was not the result of their fire.

10. On 26 May, progress was faster, B Sqn less one troop, with the mortar sect of B Coy 1 E ANGLIAN, moved off from NEW CORK at 0700 hours. By 0900 hours the mortars were deployed just north of GOOD EGG and began ranging on BALD PATCH. Between 1000-1030 hours four Hunter strikes were carried out, and many sangars were destroyed by 76mm fire, and by 1230 hours the force was clear of GLASS JAR.

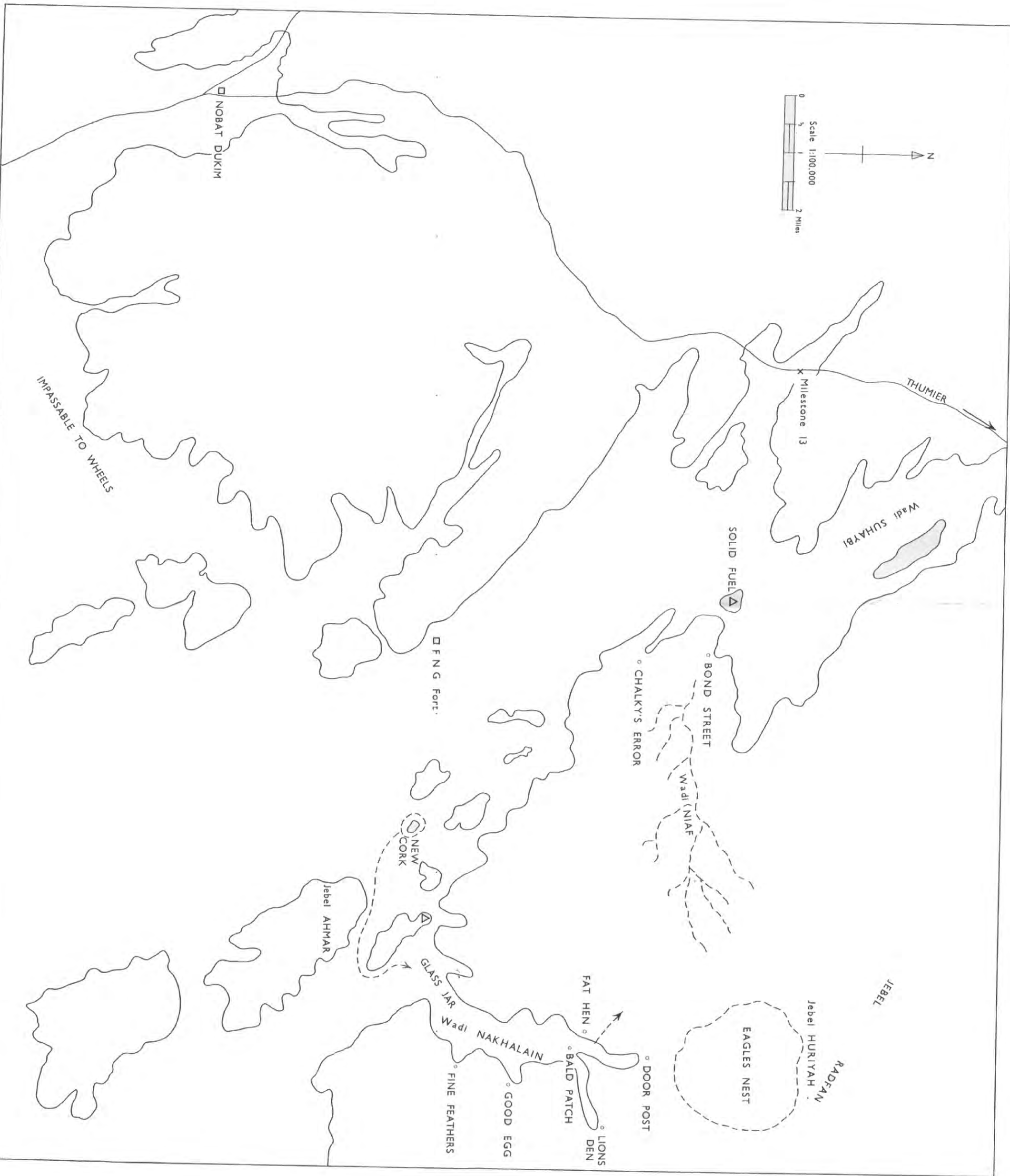
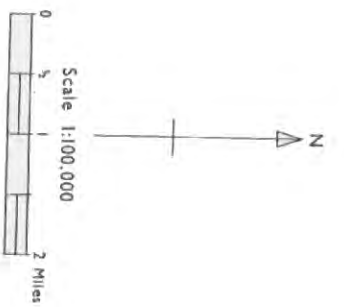
11. During the afternoon of 26 May, two standing patrols were deployed to control movement in and out of BOND STREET and GLASS JAR.

12. Just before first light 27 May, a reconnaissance patrol which had penetrated GLASS JAR as far as GOOD EGG and seen nothing returned to its base. Two armed men were observed following the patrol; they were fired on and bolted.

13. During 27 May, wheeled patrols up BOND STREET and CHALKY'S ERROR found bad going and made little progress.

14. At last light 27 May, a patrol was established in the area of GOOD EGG. From there a reconnaissance patrol moved forward to confirm the existence of a track leading out of GLASS JAR just north of FAT HEN. Despite torrential rain throughout the night, the task was completed successfully.

15. The original route from milestone 13 had become virtually impossible due to heavy use, but a new route was found on the east side of the main wadi, which was used to withdraw the force on 28 May.



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Appendix 7 to Annex L to
RADFAN Report

ADVANCE UP THE WADI MISRA AND CAPTURE OF JEBEL HURIYAH

30 MAY - 19 JUN

Sketch Map attached

Introduction

1. 1 E ANGLIAN returned to the RADFAN area on 29 May, moving from ADEN to THUMIER by unit convoy. The battalion was complete except for B Coy gp which was detached to WATFORCE and due to rejoin the battalion on 31 May.
2. On arrival in THUMIER the battalion was given the task of proscribing the Wadi MISRA and securing the Jebel HURIYAH in conjunction with 2 FRA.
3. Orders were issued at 2000 hours 29 May to cover the outline of operations and the general development of the plan. This was:

Phase I. Picquetting of south side of the wadi by C Coy 1 E ANGLIAN by first light 31 May and clearing of wadi to MOGGA and 90 easting by A Coy 1 E ANGLIAN by midday 2 Jun.

Phase II. Picquetting of north east side wadi by 2 FRA and clearance of remainder of wadi to junction of Wadis MISRA, TRAMARE and BULBAR by B Coy 1 E ANGLIAN.

Phase III. Securing of features at 9686 by 2 FRA after which C Coy 1 E ANGLIAN was to occupy the area of 9786.

Phase IV. Capture of Jebel HURIYAH by A Coy 1 E ANGLIAN.

The plan was subject to variations and no timings were given for Phases II to IV.

Execution

4. Phase I. On 30 May A Coy gp consisting of A Coy, section 3" mortars, recce platoon and assault pioneer section moved from THUMIER base to the junction of the Wadi MISRA and Wadi BIGAIR. Here it formed a patrol base from which it was to patrol eastwards up the Wadi MISRA on 1 Jun. It established its base and posted a platoon picquet from 3 Pl at 8892 by last light. At approximately 0230 hours 31 May, this picquet was approached by a party of five people, who fled when challenged. The picquet opened fire but without apparent effect. A search of the area at first light found nothing.

5. During the night 30/31 May, C Coy consisting of 9 and 10 pls left THUMIER at 0100 hours to secure the south side of the Wadi MISRA to cover A Coy operations in the wadi bed. They moved via grid squares 8593-8793 and up the south sides of the hills forming the south side of the Wadi MISRA. No reconnaissance of the route had been possible by the Coy Comd and he had to rely entirely on a briefing by the CO who had carried out an air reconnaissance. The air reconnaissance had shown that the most practicable route had at the top a very difficult section which might need fixed ropes as climbing aids. The coy was therefore preceded by a party of experienced rock climbers drawn from all over the battalion. Despite the lack of reconnaissance and the difficulties of the route the coy was established on the main feature covering the western end of the Wadi MISRA at 8991 by 0610 hours 31 May. Roping was not necessary but taping of the more difficult parts of the

6. No further moves were made in daylight 31 May, but at last light 1 Pl left A Coy patrol base and moved down the Wadi MISRA with orders to clear and occupy the village at 8993. This was reported as empty and secure by 0015 hours 1 Jun.
7. At 0700 hours 1 Jun A Coy gp reinforced by a heavy troop of 4 RTR (two Saladins and two Ferrets) and a section of engineers moved up the Wadi MISRA to link with the pl at 8993. This was effected at 1030 hours and the wadi declared open for traffic to 900929. The Wadi MISRA to this area was found to be densely cultivated and well developed with adequate wells and an intricate irrigation system. No inhabitants were met and the evacuation of houses seemed to have been less hurried and more thoroughly carried out than in previous areas of the operation. At last light 2 Pl was pushed forward to MOGGA (908933) to occupy an ambush position in the village for two nights. Immediately after the occupation, an Arab civilian wandered into their position and was arrested. He was evacuated for interrogation but was later declared a 'raving lunatic'.
8. During the night 1/2 Jun C Coy's position at 8991 was fired upon from a position some 800 yards south east along the ridge from their position. It was therefore decided to occupy this 'hump' which would protect the present position, and allow further movement south eastwards on the wadi bed. This was to be done during the night 2/3 Jun. The rest of 2 Jun was spent by A Coy searching and clearing all the villages in the Wadi MISRA west of the 90 easting. No movement forward of this line was permissible as the area was under air control. During the search little of interest was found and once again the villages showed signs of methodical and unhurried clearing. During the night 9 Pl left C Coy's position at 8991 and after a journey of some three hours over a narrow ridge established themselves at 915894 by 0600 hours. No enemy opposition was encountered during the advance which secured the southern side of the valley for a further advance in the wadi itself.
9. At 0700 hours 3 Jun A Coy supported by the heavy troops of 4 RTR, the reconnaissance platoon and a section of assault pioneers moved forward to search the village of MAS HAGAR (9191), and to re-supply 2 Pl in MOGGA where they were to remain for a further 24 hours. After the main body of the coy had passed MOGGA and after the route had been checked for mines, a landrover of the reconnaissance platoon set off a mine in the wadi bed, this vehicle was destroyed completely and one other parked nearby, badly damaged. The driver of the parked vehicle was wounded in the head, arm and leg and was evacuated by helicopter. The driver of the destroyed vehicle was badly shaken but was blown clear by the explosion. Both men were undoubtedly saved from further injury by the sand-bags which lined their vehicles. The vehicle which ignited the mine was the fifth to pass over the route. The explosion of the mine destroyed any element of surprise in the search of the village, in which movement had been reported the previous day, and it was found to be empty and deserted except for five emaciated cows. This completed the first phase of the operation; Phase II was timed to start at 1000 hours 4 Jun.
10. Phase II. On 4 Jun the advance eastwards down the Wadi MISRA was continued by B Coy. Two coys of 2 FRA moved forward to the area of MOGGA and from there climbed to the ridge which formed the northern side of the wadi and secured this with a number of picquet positions. As these picquets came into position B Coy 1 E ANGLIAN supported by a light troop of 4 RTR, the 3" mortar pl and an assault pioneer section moved as far as AL SARAFA 9190 by 1700 hours and established themselves for the night.

No opposition was encountered during the day.

11. It was decided to occupy the pinnacle feature at 924887 to gain observation down to the main junction of the Wadis MISRA, BULBAR and TRAMARE. This task was given to the Recce Pl which, after returning to THUMIER to deposit their vehicles, were lifted by helicopter to 9 Pls position at 915894 on the afternoon of 4 Jun and came under command of C Coy. During the night 4/5 Jun, they moved on foot from the platoon position over difficult ground, along a very narrow ridge to an area beneath the pinnacle feature; from there upwards it was necessary to use ropes. A rope was fixed and the platoon scrambled onto the high point of the feature, at 924887 to establish the position by 0500 hours 5 Jun.

12. At first light 5 Jun, under cover of the recce pl picquet at 924887 B Coy continued its advance to the main wadi junction at 934889 which was reached at 0945 hours. At 1530 hours armoured cars of 4 RTR passed through B Coy's forward position and investigated the Wadi TRAMARE and Wadi BULBAR as far as 941888 and 934882 without opposition. The companies of 2 FRA picqueting the hills to the north of the Wadi MISRA had conformed to B Coy's advance and were in position to cover the approaches down the Wadi TRAMARE to the MISRA junction.

13. The advance by B Coy and 2 FRA completed Phase II and 6 Jun was spent in planning for Phases III and IV and in regrouping and adjustment of positions. During this period B Coy pushed forward two platoon picquets more effectively to cover the wadi junction at 934889 and C Coy were relieved in their picquet positions by 3 Coy 2 FRA. 2 FRA also made some changes in its layout to facilitate their advance onto SHAAB SHARAH at 960866 on 7 Jun. Pressure was maintained in the forward area by a patrol of 4 RTR into Wadi TRAMARE and BULBAR to 957849, which had no contact with the enemy.

14. Phase III. At first light 7 Jun, 2 FRA began their part of Phase III with 5 Coy advancing onto the SHAAB SHARAH feature at 960866 with a view to securing it to cover an advance by C Coy 1 E ANGLIAN to the area 9786. At approximately 1000 hours the FRA troops came under fire from 20 men located at 961876. All efforts to advance came to a halt at 1250 hours when the FRA coy came under fire from three different parties each with an automatic weapon and a total estimated strength of 40-50. Any further advance would have meant a descent of 400 feet followed by a climb of 600 feet - all under enemy fire and observation. Air and artillery support were called for and the area was struck by rocket and cannon and by artillery from 1500-1730 hours. CO 2 FRA then decided to continue the advance with a fresh coy at first light, 8 Jun.

15. At first light 8 Jun 2 FRA continued their advance without opposition and by 0730 hours were secure on their objective (960866). CO 1 E ANGLIAN and Gp Comd FRA went forward by helicopter and it immediately became apparent the next objectives at 9786 were unoccupied and should be occupied immediately. It was therefore decided to change the plan and allow a coy of 2 FRA to pass through the position at 960866 and occupy these features. This was done by 1430 hours by 5 Coy 2 FRA. Reconnaissance by CO 1 E ANGLIAN and OSC A and C Coys followed at approximately 1700 hours. It was decided that C Coy's plan to move up that night would stand, that Tac HQ 1 E ANGLIAN would move up by helicopter on 9 Jun and that A Coy would move up on foot to arrive by 0800 hours 10 Jun. The assault on the Jebel HURIYAH would then take place during the night 10/11 Jun.

At this time the Jebel HURIYAH was definitely still occupied by the enemy who fired at aircraft dropping water to 2 FRA and occasionally at the company positions. Objectives of Phase II and III of the original plan were therefore secured by 1600 hours 8 Jun.

16. C Coy's move was carried out without incident during the night 8/9 Jun and that of Tac HQ during the 9 Jun. CO 1 E ANGLIAN and OsC A and C Coys carried out aerial reconnaissance of the Jebel HURIYAH by Beaver aircraft on the morning 9 Jun and it was decided to approach the feature from the western end and advance along the high ground to the main feature itself using one coy to secure the ridge and one to take the Jebel HURIYAH plateau itself. It was also decided to secure at once the eastern end of the feature by a platoon picquet. This was achieved without opposition by the recce pl by 1600 hours 9 Jun.

17. By 0800 hours 10 Jun, A Coy had arrived at the assembly area at 9686 joining Tac HQ and C Coy. During the 9/10 Jun an administrative build up of supplies and ammunition to support the final advance had gone on and 48 hours stocks were now held in the assembly area. One pl of B Coy was brought forward by helicopter to secure the administrative area after the assault force moved forward. It was during this move of the pl that a RN Wessex helicopter crashed killing one soldier and injuring five others.

18. At 1400 hours CO 1 E ANGLIAN gave orders for the final move to Jebel HURIYAH. There was no moon and a RAF Shackleton aircraft dropped flares to silhouette the objective to the advancing troops. The advance was to be supported by close support and medium artillery and was to be carried out in two phases. Phase I was the advance by C Coy over a start line already secured by the recce pl along the ridge running up the main feature. Their task was to secure a start line and FUP for A Coy who were to carry out the final capture of the Jebel HURIYAH by Phase II. Preliminary moves would commence at 0100 hours 11 Jun and C Coy would cross their start line at 0200 hours and A Coy be secure on the Jebel HURIYAH by 0415 hours. Nothing occurred to cause these plans to be altered and C Coy set off through the recce pl's position at 0200 hours. It soon became apparent that the going was more difficult than anticipated and the advance fell behind schedule. However, despite some difficult ground C Coy reached their final objective by 0410 hours to permit A Coy to pass through. Tac HQ and A Coy were close up on the tail of C Coy and immediately the position of the objective was agreed upon A Coy headed by 3 Pl passed rapidly through C Coy's forward elements at 0420 hours and headed for the highest peak they could see on the dark mass of the Jebel HURIYAH. At 0450 hours the leading section was secure on the top of the Jebel HURIYAH plateau after climbing the steep sides. 1 and 2 Pls passed quickly through to secure the whole feature and the CO and his command rover group arrived immediately behind them. Occupation of the feature was complete in time to watch the street lights of ADEN 50 miles away go out as dawn broke. Helicopter re-supply began at 0600 hours and by 1200 hours all necessary food, water, ammunition and equipment including a 3" mortar platoon and a flag pole were on the top of Jebel HURIYAH. At 1215 hours the forward sections of 2 Pl were sniped from the basin below the Jebel HURIYAH. Mortars returned the fire and the shooting soon stopped.

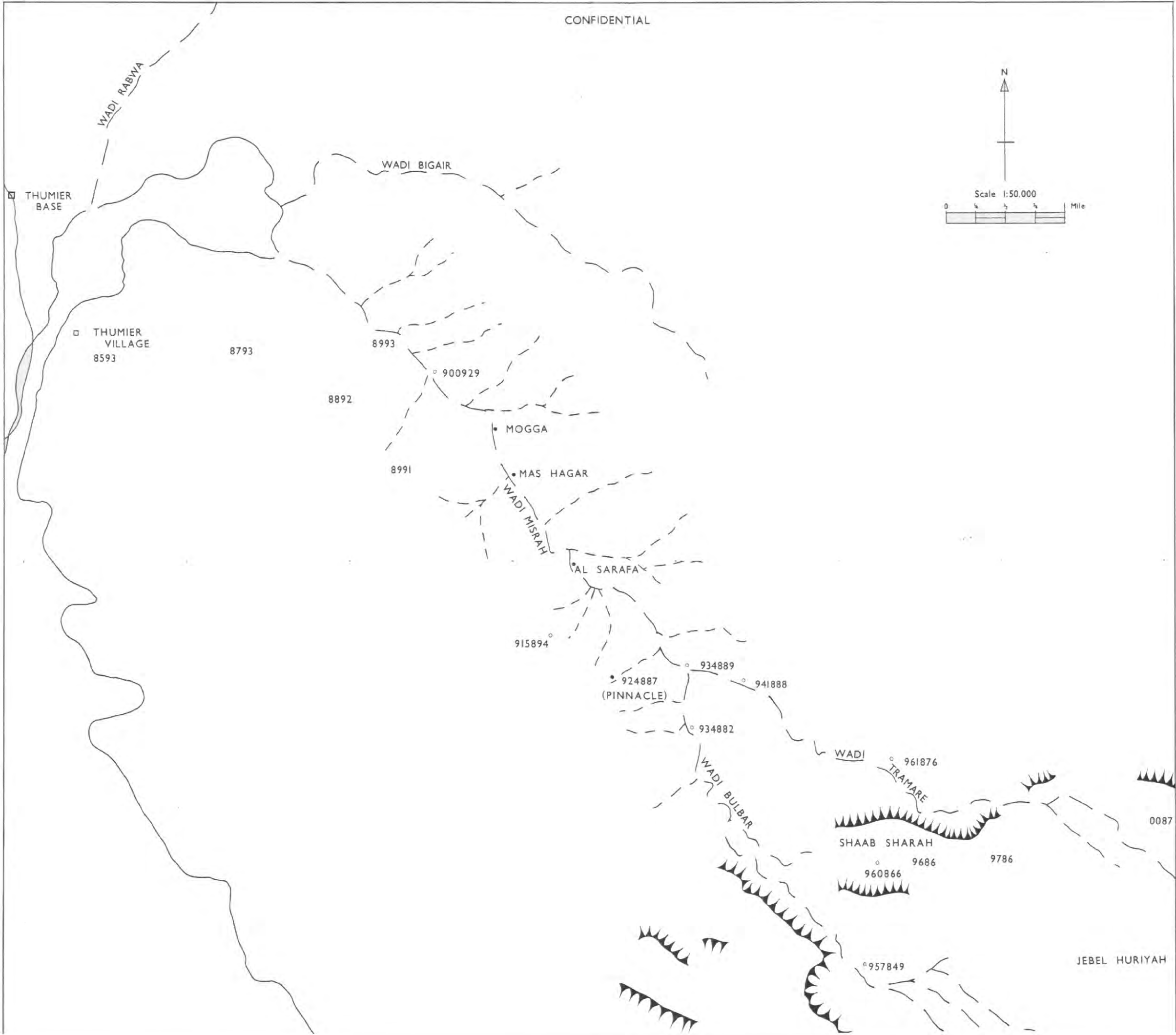
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19. From the Jebel HURIYAH position the fertile agricultural basin could be dominated and for the next six days it was patrolled by all three coys of the battalion, B Coy having come up to join the battalion on 12 Jun. A considerable quantity of grain was found and once again plenty of notice of evacuation seemed to have been given. On 13 Jun at 0630 hours 6 Pl B Coy was established by helicopter at 0087 on the forward rim of the HURIYAH Basin, a position which gave observation over the remotest part of RADFAN.

20. On 19 Jun 1 E ANGLIAN were relieved by 1 FRA who assumed control of the HURIYAH-MISRA area and the battalion returned to ADEN.

ADVANCE UP THE WADI MISRAH AND CAPTURE OF JEBEL HURIYAH

CONFIDENTIAL



Appendix 8 to Annex L
to RADFAN ReportACCOUNT OF THE OCCUPATION OF JEBEL WIDINA

1. The operation to capture Jebel WIDINA began on the night 22/23 Jun. On this and the following night, 1 KOSB with D Coy 3 PARA under command made good progress in bright moonlight, taking a series of commanding features along a wadi nicknamed PILGRIM'S WAY. Opposition was light, but the difficult ground and hard climb by D Coy 3 PARA to the top of the feature nicknamed MAE WEST made this night march a considerable feat.
2. From MAE WEST the approaches to the Jebel WIDINA could be studied. Jebel WIDINA is a massive, flat-topped feature, with extremely difficult approaches. The lower slopes are rugged and very steep while the last one hundred feet or so is virtually sheer. It dominates the surrounding country and most important of all, the Wadi DHUBSAN. The assault on WIDINA was an ideal task for FRA soldiers, many of whom are born and bred in the mountains. 3 Coy 1 FRA was given the task of reaching the summit by first light 28 Jun.
3. During the night 25/26 Jun, a FRA six man patrol led by pl comd MULAZIM MOHD SALEH DAIDI carried out a reconnaissance of the route up the Jebel WIDINA. The patrol reached the summit and returned to base by first light. The route chosen was narrow and hazardous, particularly at night, and near the summit it was dominated by two forts. A few snipers in these forts could have held up an advance and inflicted many casualties and therefore on the evening 27 Jun these and other targets on the objective were attacked by Hunter aircraft.
4. CO 1 FRA, QUAID AHMED MOHD HASSAM was in overall command, and the coy comd was WAKIL QUAID KHEIRAM. The advance began at 1930 hours 27 Jun before the moon rose; the mountain lay three miles away and three thousand feet above the coy base. By 2030 hours the moon rose and the pace quickened. The route followed a ridge running up to the main Jebel. The going alternated between loose shale and craggy rocks. In places the ridge was knife-edge, with drops of hundreds of feet each side. The slim and agile FRA soldiers are well built for this sort of going and they moved fast with few breaks until within three hundred feet of the crest. There they stopped and sent two pls forward to form a bridgehead. Twenty minutes later the rest of the coy moved forward to the final one hundred foot cliff and climbed onto the summit.
5. Shortly after first light 28 Jun, the summit of Jebel WIDINA about one and a half square miles, had been searched. A FOO of J Bty 3 RHA arrived by Scout helicopter at 0650 hours and at 0900 hours a group of enemy in the Wadi DHUBSAN were engaged with artillery fire. There had been little opposition, the enemy had produced only light sniping from a neighbouring ridge, but a difficult task had been carried out with speed and determination. FRA troops were now occupying the two main features in the most inaccessible part of RADFAN, the Jebels HURIYAH and WIDINA.

ADMINISTRATION AND LOGISTICS

This annex covers all aspects of administration for the operation, including statistical data. Details of the sections of this annex are given overleaf in the list of contents.

Annex M to RADFAN ReportADMINISTRATION AND LOGISTICSLIST OF CONTENTS

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Section I
to Annex M
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STAFF PROCEDURES

INTRODUCTION

1. Background. The nature of the operation and the initial lack of a formed field force HQ and administrative communications to control the administration of the force and administrative units at brigade group level, precluded the use of normal standing operating procedures. Procedures had to be tailored to the specific needs of the operation. After the arrival of HQ 39 Inf Bde Gp and reinforcing administrative units, procedures were modified and simplified.
2. This section describes the operating procedures which were developed by staffs for controlling administrative support to operational units in the RADFAN area.
3. This section is divided into three main parts:
 - a. HQ Middle East Command procedures.
 - b. HQ RADFAN FORCE procedures.
 - c. HQ 39 Inf Bde Gp procedures.

HQ MIDDLE EAST COMMAND PROCEDURES

General

4. The staff procedures, which were developed by the administrative staffs in HQ Middle East Command, are described in the following paragraphs. These procedures covered administration from the Command HQ and ADEN Base forward to HQ RADFAN FORCE at THUMIER (subsequently replaced by HQ 39 Inf Bde Gp).
5. Scope of Operations. When the operations commenced it was understood that they were to be conducted by the ad hoc Force HQ already described, and would last, at an intense rate for about three weeks. It was against this background that the original administrative instruction (1/64) and the more detailed operating procedures instruction (2/64) were written. Copies of these administrative instructions are at Appendices 1 and 2 respectively.
6. Administrative Staffs. Two administrative staffs were involved:
 - a. Force HQ. Administrative Officer - DAQMG (AE) HQ Middle East Command on loan to Force HQ.
 - b. Q Branch, HQ Middle East Command. Initially the brunt of the work involved in backing the Force HQ was borne by Q(Ops). However, the pressure built up quickly and requirements began to cover such a wide field that the remainder of Q Branch (less Q(Quartering)) became involved to a greater or lesser extent. It became necessary to man a Q operations room 24 hours a day, with one Q officer on duty and advisers from A Branch, RASC, RAOC and REME permanently available on call. This system has continued throughout the operation.

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Initial Resupply System

7. Initially, the units serving in the Force were split into two groups for administration, and placed under the administrative wing of the major unit in the group, but not under its administrative command. Because of the complications of peacetime accounting (until new accounting rules could be applied) each unit was self-accounting and largely fended for itself. Rationing and provision of accommodation was by groups, units drawing from the major unit of the group, which drew in bulk from ADEN. Each unit had a rear party in ADEN to look after its interests and obtain its requirements. In most cases the rear party was headed by the unit QM.

8. The system was relatively simple. Units signalled daily demands to their rear parties in ADEN for their requirements, copying their demands to Q(Ops) HQ Middle East Command. Unit QMs obtained their units' requirements, where necessary visiting Q(Ops) first to justify and obtain authority for issues of controlled stores. All stores were issued over the counter by depots. QMs met with Q(Ops) and representatives of HQ RASC, HQ RAOC and HQ REME daily at 0900 hours to iron out difficulties and bid for transport. Unit transport availability was declared and pooled. Shortfalls in unit transport were made up by allocation of RASC second line transport. Loads were critically examined and priorities decided by the Q (Ops) representative, who chaired the meeting. A very strong mutual trust was quickly built up and most of the problems were solved by mutual assistance between units. Vehicles were loaded during the rest of the day after the meeting, the convoy running the next day.

9. Urgent demands from units were vetted by Force HQ and allotted a priority before being signalled to the unit rear party and HQ Middle East Command. Priorities were defined in paragraph 8 of Admin Instr 2/64 (Appendix 2 to this Section). On receipt of a priority demand the Q duty officer contacted the unit to ensure that the unit had the item, or could get it, by authorising release from the appropriate depot immediately and advising how the item was to be delivered (obtaining an aircraft, or space on an aircraft, detailing extra transport or offloading items of lower priority, etc). Sometimes an "in lieu" issue had to be made if the item required was not available.

10. The maintenance cycle is described in paragraph 9 of Appendix 2. The demand and supply system is shown diagrammatically at Appendix 3. Difficulties arose mainly from the lack of separate administrative communications. The burden at this stage of the operation largely fell upon unit QMs and the peacetime depots who were not geared for detailed over the counter issues 24 hours per day. However, no demand was unanswered if the items required were obtainable in ADEN. Transport was limited and considerable juggling was necessary to beat the deadlines set; all bids were met although constant adjustment created extra work for administrative units and rear parties. The system could not have worked without complete co-operation. Lack of administrative units within the Force meant that little could be held forward in THUMIER, and detailed demands had to be met from ADEN, often very quickly, to keep forward troops supplied and equipment working. The fact that they were responsible for the maintenance of their own units forward added incentive to the efforts of rear parties (QMs in particular) and a great pride in "getting the goods there on time" developed. Administrative units and depots were similarly infected and always tried to "beat the deadline". The staff were able to perform their proper function of deciding allocations and priorities both of issue and movement.

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11. This system remained in force until mid-May, by which time HQ 39 Inf Bde Gp had taken over from RADFAN FORCE HQ and had started to carry out their initial administrative tasks as described in paragraph 54 of the administrative narrative at Part I.

Subsequent Resupply System

12. The arrival of HQ 39 Inf Bde Gp and administrative reinforcements eased the problems. Stocks were built up and held forward, reducing the urgency of resupply. Resupply demands were co-ordinated into one consolidated demand placed by HQ 39 Inf Bde Gp for resupply of the entire force, less FRA elements which continued on their own system. Priority demands became less frequent as more items were held forward. Arrival of the composite platoon and OFP relaxed the pressure of peacetime depots in ADEN, who now had fewer customers and more time to deal with them. Additional transport eased the problem of movement of resupply stocks forward. At the same time the airstrip was developed and more was lifted forward by air from 8 Jun, when the airstrip was capable of taking a Beverley.

13. Basically, the staff procedures remained the same. The resupply demand received on one day was actioned by the branches responsible, transport being allocated at the 0900 hours meeting for the move forward the next day. Priorities and allocation of transport were still controlled by Q(Ops). Background information and explanation of demands were relayed by HQ 39 Inf Bde Gp to Q(Ops) by tape-recording. This helped in deciding priorities if there was a conflict. Unit representatives were no longer required at the 0900 hours meeting unless they had a bid for movement (troop movement, unit domestic stores, etc). The meeting mainly involved the service branches responsible for meeting the demands placed by their forward units through HQ 39 Inf Bde Gp.

14. Administrative Instruction 3/64 (copy at Appendix 4) was issued on 20 May, and the resupply system effective from this date is described in paragraphs 3, 6 and 7. The instruction includes diagrams of the demand and resupply systems.

15. Excess issues and issues of controlled stores or items in short supply continued to be controlled by Q Branch to ensure issues were justified and that, where necessary, suitable provision action was taken to obtain resupply from UK. Returns were kept to an absolute minimum, and are listed as an Annex to the original Admin Instruction 3/64.

Responsibilities

16. The split of responsibility between the Q staff branches followed the normal pattern. The main responsibilities were:

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- a. Q(Ops)
 - (1) Co-ordination
 - (2) Control of priorities and allocation of transport and air freight space available to the army.
 - (3) Stock levels.
 - (4) Control of composite rations, defence stores, ammunition and battle batteries.
 - (5) Control of visits by Q Staff and Service representatives to operational area.
 - (6) Liaison with G(Ops).
 - (7) Liaison with HQ 39 Inf Bde Gp.
 - (8) Liaison with unit rear parties.
 - (9) Liaison with RAF on air movement, parachute resupply etc.
 - (10) Priorities of repair.
 - (11) Initiation of Red Star demands on UK.
- b. Q(Maint)
 - (1) Control of tentage, cooking equipment, camp scales, accommodation stores, etc for operational units and Transit Camp.
 - (2) Control of barracks items (miscellaneous and disinfectants etc)
 - (3) Ration policy, hot weather and up-country supplements, commutation etc.
 - (4) Civil labour, employment.
- c. Q(AE)
 - (1) Control of excess issues, and items in short supply.
 - (2) Initial equipping of reinforcements (vehicles, equipment etc).
- d. Q(Fin)
 - (1) Accounting procedures.
 - (2) Local purchase authorities.
 - (3) Allowances.
 - (4) Civil labour, authorisation of payment and rates.

Co-ordination

17. Co-ordination of the work of the branches and a general exchange of information was important as all Q branches (less Q(Quartermaster)) shared the duty of maintaining a 24 hour watch in the Q (Ops) operations room. All current information was made available to the duty officer who was briefed daily by each branch. The duty officer's log, important signals/transactions and situation reports were examined jointly each day, and this ensured reasonable continuity. Service advisers were on call if required to answer specific service problems.

18. Communications. The absence of administrative communications to HQ 39 Inf Bde Gp was a handicap throughout. Response times could have been reduced even further had administrative communications been available.

HQ RADFAN FORCE PROCEDURES

General

19. The following paragraphs outline the staff procedures which were developed by the small administrative element of HQ RADFAN FORCE and mainly concern the system of forward resupply. Initially the Force DAA and QMG (DAQMG(AE), HQ Middle East Command) was the only Force administrative officer, but he was

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Planning

20. Planning of each day's resupply requirement was carried out at a meeting held each previous evening at 2000 hours. This timing allowed unit echelons in THUMIER to summarise their company's demands for the resupply day.

21. The following attended the meeting:

- a. DAA and QMG (chairman).
- b. Unit representatives.
- c. Air despatch officer.
- d. RAF Mobile Air Movements Section (MAMS) officer.
- e. 653 Squadron AAC representative.

22. The conference agreed the programme for the next day, including the following details:

- a. Priorities of loads by serial number, unit and landing zone. These took into consideration:
 - (1) Serials left over from previous day.
 - (2) Stocks held in various positions.
 - (3) Landing zones which became unusable during the day because of wind.
 - (4) Whether alternative means of supply were available.
 - (5) Operational considerations.
- b. Details of the load including:
 - (1) Weight.
 - (2) Personnel, including numbers of despatchers.
 - (3) Use of container or internal stowage.
 - (4) Return journey including personnel and salvage.
- c. Type and numbers of aircraft to be used. As no two types carried the same payload there was usually a separate serial group for each.

The programme included resupply, movement of personnel, weapons, radios and vehicles.

23. The evening meeting also considered any problems of the days flying, for example:

- a. Priorities for return of salvage.
- b. Misuse of containers.
- c. Unit helicopter controllers' drills.

24. The programme was produced and circulated to all attending the conference by 0600 hours the following morning. Additional copies were sent to forward companies, BASO and aircrew. The RAF SRT specimen programme for 17 Jun, which is shown at Appendix 5, was issued by HQ 39 Inf Bde Gp, but was based on the system evolved by HQ RADFAN FORCE.

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Execution

25. The sequence of loading and delivery is listed below:

<u>Serial</u> (a)	<u>Event</u> (b)	<u>Location</u> (c)	<u>Remarks</u> (d)
1	Load assembled	In unit lines	-
2	Load held	Air despatch waiting area.	Until called forward.
3	Load packed	One of two packing areas.	Into 1-ton containers or internally in helicopters.
4	Load snatched	From packing area	For container loads
5	Load delivered	As required in operational area.	In flight briefing by BASO
6	Salvage returned and unloaded.	Helicopter pad	-

26. It was not possible to pack containers throughout the flying programme, which usually finished in the early afternoon. Remaining daylight was then used for packing for the following day. This packing anticipated the next day's programme, which was possible because the majority of the loads were standardised.

27. Control was exercised jointly by the BASO for all air and loading problems, and the DAA&QMG for the provision and packing of stores and nomination of loading zones. All points in the sequence of delivery were on the camp telephone system and BASO had radio contact with all aircraft and the airfield at KHORMAKSAR. The DAA&QMG and BASO operated from adjoining tents and all alterations to the programme were made jointly.

Parachute Resupply

28. Parachute resupply from THUMIER was used for small detachments in locations where helicopters could not land, or where helicopters were not available and Beaver aircraft were used. The sequence was similar to that used for helicopter resupply. A small stock of harness packs and GQ parachutes were held by the air despatch section. Packing was done in the waiting area and loads delivered to the aircraft parking area. Short notice demands were made over the operational net or on unit rear links. The response time from request to a dropping zone in the DHANABA BASIN was 50 minutes.

Ground Transport

29. The FRA and J Battery 3 RHA ran daily convoys to the road-head north of THUMIER and to the gun area using unit transport. These were escorted and co-ordinated under arrangements made by the THUMIER Garrison Commander.

30. From the road-head FRA stores were taken up the mountains by locally hired camels. These animals were also used in the THUMIER area for the resupply of picquets, observation posts and radio relay stations on the hilltops.

HQ 39 INF BDE GP PROCEDURES

General

31. The staff procedures developed by HQ 39 Inf Bde Gp are outlined in the following paragraphs.

32. Administrative Staff. On taking over from HQ RADFAN FORCE it became apparent at once that there was a need to organise resupply within the Brigade Group on the lines envisaged by 3 Division in their SOPs. This was done whenever possible and the additional functions of the staff in the operation were as follows.

<u>Serial</u> (a)	<u>Staff Officers</u> (b)	<u>Responsibilities</u> (c)	<u>Remarks</u> (d)
1	DAA and QMG, SC(Q)	Administrative policy and planning.	Including planning with G and RAF.
2	SC(A), SC(Q), BOO, BEME.	Day to day control of administrative problems, less resupply programme.	
3	DADST	Immediate control of daily resupply programme, including SRT lift completion.	AQ LO assistant.
4	BRASCO	Control of road transport including forward convoys; supervision of RASC stock holdings.	

33. Service Representation. The situation in which service representatives became additional administrative staff officers was avoided. Problems peculiar to each service arose daily. These problems, relevant to operations in this country, required full time advice and assistance to both units and staff from BOO and BEME in particular. It was particularly valuable to have a trained ATO as BOO.

Administrative Operating Procedures

34. Basis. The reasons for basing 39 Inf Bde Gp procedures on 3 Division SOPs were:

- a. The latter were produced as a result of hard training by officers with experience of SRT support.
- b. Such training as the staff of HQ 39 Inf Bde Gp had carried out in UNITED KINGDOM was based on these SOPs.

35. SOPs. SOPs have not yet been completed as it was considered by Commander 39 Inf Bde Gp that they should not be produced finally until there was sufficient experience of working conditions in this Command for them to be both practicable and acceptable to units.

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36. Communications. The extent to which quick and efficient procedures are dependent on good communications was clearly brought out. 213 Signal Squadron produced a limited administrative net from its resources.

Forward Resupply

37. Aim. The aim was to relieve units as far as possible of the work involved in forward air supply but to put responsibility for road supply onto them. The systems used are outlined below.

38. Forward Air Supply

- a. Units bid by radio (bde gp administrative net) or Q liaison officer to Bde Gp HQ by 1400 hours D - 1 for all items other than ordnance stores and unit welfare purchases (NAAFI).
- b. Bids were checked and authorised by Q staff who added stock requirements if the Bde Gp Commander decided to build up reserves.
- c. Q staff bid for overall air space by 1630 hours D - 1.
- d. Allocation for air space confirmed by GSO 3(Air)/BASO by 1900 hours D - 1.
- e. Units advised on air space available for unit equipment and welfare stores.
- f. Composite platoon RASC made up packs or containers of rations, water, ammunition, miscellaneous and disinfectant items and engineer stores, adding bulk items of ordnance origin and welfare stores which were produced by the unit echelon.
- g. At 0500 hours D day resupply programme by serial, type of aircraft, load and destination was put over bde gp administrative net.
- h. Alterations to programme and operational demands (OPDEMS) were only accepted if approved by Q staff.
- j. DADST at joint load control with RAF, supervised resupply programme from AMA. It is considered that there was a weakness in the system here because of the virtual replacement of a trained FATOC, with ground to air communications, by a MAMS team inexperienced in SRT resupply.

39. Forward Road Resupply

- a. Units bid by radio (bde gp administrative net) or Q liaison officer to Bde Gp HQ by 1400 hours D - 1 for all items other than ordnance and welfare purchases (NAAFI).

- b. Bids were checked and authorised by Q staff who added stock requirements if the Bde Gp Commander decided to build up reserves.
- c. Q staff co-ordinated road convoys to avoid duplication and also allocated $\frac{3}{4}$ -ton platoon and 3-ton pooled space if available.
- d. Units drew all items from composite platoon RASC, 24 OFP and NAAFI Bulk Issuing Store.
- e. Units co-ordinated convoy movements with G and 4 RTR.
- f. Resupply programme timings were units' responsibility.

Casualty Evacuation

40. A copy of 39 Inf Bde Gp SOP 52, dealing with casualty evacuation is at Appendix 6, to illustrate the procedure involved and the type of information contained in individual SOPs.

Appendix 1, Section I to Annex M to RADFAN Report

COPY

ADMIN INSTR 1/64

(Issued in conjunction with HQ RADFAN Force Op Instr 1/64
(17501 G(Ops) of 18 Apr 64))

Situation

1. The op background is contained in GOC's directive to Comd RADFAN Force (not to all), and HQ RADFAN Force Op Instr 1/64.

Mission

2. To maint RADFAN Force during its op.

3. Gen

- a. Max admin sp is to be provided from ADEN. Admin sp in the THUMIER fwd base is to be kept to the min.
- b. As far as possible the maint plan is to conform to existing procedures for normal maint of units operating.
- c. Fwd of THUMIER, max use is to be made of air tpt for maint and resup (air landing using mainly Belvedere helms).
- d. Between ADEN and THUMIER road tpt and limited aval air lift will be used.
- e. Con. A small admin staff element, consisting of DAQMG (AE) HQ MIDEAST, and a capt from 1 E ANGLIAN, will be formed at THUMIER from 20 Apr 64. DAQMG (AE) will be responsible to Force Comd for fwd con of admin units.
- f. Camp Staff. HQ ADEN Garrison is to nominate a unit to provide the min staff nec to administer the base camp (incl a Camp Comdt). The unit nominated to administer the base camp is to be responsible for drawing stores for the base camp.
- g. Admin Grouping
 - (1) Coy 3 PARA is to be admin by 45 Cdo.
 - (2) Other sub-units, incl dets of admin units, are to be admin by the unit administering the base camp.

4. Material and Svcs

- a. Ammo. Units are to hold full first line holdings in op area, less MOBAT. Resup from X Group is to be on an expenditure basis. Mov of replacement ammo is to be by scheduled road convoys, except for urgent emergency requirements which are to be supplied by air.

b. POL

- (1) CRASC is to arrange for AVTUR, AVGAS, MT gas and normal lubs to be supplied to THUMIER. Initial quantities will be 4000 galls AVTUR, 2000 galls AVGAS, 2000 galls MT gas. This represents two days assessed op usage and will require 14 x 3 ton vehs.
- (2) CRASC is to arrange for a PP (est str 5 men) to be estb at THUMIER for all units. POL for HQ FRA is to be vouchered separately.
- (3) Two rotary pumps are to be drawn from Ord Depot ADEN by 2 Coy.

c. Rations

- (1) 24 hr ration packs are in extremely short sup. A max of 1960 of these rations is initially allotted for the op, in addition to 1200 already auth. The 1960 rations will be held in the ADEN Sup Dep, less a res of 500, which will be immediately avail at THUMIER.
- (2) 10 man compo rations are to be used by op tps in preference to 24 hr ration packs wherever possible.
- (3) One days res of 10 man compo packs is to be held by units.
- (4) Bread may be drawn in lieu of biscuits.
- (5) Fresh rations may be drawn in lieu of compo, whenever conditions allow.

d. Water

- (1) 12 Field Sqn is to estb a WP at THUMIER, with a target requirement of 6000 gall/day.
- (2) Initial res of 500 water jerricans is to be earmarked by Ord Depot ADEN, and drawn as required by the unit administering the base camp.

e. Tpt

- (1) Max use is to be made of unit first line tpt.
- (2) 2 Coy (GT) second line tpt is to supplement first line tpt. Max availability is 34 task vehs.
- (3) Convoy runs are to be coord by HQ FRA. Return convoy runs from THUMIER are to be coord by Force HQ with HQ FRA.

f. Air

- (1) Daily hel and ac runs from KHORMAKSAR are to provide the max supplement to road tpt lift, carrying mail, newspapers, urgent stores, rations etc. Items for air mov are to be del to OC 'A' Air Sup Pl 6 hrs before ac take-off.

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- (2) A small air despatch det of seven men is to be at THUMIER.
- (3) 'A' Air Sup Pl (-) at KHORMAKSAR is to provide air sup sp (incl air dropping capability from KHORMAKSAR, if required).

g. Accn. There will be a requirement for tentage for the base camp at THUMIER. As far as possible this requirement is to be met by 180 lb tents. There will also be a requirement for some accn stores. DAQMG (AE) is to coord requirement with Camp Comdt and info CRAOC, who is to arrange for Ord Depot ADEN to sup. Stores are to be drawn by unit administering the base camp.

h. Engr

- (1) There will be a requirement for camp structures for accn. DAQMG (AE) is to notify CRE of requirements.
- (2) CRE is to arrange for issue of 20 refrigerators and a lighting set.
- (3) 35 coils of dannert wire and 200 x 2' pickets are to be issued by Ord Depot.

j. Ord

- (1) Fwd sup of routine ord stores is to be by road. Urgently required stores are to be fwd by air. Demands are to be placed by units in the normal way.
- (2) Ord WO and ammo tech are aval to go to THUMIER if required.

k. Repair, Rec and Backloading

- (1) A small EME det of 1 offr and 10 OR is to provide repair and rec sp at THUMIER. Det will incl veh and tels repair. This det can be increased to a str of 1 offr and 18 OR if nec. Spares requirements will be notified by the det to 52 Comd Wksp for action.
- (2) Repairs beyond the capability of the det are to be backloaded to ADEN by fastest possible means.
- (3) Road convoys from ADEN to THUMIER are to incl a rec veh. HQ FRA is to request assistance from CREME if nec.

l. Postal

- (1) An FPO of 2 men is to be estb at THUMIER.
- (2) Mail and unit newspaper bundles are to be delivered daily by ac from KHORMAKSAR to THUMIER. Delivery of mail to 'A' Air Sup Pl will be a unit responsibility.

- m. Fire Precautions. Normal fire precautions in tented camps are to be observed. Attention is drawn to "Fire Services in the Army 1952", paras 213 - 216.
- n. Canteen. Canteen sups are to be a unit responsibility. Camp Comdt is to make canteen arrangements for base camp tps (excl 45 Cdo).

5. Med

- a. Serious cas are to be evac direct by air to KHORMAKSAR.
- b. Slightly wounded cas are to be evac to THUMIER.
- c. 45 Cdo is to estb a med aid post at THUMIER.
- d. One RAMC sgt and three OR are to be provided by 10 Bde Gp Med Coy to boost cas treatment capability at THUMIER. A hyg asst is also to be provided. In an emergency an additional MO could be made aval.
- e. Units are to take normal anti-malarial precautions.
- f. The attention of all units is directed to GRO 110 of 1964 dealing with the dangers of camping near local villages.
- g. Urgent med stores are to be supplied from ADEN by air.

6. Pers

- a. PW. A small PW cage is to be estb by Force HQ for important captured dissidents. Manning of the cage is to be under Force HQ arrangements.
- b. Pro. HQ ADEN Gar is to provide a pro det for the THUMIER area.
- c. Chaplains. 45 Cdo is to provide padre for the op. Arrangements for visits by Roman Catholic padre are to be made by HQ MIDEAST ('A' Branch).

7. Financial Instrs

- a. Normal peacetime accounting is to be maint by all units taking part in the op. Main store accts may be left behind in static locs, and a temp stores record prepared, showing what stores accompanied the unit/sub unit. Any issues made from base installations are to be vouchered to the main stores acct of the unit concerned and arrangements made, by the unit, for such issues to be added to the unit temp acct in the op area. At the conclusion of the op any deficiencies are to be the subject of a board of inquiry sufficient only to estb the facts of the case. Application for auth to write off will then be made in accordance with Middle East Comd Standing Orders Sec 31. Such applications are to reach HQ Middle East Comd within one month of the conclusion of the op.

- b. Demands and vouchers for all stores and sups issued to, or svcs provided for, units taking part will be clearly endorsed 'FLAMINGO'. A record of all issues or svcs to units engaged is to be sent to Comd Sec as they occur.
- c. Because of the joint nature of this op particular care is to be taken to maintain simple but adequate records in order that recoveries can be made where nec and to ensure that retrospective financial cover can be obtained.

Appendix 2, Section I to Annex M to RADFAN ReportCOPY
ADMIN INSTR 2/64OPERATING PROCEDURES FOR MAINT OF RADFAN FORCE
FROM ADEN

(Issued in conjunction with ADMIN INSTR 1/64 (1161 Q(Ops) of 18 Apr 64)

AIM

1. The aim of this instr is to define the responsibilities and describe the operating procedures to be adopted for the maint of the RADFAN Force.
2. The instr details the cycle of the maint systems from the initiation of a demand by a unit of the Force to the delivery of the items demanded. This instr will be effective from 20 Apr 64.

RESPONSIBILITY FOR INITIATING THE DEMANDS

3. Admin Grouping. Admin Grouping is as follows:-

- a. 45 Cdo Gp

45 Cdo RM
One Coy 3 PARA
Elms 10 Bde Gp Med Coy

- b. 1 E ANGLIAN Gp

Force HQ (incl BASO)
One Coy 1 E ANGLIAN
One Sqn 22 SAS
Elms 261 Postal Unit
Elms 254 Sig Sqn
Elms 653 Lt Ac Sqn
Sect 'A' Air Sup Pl
Elms 2 Coy RASC
37 Field Sqn RAF
Elms 52 Comd Wksp

4. Rations

- a. All units with elms participating have been instr to submit demands for compo rats for 48 hrs for those elms. These rats will be taken to the op area and handed over to the respective Gp Base Camp Comd (as at para 3a or 3b above).
- b. From their arrival in THUMIER units and elms of units will be taken on ration str by the parent unit of the Gp (i.e. 45 Cdo or 1 E ANGLIAN).
- c. Demands for replenishment will be placed by Gp HQs daily, showing breakdown of ration requirements by type, i.e.:-

(1) Fresh Rats (nos) or Tinned Equivalent (nos).

- (2) 24 hrs Packs (no. of rats) (See note (a))
- (3) 5 or 10 men compo (no. of rats)
- (4) Bread (lbs)
- (5) Biscuits GS (lbs)

d. The demands will be placed on 45 Cdo (REAR) and 1 E ANGLIAN (REAR), as appropriate, by sig, copies to Q(Ops) HQ MEC and Force HQ. (See para 7 below).

e. Feeding will be under centralised gp arrangements.

(Note (a) 24 hr packs are in very short supply. Force HQ is rigorously to 'vet' all demands and reduce them to op minimum).

5. POL

- a. Units and elms are to draw from RASC POL Pt at THUMIER provided by 2 Coy RASC.
- b. Units and elms are to account for all POL drawn on op POL acct.
- c. RASC POL Pt to demand replenishment from 2 Coy RASC, ADEN, by sig, copy to Q(Ops) HQ MEC and Force HQ. (See para 7 below).
- d. Priorities for urgently required stores etc are to be allocated by 'Q' Force HQ.

6. Ammo, Stores and Eqpt

- a. Units and elms are to submit demands on parent units in ADEN BASE by sig, copy to Q(Ops) HQ MEC and Force HQ. (See para 7 below).

DEMAND PROCEDURE

7. Unit Procedure

- a. RADFAN Force units and elms are to consolidate their requirements (of the op items for which they are responsible for demanding) into one sig by 1700 hrs daily. Nil returns are required.
- b. There is to be a conference at Force HQ at 1700 hrs daily to scrutinize demands and allocate priorities.
- c. Unit sigs (containing agreed demand and showing Force staff-approved priorities) are to be despatched PRIORITY to parent units in ADEN at 1800 hrs daily, copies to Q(Ops) HQ MEC PRIORITY and Force HQ.
- d. The sigs are to be collected by parent units ADEN BASE daily at approx 1830 hrs JMCs will notify units for receipt of PRIORITY Sigs.

ACTION BY PARENT UNITS ADEN BASE, STAFF AND SVC BRANCHES (incl Convoy Comd)

- 8. On receipt of the sig (via the appropriate JMC) from its sub-unit or elm att RADFAN Force the parent unit in ADEN BASE

- a. PRIORITY 1 and 2 Demands. On receipt of a priority 1 or 2 demand the unit is to contact the Q(Ops) Duty Officer, through the Duty Staff Officer HQ MEC, giving details of the item incl weight and dimensions. Arrangements will be made for the items to be drawn from Base installations (if the unit does not hold them) and freight space allocated on ac due to fly to RADFAN Force the next morning. The unit is to deliver the items concerned to 'A' Air Sup Pl, RAF KHORMAKSAR, before 2359 hrs giving 'A' Air Sup Pl maximum notice of the arrival of the freight. Priority 1 and 2 demands will be restricted to operationally urgent demands that it is vital to despatch the next day. Demands will be made for Priority 1 and 2 items as the requirement occurs, but the 1800 hrs sig is the last opportunity for notifying requirements for movement the following day.
- b. All other Demands. Items are to be collected the morning after the demand is received for despatch by air or road the day after. (See para 10 below).
- c. Priority of Movement (POM) Conference
- (1) Reps from the following are to attend the 0900 hrs POM Conference to be held daily, incl non-working days, by Q(Ops) in the AQ Conference Room, Fort MORBUT:-
- (a) Parent Units, ADEN Base.
 - (b) ST, Med, Ord, EME, Postal.
 - (c) Convoy Comd.
 - (d) 'A' Air Sup Pl.
- (2) The POM Conference will consider unit demands (less priority 1 and 2 demands already despatched but incl priority bids since received), and allocate air freight space and road tpt for the following day (day after conference). The Convoy Comd's rep will detail the Convoy RV time and place at this Conference. He will state the unit rep attendance required at the Convoy Comd's O Gp, to be held 1800 hrs that day. He will brief the Convoy Comd on the composition and details of the convoy before the O Gp. He will liaise with G(Ops) if there are any changes required in the convoy escort.
- d. Convoy Comd's O Gp. Convoy Comd will hold an O Gp for the following day's convoy at 1800 hrs daily at HQ MEC (G(Ops)). Details of those to attend will be announced at the daily 0900 hrs POM Conference.

- e. Postal. All official mail will be addressed to "Force HQ, BFPO 90". Units redirecting personal mail to RADFAN Force Units may place such mail in bulk into one bag or envelope, and address it to "Postal Det, Force HQ, BFPO 90" and hand the bag to their parent postal unit in ADEN Base for despatch.

MAINT CYCLE

9. The maint cycle is, therefore, as follows:-

a. Day 1

- 1700 hrs - Units submit demands at Force HQ Conference, priorities allocated where necessary.
- 1800 hrs - Units sig agreed demands and priorities to parent units ADEN Base, copies to Q(Ops) HQ MEC and Force HQ.
- By 1900 hrs - Parent units, ADEN Base, collect sigs from their appropriate JMC.
- By 2359 hrs - Parent units, ADEN Base, collect priority 1 and 2 items and deliver to 'A' Air Sup Pl after allocation air freight agreed by Q(Ops) Duty Offr. 'A' Air Sup Pl load ac with these items for despatch by air Day 2.

b. Day 2

- Morning - Parent units collect items for delivery Day 3.
- 0900 hrs - POM Conference, AQ Conference Room HQ MEC - allocation of air and road tpt for Day 3.
- Afternoon - Mov of stores etc, to 'A' Air Sup Pl for air mov, and loading of vehs for road mov, both on Day 3.
- 1800 hrs - Convoy Comd's O Gp, HQ MEC (G(Ops)).

c. Day 3

- 0600 hrs (approx) - Air lift commences.
- 0500-0600 hrs (varying) - Road convoy leaves. (Time notified by Convoy Comd's rep at 0900 hrs Conference Day 2).

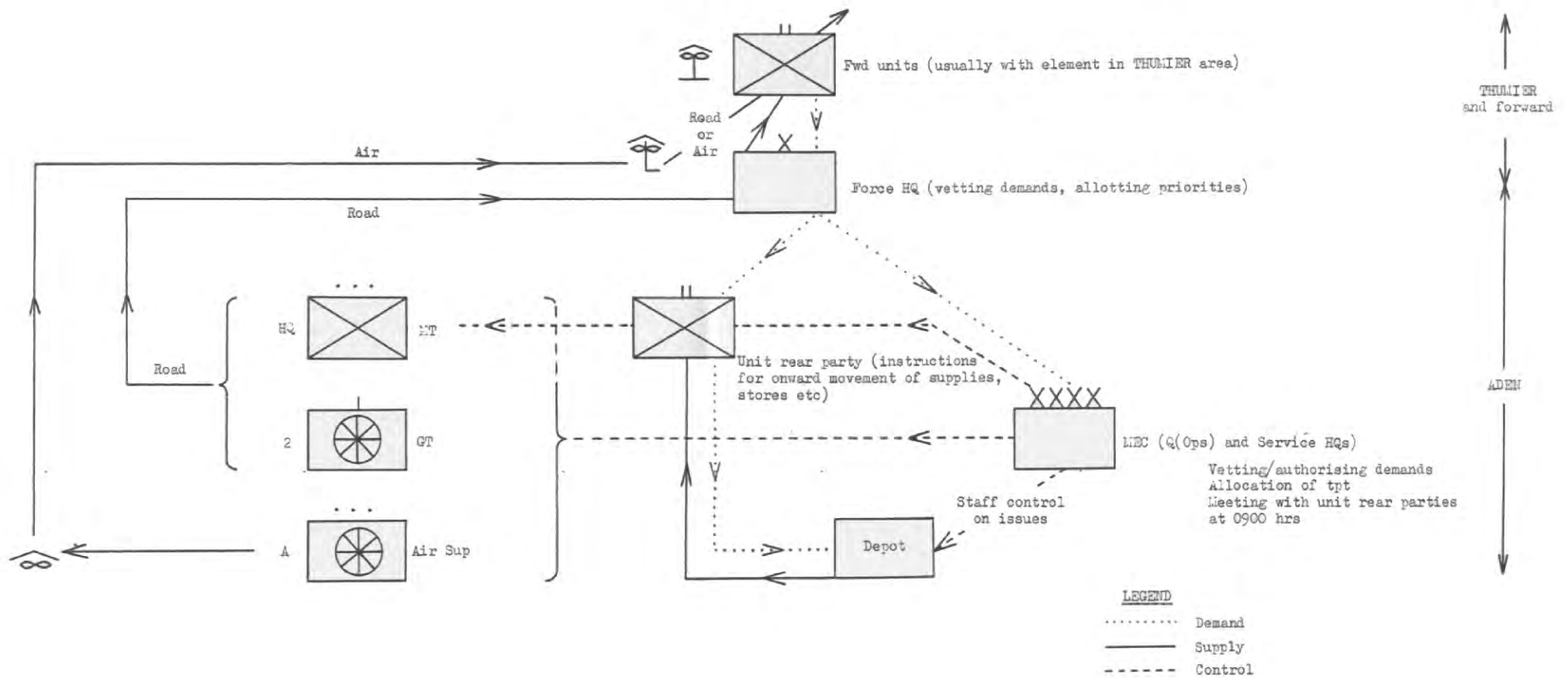
ACTION BY DUTY STAFF OFFICER, Q(OPS) AND SVC BRANCH STANDBY OFFERS

10. Duty Staff Offr. The Duty Staff Offr will collect all the Q(Ops) copies of the unit demand sigs, which arrive at approx 1800 hrs, into one folder for the Q(Ops) Duty Offr. He will inform the Q(Ops) Duty Offr of any urgent incidents which arise and require Q(Ops) action. He will arrange tpt for the Q(Ops) Duty Offr if required.

11. Q(Ops) Duty Offr. The Q(Ops) Duty Offr will be on call and leave his whereabouts with the Duty Staff Offr. He will vet all unit demand sigs received and take action with units to ensure Priority 1 and 2 demands are answered in accordance with para 8a above. He will collect the unit demand sigs and any other Q(Ops) sigs of urgency from the Duty Staff Offr at 0700 hrs daily.

12. Svc Branch Standby Offrs. Svc branch standby offrs will be on call to the Q(Ops) Duty Offr during their standby tour. They will leave their whereabouts with the Duty Staff Offr HQ MEC. They will assist and advise the Duty Q(Ops) Offr on matters affecting their svce, incl issue of items from svc installations during non-working hours where necessary.

INITIAL RESUPPLY SYSTEM



Appendix 4, Section I to Annex M to RADFAN Report
1161/4 Q(Ops) dated 20 May 64
COPY

MIDDLE EAST COMMAND ADMIN INSTR NO 3/64 DHALA ROAD OP

1. Situation

a. Force Level. For planning purposes:-

(1) 39 Inf Bde Gp will consist of :-

Bde HQ
 Armd C Sqn
 Lt Bty (9 x 105 mm pack how)
 One Sect Med Bty (2 x 5.5.in)
 One Fd Engr Sqn
 Bde Sig Sqn
 Three Inf Bns
 Admin Tps as detailed in this order

(2) Strs. Overall strs will be taken as 2500 of which 1100 will be fwd of THUMIER and 1400 will be within the THUMIER base.

b. Atts and Dets

The fol admin units are or will be, loc in the THUMIER base to sp 39 Inf Bde Gp:-

(1) ST Tractor/Tlr sect, 2 Coy RASC (ETA 27 May)
 Half composite pl (THREE sects), 2 Coy RASC
 Two sects, 'A' Air Sup Pl
 Landrover sect, 2 Coy RASC (ETA 26 May)

(2) Med Two sects, 10 Bde Gp Med Coy

(3) Ord Det, 24 OFP (ETA 21 May)
 24 OFP (ETA 28 May)

(4) EME Det, 13 Armd Wksp (returns to ADEN on arrival Aslt Pl 1 Inf Wksp)
 LAD, 39 Inf Bde Gp
 Det, 1 Inf Wksp (ETA 23 May)

(5) Pay Fd Cash Office

(6) Postal Det

(7) P and L ONE sect

2. Mission

To sp 39 Inf Bde Gp

3. Gen Outline

a. All fwd maint is to be from a bde maint area estb at THUMIER, and to be con by HQ 39 Inf Bde Gp.

b. Emergency resup by air to fwd tps may be direct from KHORMAKSAR, as requested by HQ 39 Inf Bde Gp and con by HQ Middle East Command (Q Ops).

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- c. Resup of the bde maint area from ADEN is con by HQ Middle East Command (Q Ops) and is to be by rd convoy every alternate day, supplemented by air as aval, based on demands to be submitted by HQ 39 Inf Bde Gp.

4. Material and Services

a. Ammo

- (1) Res. Two first lines at or fwd of THUMIER for all units in para 1.a. (1) above.
- (2) All units moving from ADEN to THUMIER are to take ONE first line.

b. POL. The fol res are to be held at THUMIER:-

AVTUR	8000 gals
AVGAS	2000 gals
MTGAS	5000 gals
DIESO	1000 gals
KERO	500 gals
Lubs	as required

c. Rats

- (1) Res. The fol are to be held at THUMIER:-
- (a) 5/10 man Compo. 4 days for all units at para 1.a.(1) above.
- (b) 24 hr packs. 700, plus 350 hexamine cookers and TWO refills per cooker.
- (2) All units moving from ADEN to THUMIER are to take TWO days compo rats.
- (3) In principle:-
- (a) Tps fwd of THUMIER are to eat compo rats.
- (b) Tps based on THUMIER are to eat tinned equivalent, or fresh when facilities exist for the storage of fresh rats.

d. Water. All units, on their initial move from ADEN to THUMIER are to take with them:-

- (1) ONE jerrican per TWO men.
- (2) ONE chagul per man.

e. Tpt. Allocation and con of tpt is to be as fol:-

- (1) ADEN Base. To be con by CRASC and basically to be found from 90 Coy RASC and unit tpt.
- (2) Resup ADEN - THUMIER. To be allocated by Q(Ops) HQ Middle East Command, con by CRASC, and basically to be found from 2 Coy RASC and unit tpt.

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(3) At and fwd of THUMIER

- (a) To be allocated and con by HQ 39 Inf Bde Gp and to be found from unit first line tpt plus the LANDROVER and tractor/tlr sects of 2 Coy RASC.
- (b) Tpt from the ADEN - THUMIER convoys is NOT to be retained at THUMIER without prior auth of Q(Ops), HQ Middle East Command.
- f. Engrs. Are to estb water pts, and to provide camp structures at THUMIER, as required by HQ 39 Inf Bde Gp and under the direction of CRE, Middle East Command.
- g. ST. Half composite pl and TWO air sup sects at THUMIER are to be under comd CRASC, Middle East Command, and in direct sp 39 Inf Bde Gp.
- h. Ord. Det 24 OFP, and 24 OFP when estb, at THUMIER are to be under comd CRAOC, Middle East Command and in direct sp 39 Inf Bde Gp.
- j. Repair and Backloading
 - (1) Det, 1 Inf Wksp, is to be under CREME, Middle East Command, and in direct sp 39 Inf Bde Gp.
 - (2) Repair. As much as possible is to be repaired at THUMIER.
 - (3) Backloading. Det, 1 Inf Wksp, is to backload to 52 Comd Wksp. Mov rearwards is to be coord with returning resup convoys.
- k. P and L. Sect, RPC, at THUMIER is to be under comd 39 Inf Bde Gp. Its primary task is to assist composite pl and air sup sects RASC.

5. Med

- a. OC 10 Bde Med Coy is to be SMO to 39 Inf Bde Gp. All med units in sp 39 Inf Bde Gp, and med pers not on the estb of non-med units, are to be under his comd.
- b. Evac. By air to RAF Hospital, STEAMER POINT.
- c. Hygiene
 - (1) One WO and one hygiene assistant (Sgt) are to be provided by HQ Middle East Command, and att to CCP/EMU, THUMIER.
 - (2) All hygiene pers are to work under the gen direction of SMO, 39 Inf Bde Gp.

6. Demand Procedurea. Routine Resup

- (1) ST Commodities and Ammo. HQ 39 Inf Bde Gp are to fwd, by PRIORITY sig, the fol details to reach Q(Ops) HQ Middle East Command by 2200 hrs (local time) on D - 2 days (D day being the day on which the resup convoy moves):-

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- (a) Vehs returning on D - 2 "down" convoy.
 - (b) Rats required by type (rats required to replenish res to be shown separately).
 - (c) POL required by types and quantity.
 - (d) Ammo required by natures, expressed in rounds.
- (2) Engr Stores. HQ 39 Inf Bde Gp is to fwd demands:-
- (a) For action, to CRE, Middle East Command.
 - (b) For info, to Q(Ops), Middle East Command.
- (3) Ord Stores. Unit demands are to be submitted as fol:-
- (a) Before 24 OFP is estb, to BOO 39 Inf Bde Gp, who is to fwd them to HQ, RAOC, Middle East Command (controlled stores only) and to Ord Dep ADEN (all other stores).
 - (b) When 24 OFP is estb, to 24 OFP, who are to fwd to HQ, RAOC, Middle East Command (con stores only) and Ord Dep ADEN (all other stores):
 - (i) Demands they can NOT meet.
 - (ii) Normal replenishment demands.
- (4) Con of Ord Stores. Demands for MOD (Army) con stores, and stores in short sup are to be con by:
- (a) HQ 39 Inf Bde Gp for demands placed on 24 OFP.
 - (b) Q(AE), HQ Middle East Command, for demands placed on Ord, Middle East Command.
- (5) Misc Stores. Demands are to be coord by HQ 39 Inf Bde Gp and fwd to Q(Ops), Middle East Command.
- (6) Med Stores. Demands are to be placed on SMO, 39 Inf Bde Gp, who, in turn, is to demand on 10 Bde Med Coy.
- b. Op Demands (OPDEMS). HQ 39 Inf Bde Gp are to fwd these by PRIORITY sig to Q(Ops), Middle East Command and, for each demand, are to:-
- (1) Give details of the commodity/store required, incl vocab no if known and applicable.
 - (2) State the unit demanding it.
 - (3) Allot it one of the fol pris:-
 - (a) ONE - Operationally essential that items are despatched by AIR on nex aval ac. (NOTE: This pri is ONLY to be used in extreme urgency since it may entail demanding a special ac or shutting out items on an existing flight).

(b) TWO - To be sent by air on day of demand, or on day following demand, or on next convoy whichever is the sooner.

(c) THREE - To be sent on next convoy.

c. Paras 6.a. and b. are shown diagrammatically at Anx 'A'.

7. Sup System

a. Routine Resup

- (1) ST Commodities and Ammo, are to be drawn from deps in ADEN under arrangements HQ RASC, Middle East Command. They are to be consigned to the Composite Pl, THUMIER, and moved by rd convoy under orders Q(Ops), Middle East Command.
- (2) Ord Stores, are to be consigned in bulk from Ord Dep ADEN, to 24 OFP, and moved in RASC vehs by rd convoy to THUMIER. HQ RAOC are to provide, on every RASC veh carrying such stores, an Ord escort who is to be responsible for the stores.
- (3) All Other Stores, are to be moved to THUMIER under arrangements of Q(Ops), Middle East Command.
- (4) Allocation of Tpt. Bids for tpt to move all commodities/stores are to be made to Q(Ops), Middle East Command, at a Priority of Movements Meeting which will be held daily at 0900 hrs (local time) in the AQ Conference Room, Fort MORBUT. Reps of all consignors are to attend these meetings.

b. Air Sup

- (1) Auth for mov of Army commodities/stores by air from ADEN to, or fwd of, THUMIER is vested in Q(Ops), Middle East Command.
- (2) All commodities/stores auth to be moved by air are to be del by consignors to 'A' Air Sup Pl, RAF KHORMAKSAR, and are to be clearly and securely labelled with the name of the consignee.
- (3) On arrival at THUMIER, commodities/stores are to be handed over by Air Sup Det, THUMIER, to the Composite Pl, CCP/EMU, or 24 OFP as appropriate.
- (4) This Instr does NOT cover special resup by air-dropping to fwd tps, mounted from RAF, KHORMAKSAR, for which special instrs will be issued in each case.

c. Paras 7.a. and b. are shown diagrammatically at Anx 'B'.

8. Postal

- a. All mail, and AFCS traffic, to and from THUMIER is to move by air by direct arrangement between DADAPS and MAMS, RAF KHORMAKSAR.

CONFIDENTIAL

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- b. Packages containing indents, and taped msgs, are to be marked by the sender with a RED star and labelled "FOR IMMEDIATE COLLECTION BY...". On receipt of such packages, the receiving Post Office/Postal Det is to telephone the addressee to collect the package.

9. Returns. HQ 39 Inf Bde Gp are to submit to HQ Middle East Command the returns listed in Anx 'C'.

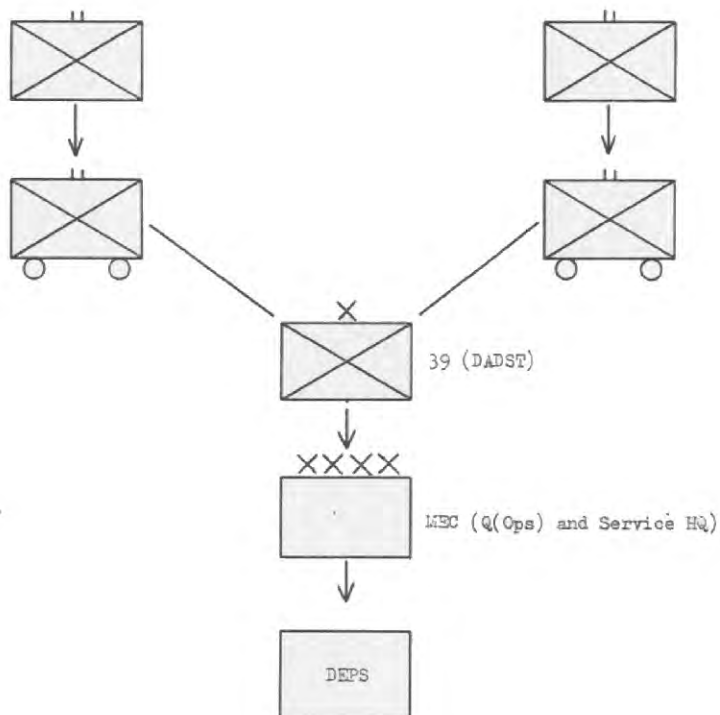
10. Accounting. See HQ Middle East Command letter 3105 Q(Fin) of 8 May 64.

11. This Instr cancels Admin Instrs Nos 1/64 and 2/64.

Annex A - Demand procedure
Annex B - Sup system
Annex C - List of Returns

DEMAND PROCEDURE

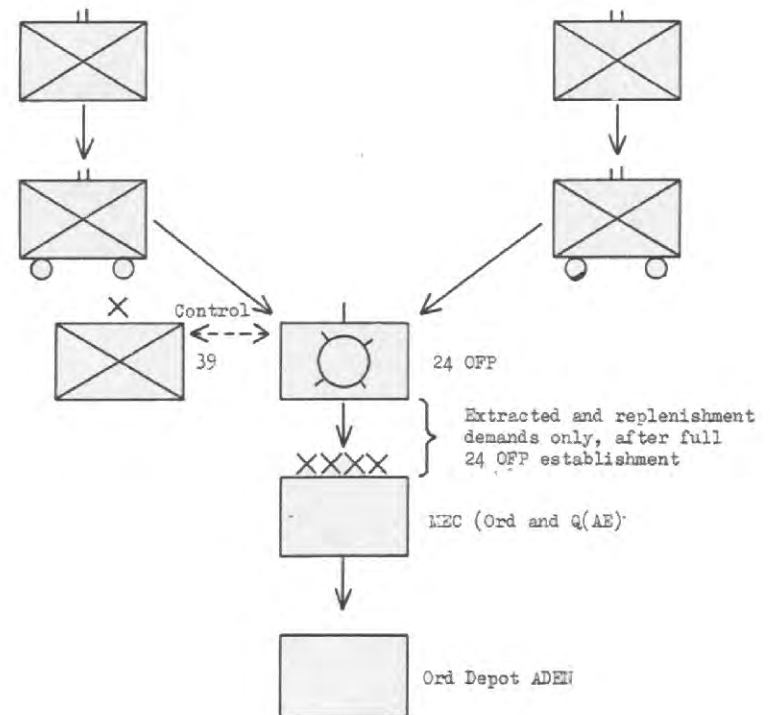
RASC Commodities and Ammo



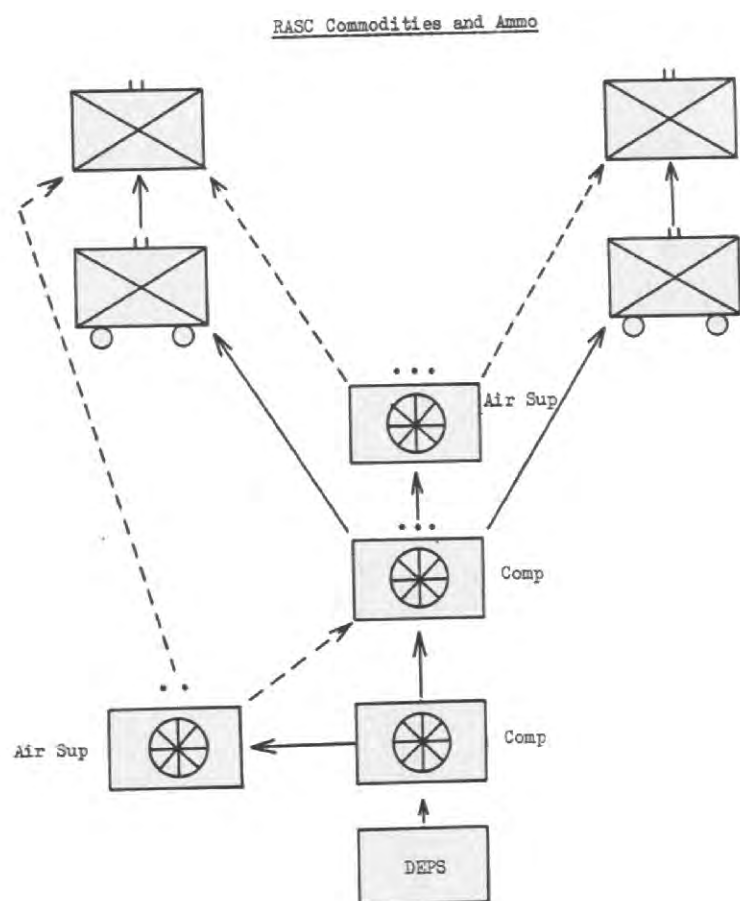
Ord Stores

Fwd Tps

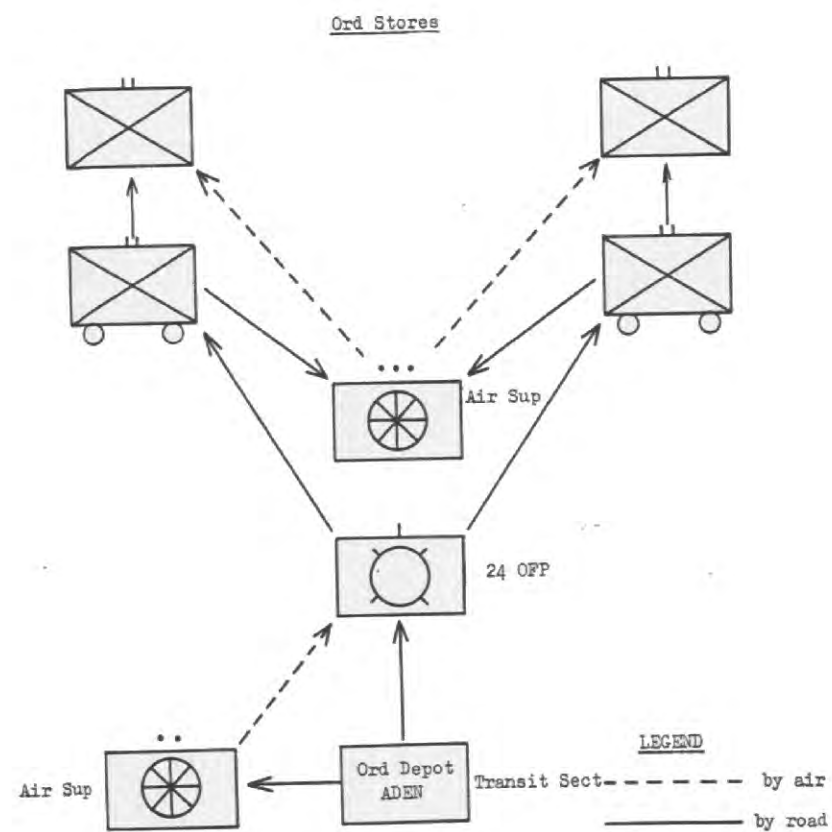
& Echrs



SUPPLY SYSTEM



Fwd Tps
A Ech
Bde Maint Area



Base

Annex 'C' to 1161/4 Q(Ops) dated 20 May 64

LIST OF RETURNS

Serial	Type of Return	As At	To reach MEC by	Remarks
1	Fighting Str Return	First light daily	1000 hrs C daily	To G(Ops), A, Q(Ops)
2.	Cas Return	First light daily	1000 hrs C daily	To G(Ops), A, ADMS
3.	Stock State	first light daily	1000 hrs C daily	To show:- (1) <u>RATS</u> (a) Compo (b) 24 hr packs (2) <u>POL</u> (a) AVTUR (b) AVGAS (c) MTGAS (d) DIESO (e) KERO (3) <u>AMMO</u> (a) 105mm TK (b) 105mm HOW HE (c) 105mm HOW SMK (d) 76mm (e) 3 ins MOR HE (f) 3 ins MOR SMK (g) Any other natures in short sup (as specified by HQ, Middle East Command).

NOTE: Routine resup demand - see para 6a.(1) of Admin Instr.

RAF THUMIER SRT PROGRAMME 17 JUN (See notes)

Log	Unit	From	To	Dist	Load Pax Frt	Ac No	Sorties Type No	Time per Sortie	Max Fuel at LP (est)	Start Time	Finish Time (est)	Fly Time (est)	Remarks
(a)	(b)	(c)	(d)	(e)	(f) (g)	(h)	(i) (k)	(l)	(m)	(n)	(o)	(p)	(q)
1.	1 FRA	THUMIER	V5 918881	6	1 580	1a	WX 1	15	900	0700	0725	.15	1 load
2.	1 E ANGLIAN	THUMIER	L1 968863	4	50	1a	WX 1	10		with log 1		.10	1 load
3.	1 E ANGLIAN	THUMIER	L4 992852	12	1190	1a	WX 2	25	450	after log 1	0900	.50	loads not to exceed 600 lbs
4.	1 E ANGLIAN	THUMIER	L5 011856	2	50	1a	WX 1	5	400	with log 3	0900	.5	with second lift of log 3
5.	1 RS	THUMIER	PADDY'S FIELD	10	2 350	1b	WX 1	20	1050	0700		.20	with despatcher + 6 containers
6.	1 RS	PADDY'S FIELD	N9 013017	5	4670	1b	WX est 6	10	1000	after log 5	0820	1.00	1 load 500 lbs more as fuel cons
7.	1 RS	THUMIER	PADDY'S FIELD	10	1000	1b	WX 1	20	1100	after log 6	0840	.20	
8.	1 RS	PADDY'S FIELD	F2 003003	5	1320	1b	WX 3	10	1100	after log 7	0910	.30	loads of 400 lbs
9.	1 RS	PADDY'S FIELD	F3 013987	5	670	1b	WX 1	10	800	after log 8	0900	.10	1 load
10.	1 RS	PADDY'S FIELD	F1 991012	5	1605	1b	WX 2	10	700	after log 9	0940	.20	loads of 800 lbs
11.	FRA	THUMIER	V2 915892	6	628	1a	WX 1	15	900	after log 4	0930	.15	1 load
12.	815 Sqn	L2 964863	THUMIER		6000	1	DV 3	20	as reqd	0630	0730	1.00	WX Salvage
13.	1 E ANGLIAN	THUMIER	L3 993852	12	5070	1	DV 3	25	1800	after log 12	0900	1.15	Loads not to exceed 2000 lbs
14.	1 RS	THUMIER	N1 938032	8	4235	1	DV 2	15	as reqd	after log 13	1000	.30	1 load 2000 lbs 1 load 2250 lbs
15.	1 RS	THUMIER	PADDY'S FIELD	10	4000	1	TP 2	30	as reqd	1100		1.00	

- Notes: 1. This appx does NOT include an approx equal no of tac sorties which were scheduled separately.
 2. The smaller A/C ac (Auster, Scout) were used extensively for small loads especially those of an emergency or casual nature which could not be preplanned.
 3. WX = Wessex; DV = Delvedere; TP = Twin Pioneer.

Appendix 6, Section I to Annex M to RADFAN ReportSOP No 52COPY39 INF BDE GP - CASUALTY EVACUATION PROCEDUREGeneral

1. Evacuation of casualties from forward areas to the AMA will invariably be by SRT aircraft.
2. Should it be necessary for casualties to be evacuated from the AMA to ADEN then either MRT or SRT aircraft will be used.

Evacuation from Forward Areas

3. Units are to notify Bde HQ by radio immediately casualties are at, or sent to, unit LZ for evacuation.
4. The message is to be passed on the Brigade Admin net except during the period 2000 hrs - 0500 hrs, when the net is closed, when it is to be passed on the Brigade Command net. The message is to include priority and nature of casualties and whether a medical officer is required with the aircraft effecting evacuation.
5. The form of radio message to be sent is given at Annex A.
6. The duty staff officer at Bde HQ who receives the message is to take the following action in the sequence shown:-
 - a. Order GSO III Air/BASO to send SRT aircraft to location at once (if necessary an aircraft in the air will drop its load at the nearest LZ in order to do so). If a medical officer is required to go forward then this must be made known to the pilot with instructions as to where he is to be collected from.
 - b. Inform CCP
 - (1) Whether medical officer is required from there to go forward.
 - (2) Nature of casualty (CASEVAC signal paras 2, 3, 6 and 7).
 - (3) ETA casualty at the AMA.
 - c. Inform unit ETA their location of the aircraft.
 - d. Warn GSO III Air/BASO of the possible need for future evacuation from the AMA to ADEN.

Action to be taken at AMA

7. The senior medical officer in the CCP is to arrange for an ambulance to meet the aircraft at the LZ in the AMA.

8. BASO is to maintain contact with the aircraft and inform the duty staff officer of its arrival.
9. The medical officer at the CCP, as well as arranging for such treatment as he considers necessary, is to pass immediately by telephone to the duty staff officer in Bde HQ the information contained in paras ONE to FIVE inclusive of the message shown at Annex B.
10. The duty staff officer at Bde HQ is to arrange with GSO III Air/BASO for the air evacuation of the casualty if requested by the medical officer. He is to inform the CCP which aircraft is to be used and ETD from AMA.

Evacuation to ADEN

11. The senior medical officer at the CCP is to arrange for the casualty to be prepared for flight, loaded into aircraft and provided with in-flight medical care if required.
12. The duty staff officer at Bde HQ is to signal HQ MIDEAST copy to RAF, KHORMAKSAR, RAF Hospital STEAMER POINT, 10 Bde Gp Med Coy and the soldier's parent unit with details of the casualty. The message is to be sent as shown at Annex B.
13. The duty staff officer is to maintain full details of the evacuation on the AQ Casevac register.

Evacuation of casualties based at the AMA

14. Units based at the AMA are to send casualties by vehicle to the CCP. The evacuation procedure described in paras 9 - 13 above is then applicable.

Annex A to SOP No 52CASEVAC REQUEST FORM
(From units to AMA)

CASEVAC (Unit serial number) PD

ONE PD Location to be picked up PD

TWO PD Number of stretcher cases PD

THREE PD Number of sitting cases PD

FOUR PD Number of accompanying orderlies PD

FIVE PD Medical officer is/is not required with aircraft PD

SIX PD Remarks to indicate if casualty is enemy and/or Female/Child PI

SEVEN PD Priority PD ACK

Note: CASEVAC serials are to revert to ONE at 0001 hrs daily.

Annex B to SOP No 52CASEVAC NOTIFICATION FORM
(From AMA to ADEN)

CASEVAC (Unit serial number) PD

ONE PD Number, Rank, Name, Religion and unit of casualty/or brief
description of enemy casualty PD

TWO PD Diagnosis PD

THREE PD Sitting or stretcher case PD

FOUR PD Whether medical officer and/or orderly is to accompany the
casualty to ADEN PD

FIVE PD Priority PD

SIX PD Aircraft in use and ETA KHORMAKSAR PD

SEVEN PD ACK

Notes:

1. CASEVAC Bde serial numbers are to revert to ONE at 0001 hrs daily.
2. Priority classification of casualties by medical officers is as follows:-

Priority (1) Immediate evacuation by air in order to save life. An aircraft is to be made available at once; if necessary by withdrawing one from current operations.

(2) Urgent evacuation by air on the first routine flight but this must be within two hours. If no flight is planned then an aircraft is to be called for.

(3) Evacuation by air within six hours.

Section II to Annex M to RADFAN ReportA MATTERSA Staff Points1. Reinforcements

- a. All reinforcements were called for by G(SD), and MOD (Army)(APA) produced the individual reinforcements quickly.
- b. Reinforcements were attached for temporary duty for a period of 6 - 9 months and were not posted, thus ensuring tenure of quarters.
- c. The approximate strength at 30 Jun was 2,042 all ranks.
- d. SC A(PS)1 was detached from 9 - 24 May as SC A, HQ 39 Inf Bde Gp.

2. Documentation

- a. General. The same difficulties were experienced in the RADFAN as in Operation VANTAGE. Because the operation was being conducted under normal peacetime procedures, units continued to do their own documentation and did not detach clerks and documents to a "Field Records". Difficulties common to both Operations were:
 - (1) Delays in passing NOTICAS messages because of:
 - (a) Communication problems.
 - (b) Inadequate rear parties in ADEN.
 - (2) Delays between units and detachments arriving in the theatre and Stats being notified of their arrival.
 - (3) The need to send NOTICAS messages quickly as the Press was able to communicate very quickly with UK.
 - (4) Operational units had little time to compile Part II Orders initially and had to catch up with the work later.
- b. War Office Mounting Instructions. Units and Record Offices in general did not comply with the Mounting Instructions (paragraphs 73 and 76) and Stats and Records Centre had only just received all the Part II Orders by 30 Jun.
- c. The speed of documentation varied with units:
 - (1) 1 KOSB left a rear party in UK and except for the AF B193 (OR Record Card) their normal records came through quickly.
 - (2) Units with more notice to move did not act as quickly as 1 KOSB.

3. Casualty Reporting Procedure. The normal procedure for reporting casualties (outlined in Annex B to Casualty Procedure 1960, WO Code No 12974), which makes Unit Commanders responsible, was not strictly followed for the following reasons:

- a. The necessity for speed and accuracy of facts, HQ Middle East Command was best able to deal with this.
- b. The hasty establishment of the ad hoc force HQ, which was not geared to cope with all administrative exigencies.
- c. Units originally committed to the operation had inadequate rear parties in ADEN.
- d. A Squadron 22 SAS arrived direct from UK and was immediately committed, the sole representative in ADEN being the QM.
- e. Rear Party 3 PARA was in BAHRAIN and it was obviously undesirable to accept the delay which would have resulted had the reporting of casualties been initiated from BAHRAIN.
- f. Close liaison between HQ Middle East Command and RAF Hospital STEAMER POINT was maintained. This made the forwarding of progress reports on personnel who were not on the very seriously ill lists an easy matter.
- g. In most cases involving death, HQ Middle East Command was able to inform the appropriate Record Office of the date and time of the funeral, and to find out the wishes of the next-of-kin.

4. All battle and battle accident casualties were reported to MOD (Army) and the appropriate Record Office by HQ Middle East Command.

5. Strength Returns. A weekly strength return by units and detachments was called for on 23 May to give an overall picture of the strength by units and detachments in the RADFAN area. This return differentiated between personnel in THUMIER (AMA) and those forward.

6. Compassionate Leave and Passports. Approximately 600 men came to ADEN without passports and a passport or temporary exit certificate was necessary to ensure no delay in the return to UK of soldiers on compassionate leave. Certificates giving individual details of the 600 men were asked for on 8 Jun. These details were needed so that the Immigration Office MAALIA or Air Movements KHORMAKSAR could provide a temporary certificate. Four reinforcements were sent on compassionate leave and no delays were experienced in getting them on flights.

7. Welfare and Amenities. The following welfare services and amenities were arranged:

- a. UK Concessional Newspapers. 14 daily papers were initially sent to Force HQ and to affiliated units without rear HQ in ADEN. This allocation was increased to 74 on 1 Jun.

- b. 612 daily papers were being sent to the other units under command with rear parties in ADEN, by 30 Jun.
- c. Weekly Digest, BANEWS and DHOW. Education Branch produced a Weekly Digest of Middle East affairs and, by 30 Jun, 100 copies each of the Digest, BANEWS and DHOW were being supplied weekly.
- d. Paper Back Books. Initially 44 Command Library supplied 500 paper backs; subsequent issues were 100 a month. In addition, an appeal was made on British Forces Broadcasting Service (BFBS) and ADEN Forces Broadcasting Association (AFBA) on 17 Jun for old paper backs and magazines. The response was extremely good; 2,500 books had been forwarded to THUMIER by 30 Jun. The NAAFI Families' Shops, BFBS and AFBA were used as collecting points.
- e. Provision of AKC Films. A projector and projectionist were on loan from 1 E ANGLIAN initially and four shows were given. From 1 Jun two film shows per week, at £3 per show, were arranged and a permanent projector was issued on 3 Jun.
- f. Grants. Grants were made from Middle East Land Forces Amenities Fund for films and newspapers, up to 1 Jun.
- g. Allotment. An allotment of £93 was made from the Army Central Fund for welfare, sports and amenities.
- h. Sports Equipment. Items of sports equipment were supplied from:
 - (1) Ordnance Depot. Physical training and athletic equipment.
 - (2) Army Camp Commandant Sports Store. Football and cricket equipment.

A Service Points

- 7. Medical. See Section IV.
- 8. Provost. See Section VII.
- 9. Pay. See Section VIII.
- 10. Chaplains
 - a. General. It was difficult to keep in touch with all units in the RADFAN area because units were spread out and it normally took three days to cover a battalion area. The minimum amount of kit carried, i.e. one portable Communion set and sixty service prayer and hymn books.
 - b. Cover
 - (1) 1 RS and 1 KOSB came to ADEN with their own Padres (Church of Scotland).
 - (2) The Church of England and Roman Catholic cover was provided personally by the two Senior Chaplains to the Forces. The Roman Catholic Padre spent Monday to Thursday in the RADFAN area; the Church of England

- c. MOD (Army) were asked on 10 Jun to provide reinforcements. There was no Roman Catholic available and a Church of England Padre was posted out to fill the vacancy arising in Jul in LITTLE ADEN, to make the Church of England position acceptable.
- d. A second signal was sent to MOD on 24 Jun strongly urging a Roman Catholic Padre reinforcement for the present Senior Chaplain to the Forces (Roman Catholic) who had covered the RADFAN area since the operation started without relief.

Section III to Annex M to RADFAN ReportSUPPLIES AND TRANSPORTBackground

1. RASC Order of Battle. Before the operation started, there were two field force type RASC units in ADEN:

- a. 2 Company RASC (GT) with two x 3-ton transport platoons and two sections composite platoon.
- b. 'A' Air Supply Platoon (Independent).

2. Reinforcements. The following reinforcements were requested and arrived as shown:

<u>Serial</u>	<u>Unit</u>	<u>Reinforcing</u>	<u>Strength</u>		<u>Date</u>	<u>Remarks</u>
(a)	<u>Reinforced</u> (b)	<u>Sub Unit</u> (c)	<u>Officers</u> (d)	<u>OR</u> (e)	<u>Arrived</u> (f)	
1.	2 Company	One composite platoon (four sections)	2	31	7 May	
2.	'A' Air Supply Platoon	One air supply control section and two air despatch sections	2	24	7 May	Other Rank strength includes 4 RAOC air maintenance section reinforcements
3.	HQ RASC	Senior supply officer and two clerks	1	2	23 May	
4.	2 Company	One airportable transport platoon ex 60 Company RASC	1	50	26 May	Included 12 x 3-ton vehicles, 8 tractors and trailers
5.	518 Company RPC	Two sections of pioneers	-	52	7 May	Pioneer labour for supply and transport tasks

3. Special Factors affecting the Employment of RASC Units

a. ADEN Depots. Three main ADEN depots with which RASC were concerned were:

- (1) For Supplies - ADEN Supply Depot RAF
 - (2) For Ammunition - 'X' Group, 114 Maintenance Unit RAF
 - (3) For POL - SHELL Company's installation at LITTLE ADEN
- } Both dependent on civil labour
} Civilian owned and operated.

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The problem was to get these depots to work out of duty hours, and to get them to react quickly to emergency demands. It was necessary to have a RASC unit drawing and holding buffer stocks in ADEN for move to THUMIER by road and air at short notice.

- b. The DHALA Road. The journey ADEN - THUMIER follows 60 miles of the so called DHALA road which has 15 miles of tarmac and 45 miles of rough wadi track. A round trip including assembly and unloading averaged 14 - 16 hours. Before reloading, every vehicle required a full inspection, servicing and some repair. Reloading and vehicle maintenance took up to 12 hours. Hence movement to THUMIER by road followed a 48 hour cycle. It was of overriding importance that 2 Company's transport should run at maximum availability without a break, and stringent control and servicing measures had to be taken.
- c. THUMIER Airstrip. The strip could only take light aircraft up to Twin Pioneer size until 8 Jun when it accepted the first Beverley. Up to this date it was vital that the road transport link to THUMIER operated at maximum efficiency and that a full air supply (drop) capability was available at KHORMAKSAR.
- d. Resupply Forward of THUMIER. There were no roads or motorable tracks for the first 6 weeks. All supply of forward troops had to be by SRT aircraft from THUMIER or air-dropped using MRT aircraft from the main airfield at KHORMAKSAR.
- e. High Temperature, Refrigeration and Supplies. The very high temperatures (100° in the shade and 120° - 130° in the open) and the lack of refrigeration in the early stages meant that troops in the operational area could not be given fresh rations. With the construction of a 10-ton cold store at THUMIER, the issue of 40 insulated POLARPAC containers to 2 Company, and the allocation of priority on aircraft to fresh rations, troops in THUMIER could go on to a partial fresh ration basis progressively from 22 May. Troops in forward locations could not cope with any type of ration other than 24-hour packs or composite rations.

Plan

4. General. The supplies and transport to support the RADFAN operations evolved from ad hoc arrangements with existing resources during the first 2 - 3 weeks, to the organisation as at 30 Jun which reflected the arrival and absorption of the planned reinforcements listed in paragraph 2.

5. Method of Employment of RASC Units

a. 2 Company RASC

- (1) The unit operated as a Brigade Group Transport Company in support of Force and 39 Infantry Brigade Group and under command of CRASC Middle East Command.

(2) Transport

- (a) Two 3-ton platoons were committed to the ADEN - THUMIER road convoy run from the beginning.
- (b) The reinforcement transport platoon which arrived on 26 May was equipped with 10 x $\frac{3}{4}$ -ton trucks and two Tractor/trailer sections and was allocated to THUMIER (less one tractor/trailer section which remained in ADEN for rear composite platoon working). This platoon provided transport for forward composite platoon tasks and a limited road lift forward to unit locations.
- (c) When transport resources proved insufficient, hired civilian transport was employed to lift up to 25 tons of POL a day to THUMIER.
- (d) Forward of THUMIER there was also some hiring of camels and donkeys.

(3) Composite Platoon. With its reinforcements 2 Company established:

- (a) Rear Composite Platoon (three sections) in ADEN, whose task was to draw commodities from depots and issue these to the transport platoons taking them forward by road, or to the Air Supply Platoon for air landing or air dropping. This Composite Platoon also held buffer stocks, and was responsible for most of the accounting.
- (b) Forward Composite Platoon (three sections) at THUMIER, whose task was to issue supplies, POL, ammunition and packed water to units in THUMIER. Movement forward by SRT aircraft or road was under HQ 39 Inf Bde Gp and unit control.

b. 'A' Air Supply Platoon

- (1) Air Supply Detachment THUMIER. Consisting of one officer and two air despatch sections backed by pioneer labour, the tasks of this detachment were to:

- (a) Unload incoming aircraft
- (b) Load SRT aircraft moving forward
- (c) Account for stores and air supply equipment.

Up to 27 May this was virtually the only method of forward resupply, and every device was used including underslung and internal loads with helicopters (Belvedere, Whirlwind, Wessex and Scout), air dropping and air landing from Auster, Beaver and Twin Pioneer aircraft.

(2) Main Body 'A' Air Supply Platoon at KHORMAKSAR. This platoon carried out any air loading or air dropping task required. Only one major air drop has been carried out so far but the capability had to be preserved in case the road or SRT links failed for any reason. The rate at which SRT flying hours were being used up for forward resupply was another important reason for maintaining the capability. With the opening of the THUMIER strip to Beverley aircraft, the air landing role became more important.

- c. Two Pioneer Sections. One of these was positioned at THUMIER and the other with 2 Company in ADEN to assist the composite platoons and air supply sub-units to load and unload stores from vehicles or aircraft as required.
- d. Rotation. The high temperatures and difficult working conditions at THUMIER necessitated the rotation of men employed there with men stationed in ADEN after a maximum period forward of 21 days. The planned deployment described above facilitated this.

e. Diagrams

(1) System of RASC supply - POL, Supplies, Ammunition.
- Appendix 7

(2) Maintenance load ADEN to THUMIER - Appendix 8

(3) Daily maintenance forward of THUMIER - Appendix 9

6. Statistical Data. Bearing in mind the local factors affecting the operation and troops employed, the following rough statistical data are of interest:

- a. Average daily maintenance requirement - 70 tons
- b. Peak daily maintenance requirement - 100 tons
- c. Average daily SRT lift forward of THUMIER and number of sorties - 30,000 lb
(20 sorties)
- d. Peak daily SRT lift forward of THUMIER and number of sorties - 60,000 lb
(40 sorties)
- e. Average daily transport availability in 2 Company RASC - 90%

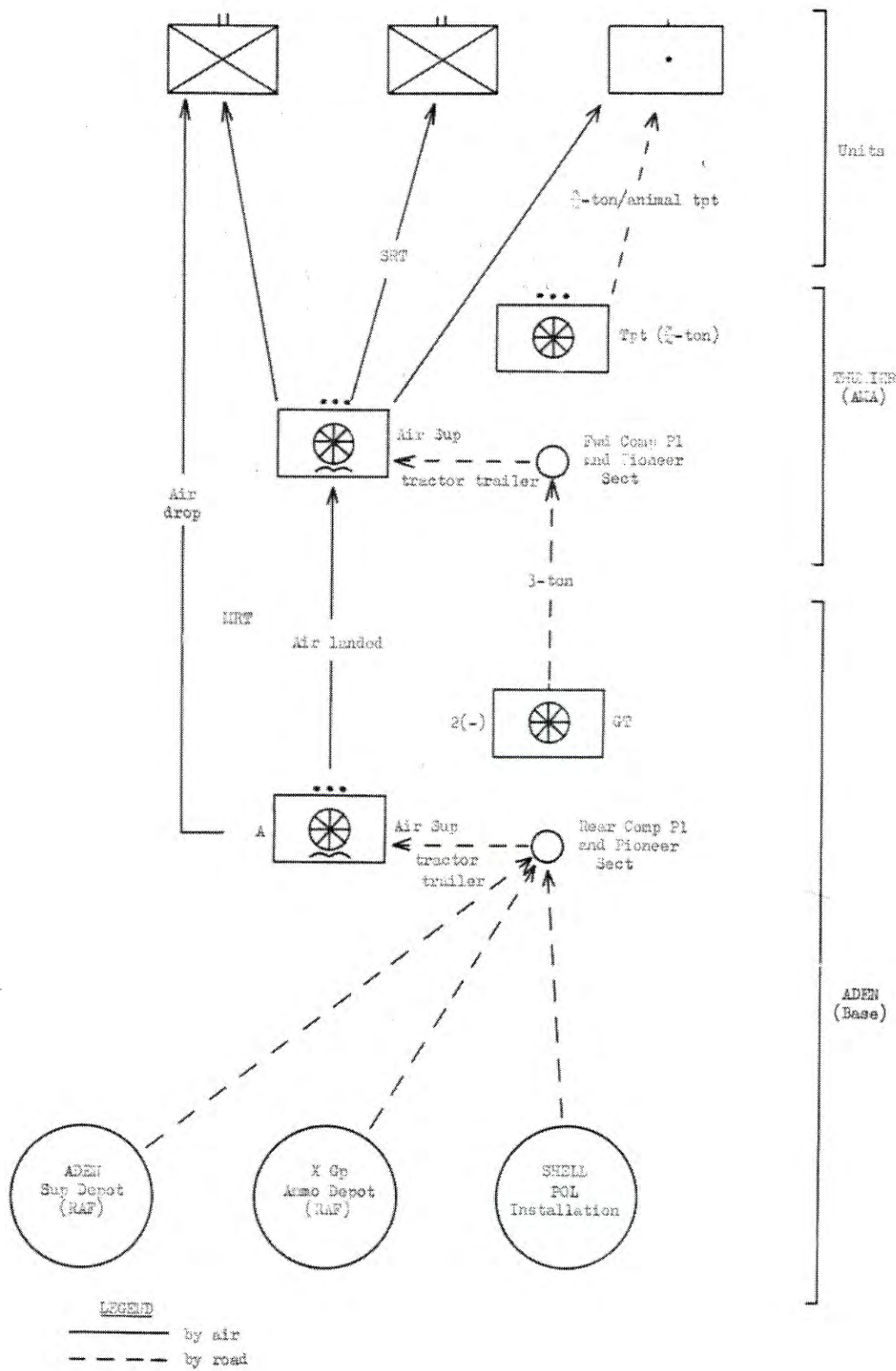
7. Control

- a. At THUMIER. The level of stocks in the forward composite platoon including supplies, POL, ammunition and packed water was laid down by Force/Bde Gp HQ subject to the agreement of HQ Middle East Command. Issues from the Forward Composite Platoon, and in particular those made through the air supply detachment/SRT aircraft, were closely controlled by the DAA&QMC through his DADST. Unit bids for forward resupply the next day were scheduled at a nightly conference, and orders issued to units and the air supply detachment to assemble and pack loads on a timed programme which SRT aircraft then followed. An example of such a programme is given in Appendix 5, Section I dealing with Staff procedures.

- b. In ADEN. The employment of RASC units located in ADEN in support of RASBAN Force/39 Inf Bde Gp, including the issue of detailed orders for the method (road or air) whereby daily and emergency maintenance requirements would be moved to THUMIER, was exercised by Q(Ops) HQ Middle East Command through CRASC.

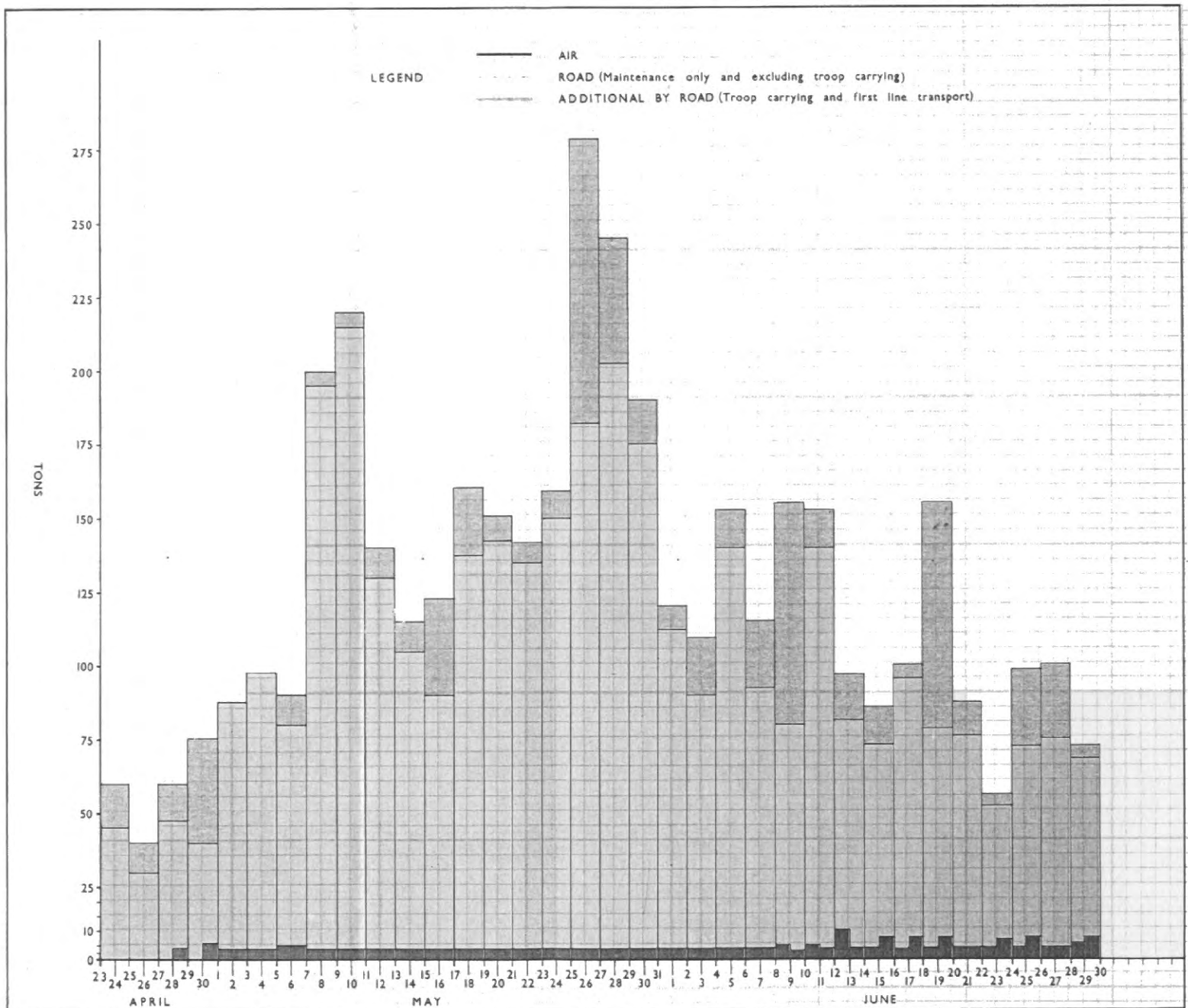
Appendix 7, Section III to Annex M to RADFAN Report

RASC SUPPLY SYSTEM - POL, SUPPLIES AND AMMUNITION



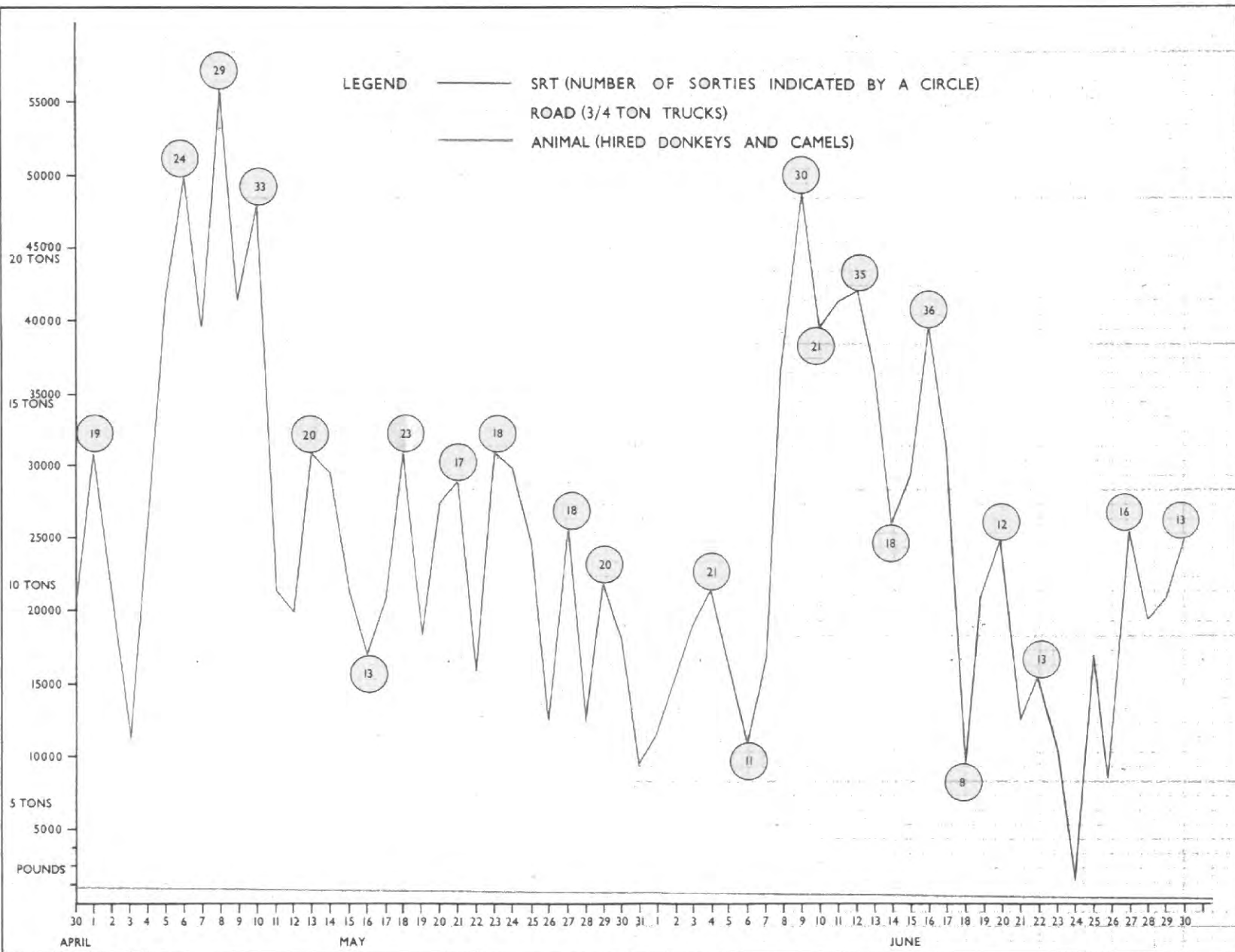
CONFIDENTIAL

MAINT - ADEN TO THUMIER



CONFIDENTIAL

DAILY MAINT FWD OF THUMIER BAA



Section IV to Annex M to RADFAN ReportMEDICALHEALTHBackground

1. The Principle Medical Officer's Staff, a combined Army and RAF Medical Headquarters, were informed on 15 Apr that an operation against dissident tribesmen in the RADFAN area was imminent and medical cover was requested.
2. The original plan provided for a force of approximately 1,000 British and 700 FRA to operate from a HQ and base at the airstrip at THUMIER. It was estimated that operations would probably last a few weeks but might go on for some months.
3. The area was reconnoitred on 17 Apr. Such knowledge as was gained from this reconnaissance, together with the scanty medical data and intelligence available was embodied in recommendations given at that time to the Force Headquarters. These data, modified by experience, are given below.

Local Factors

4. Topography. THUMIER is a small plain of several square miles area some 2,000 feet above sea level and about 60 miles north of ADEN. It is surrounded by steep hills of up to nearly 6,000 feet and opens out into a system of large wadis. The hills are bare of vegetation, the wadis fertile and under cultivation and the area round the airstrip compressed fine clay. Originally rock-hard the top soil is soon broken into an extremely fine powder which blows around in dense choking clouds unless rain has recently fallen.
5. Population. Local inhabitants live mainly in small villages in the wadis. The nearest is about 2 miles from the base camp. The THUMIER area had been occupied by the FRA for many months and was used in Jan 64 as a base to mount a similar but smaller operation (NUTCRACKER).
6. Climate. A summary of meteorological observations is at Appendix 10. It can be summarised by stating that in May and June the midday temperatures and heatstress were higher than in ADEN, but significantly drier. Evening, night and early morning temperatures were all appreciably lower.
7. Water
 - a. Shallow wells are quite numerous. Typically they are about 6 or 8 feet in diameter and contain about 8 feet of water at a depth of 60 feet. They are poorly steined and uncovered. The water is clear, requiring no filtration, but is subject to pollution.
 - b. Some wadis contain running water all the year round. This is subject to pollution. Urinary schistosomiasis is known to occur in the DHALA neighbourhood, and the THUMIER area was assumed to be dangerous.

8. Sanitation. This is not customary either among civilians or the troops of the South Arabian Federation. The fine dust which coats everything in a few minutes must be considered to be contaminated by such intestinal organisms as can withstand desiccation.

9. Epidemiology. The RADFAN hills are virgin territory medically. The area is quite certainly malarious but no Anophelese mosquitos have yet been found. Two cases of malaria have occurred.

10. Civilian Medical Facilities. None exist yet.

Military Factors

11. Water

- a. At the start of the operation all water came from the THUMIER wells. It was pumped into ordinary 200 gallon trucks by sappers. (The wells are too deep for the pump and hose on the vehicle). Engineers then supervised chlorination by the standard method. What was not distributed direct in THUMIER was taken forward in jerricans, usually by helicopter but sometimes by camel. The transport was the factor limiting the size of the ration. The minimum ration seems to have been $2\frac{1}{4}$ gallons per man per day. With one exception, (the SAS on their night march in the early stage of the operation), no unit appears to have had less than this though it may be that some isolated small parties may have done worse for a short period of time.
- b. As troops moved forward so did the RE water points. Using the main wells similar to those in THUMIER they were able to shorten the supply line. When wadi water was used the contact time for chlorination was doubled to 30 minutes because of the danger of bilharzia.
- c. Routine tests were carried out on wells for poison. One well was found to contain arsenic and was blown up. Unfortunately no sample was sent back to base to have the finding confirmed. It may perhaps be faulty identification of Kohl, an antimony compound which is used locally as eye shadow.
- d. Instructions were given for routine salting, at the supply point, of all water for forward troops. With the reduction in the tempo of the operation and the obvious reduction in sweat production these are in abeyance.

12. Water Discipline

- a. Whilst training in water duties appeared to be insufficiently widespread the effect of this was not inimical to the health of the troops by reason of almost universal engineer supervision and supply. There were occasions when the presence of water dutymen in isolated companies might have saved precious helicopter time by using water freely available and purifying it.

- b. One village had an unusually shallow well. A medical officer pronounced the water fit to drink after chlorination and departed. Soon after he left, a party of soldiers jammed a board across the well just above the water level and got in it with bars of soap. This incident was in turn succeeded by the arrival of the RE water party. Apart from this incident there is no reason to believe that water discipline was not excellent.
- c. It was realised that engineer water-trained personnel might have to get into potentially bilharzia-infected water. CRE's instruction embodied advice on the impregnation of clothing with Insect Repellant (Di-methyl phthalate).

13. Sanitation

- a. Because of the hardness of the ground and the limited time and labour available before the start of operations it was agreed that Elsan closets would be provided at THUMIER and Racasan fluid used. No practicable alternative existed. At first these were well maintained and inoffensive but later they became a nuisance. In general this was ascribed to THUMIER's role as a transit camp and the difficulty, if not impossibility, of allotting sanitary responsibility. The replacement of the initial Force HQ Staff by HQ 39 Inf Bde Gp, a projected move of the camp site which was always imminent but always awaited, and an acute shortage of RE did not help in achieving sanitary stability. The construction of DTLs throughout the camp helped this stability a good deal. A great deal of this work was done by RE and there was a noticeable and understandable tendency to regard them as a substitute for self-help.
- b. Some observations on the wholly unsuitable camp structures supplied for DTL construction are included in Part II of the report, dealing with lessons. Also in Part II are suggested radical changes in basic sanitary equipment.
- c. The sanitary problems of small parties of men holding mountain peaks were formidable, particularly when there existed the likelihood of some months' occupation. Many dissidents' sangars were fouled before capture. The tempo of the campaign meant that outposts were relieved by other regiments sometimes after only a few days and seldom more than two weeks. In some it was possible to scratch below the surface of the ground, but others were solid rock. A variety of methods of disposal of excrement were used. They ranged from burning in ammunition boxes to ejection, in old tins, over precipices. At the present time the Elsan is probably as good as anything, but polythene-bagged disposal using a properly designed close stool would prove the greatest single sanitary advance in any such operation in future.
- d. There was unhappily still evidence that the importance of sanitary garbage disposal was insufficiently widely appreciated. The Medical Staff had to devote a disproportionate amount of time in supervising incineration and burial of putrescible and incombustible waste. In part this was due to "temporary camp" outlook on the part of units going forward or passing through en route to ADEN.

- e. Construction of standard MYTCHEFF pattern incinerators by REME tradesmen using oxyacetylene cutters was a great boon and saved much toil and unskilled workmanship by less mechanically gifted soldiers.
- f. The arrival of dustbins by convoy, and the organisation of a bulldozed and supervised tip were notable advances. A hazard not previously met with was the embarrassment to aircraft caused by a vertical column of kites and buzzards hovering over the tip, which was originally in the line of approach.
- g. Soakage pits, when intelligent use of filters was made, worked well.
- h. The transition from a noticeably temporary camp with all its faults, to an acceptable semi-permanent camp was due in great measure to the driving energy of the Warrant Officer Public Health Inspector attached to the Senior Medical Officer THUMIER from Command HQ. In this type of situation a man with this rank, experience and knowledge proved invaluable.

14. Insect Pests

- a. The muscicidal effect of the Arabian summer assisted by early morning fogging by swingfogs kept ahead of the effects of prolonged occupation of an area whose rural economy and habits lent themselves to fly breeding.
- b. Whilst no mosquitos were captured for identification two cases of MT Malaria, both heavily parasited, occurred and were undoubtedly infected in the operational area. One other soldier was evacuated with MT Malaria but was probably infected in the ABYAN area, on the coast about 30 miles North-East of ADEN. Paludrine discipline was faulty in all cases.
- c. Mosquitos were a nuisance in some areas. Insect repellent was supplied.
- d. Occupied villages teemed with fleas.
- e. A few men were stung by scorpions.

15. Hygiene Personnel. One WO II and one Sgt were permanently stationed at THUMIER. Their work has been highly satisfactory.

Rations

16. Composite rations were issued to all troops initially and remained the standard issue to troops forward of THUMIER. There was always a good deal of wastage of this ration particularly chocolate and biscuits. The occasional Tropical Composite Y and Z proved very popular.

17. The type of composite rations and their monotony caused troops to supplement them extensively with tinned fruit and fruit juice. On the odd occasions fresh fruit proved a welcome addition though one which was hard to support on purely nutritional grounds.

18. Tinned equivalent and fresh rations were issued in THUMIER from early in the operation. Some captured bulls and bullocks were slaughtered locally in camp under improvised but adequate conditions. The meat was inspected by the Health Inspector before issue.

19. Beer was not drunk to any significant extent except in THUMIER itself where it could be cooled.

Laundry

20. No central provision was possible. The water ration was adequate generally only for socks and pants. Resupply from unit dhobis in ADEN was possible. The low sickness rate from skin diseases was presumed to be due to the cool nights.

Ablutions

21. Most forward units advocated a sponge-over in order to save water. In THUMIER more sophistication was possible since the amount of water available allowed for improvised showerbaths.

Heat

22. Until the operation was under way, the amount of heat stress due to climate and physical exertion was only conjectural. It was undoubtedly less than was expected, due to cool nights and to the tactics of movement by night.

ADMINISTRATION AND EVACUATION

Background

23. Initially the forces deployed forward were 1 FRA, reinforced by 45 Cdo RM and one company 1 E ANGLIAN under the command of RADFAN Force HQ. Prior to arrival of 45 Cdo RM an incident occurred on 25 Apr on the DHALA road north of THUMIER, involving staff officers of HQ FRA, who were blown up by a land mine, a number of casualties were sustained, who were treated by the RMO (Flt Lt) of the resident FRA Bn. On arrival of 45 Cdo RM their RAP was established at THUMIER near the airstrip (RMO, Sug Lt RN, sick berth attendants 45 Cdo RM and 2 Army Male Nurses RAMC).

Organisation

24. It was obvious that this arrangement had to be temporary, and that a medical base at THUMIER had to be established as soon as possible; also a Senior Medical Officer (SMO) was needed as Force Medical Adviser. Medical assets available in the theatre were:

- a. Army - 10 Bde Gp Med Coy RAMC - a unit which was in the process of disbanding.
- b. RAF - Station Sick Quarters (SSQ): at KHORMAKSAR (30 beds), at STEAMER POINT (18 beds).
RAF Hospital STEAMER POINT (196 beds) for British personnel and their dependants.
RAF Hospital KHORMAKSAR Beach (127 beds) for Arab personnel and their dependants.

Command and Control

25. Overall control was exercised by the Principle Medical Officer, HQ Middle East Command. OC 10 Bde Gp Med Coy was appointed SMO RADFAN Force. By the end of the first week of the operation, a Casualty Collecting Post/Emergency Medical Unit (CCP/EMU) had been established at THUMIER. In view of the climatic conditions, this unit also included personnel and equipment for the treatment of heat casualties.

Method

26. The medical arrangements were very much a joint service affair, for example the regimental aid posts (RAPs):

- | | |
|--------------------|------------------------|
| a. RAP 45 Cdo RM | RN medical personnel |
| b. RAP 1 E ANGLIAN | Army medical personnel |
| c. RAP 1 FRA | RAF medical personnel |

27. The CCP/EMU at THUMIER consisted of:

<u>Army</u>	<u>RAF</u>
1 Major RAMC	1 Flt Lt
10 Army Male Nurses RAMC	2 Nursing Attendants - experienced in rigging aircraft for casualty evacuation (CASEVAC)
3 Drivers RASC	
1 ACC	

28. Evacuation arrangements were from Bn/Coy Medical Aid Posts to CCP/EMU THUMIER, and thence to SSQ KHORMAKSAR for sorting and transporting to RAF Hospital STEAMER POINT or RAF Hospital KHORMAKSAR Beach. (Diagram at Appendix 11 shows medical chain of evacuation). The 39 Inf Bde Gp SOP dealing with casualty evacuation is reproduced at Appendix 6, Section I.

29. Minor cases were retained in SSQ KHORMAKSAR, to allow the hospital to concentrate on the more seriously ill and wounded.

30. The use of air for casevac was exploited to the full. Forward of THUMIER helicopters were used. Rearward, helicopter and fixed wing aircraft were used. Routine logistic aircraft were used, but where necessary aircraft were specially tasked for a casevac role. It was also left to the discretion of medical officer and pilot whether, in the interests of patients, casualties should be routed direct to KHORMAKSAR, bypassing THUMIER. Also, if necessary helicopters could be tasked to land on the playing field immediately below RAF Hospital STEAMER POINT. It was policy that no major unit was to be committed to these operations without a Regimental Medical Officer (RMO) and suitable other rank medical staff, although this placed a strain on the medical cover for the static units, and the Army families in ADEN.

31. There was some controversy in the early stages as to the positioning of the RMO. It was felt that he would be better stationed at THUMIER so that he could fly in with his RAP staff to collect and treat his unit casualties rather than being conventionally positioned with Bn HQ. However, as the units moved further from THUMIER, RAPs were established in association with their Bn HQs.

Battalion Communications

32. At Force HQ, information on casualties was received in good time from Bns/Coys and the necessary preparations were made in the CCP for their reception, treatment and onward transmission. From THUMIER back to ADEN communications were not so good, as signals were invariably received after the aircraft carrying the casualties had landed. A system was then introduced whereby the medical officer at THUMIER handed the pilot a list of casualties carried with a brief description of their injuries. The information was then passed by the pilot to KHORMAKSAR tower as soon as possible after take off. However, after a grenade accident which produced several serious casualties, complaints were received from aircraft flying in the area about the unpleasant nature of information passed over the air to RAF KHORMAKSAR. Since then, a simple coding has been used and this has proved quite satisfactory. The importance of early notification of casualties could not be overstressed, since it gave the receiving hospitals time to alert the requisite medical staff and to cut off any routine medical and surgical procedure they might be involved in at the time.

Holding Policy

33. Initially in the interests of patients, all cases which could not be successfully treated in a few hours were evacuated from the operational area to ADEN.

34. Accommodation initially consisted of a 40 ft x 40 ft desert camouflage net, with the RAP tent of 45 Cdo RM; to this was added a 160 lb GS Mk II tent, a heat treatment tent, and one 36 ft x 18 ft marquee. By early Jun, the CCP was moved to a new site. Accommodation then consisted of:

- a. Two marquees 36 ft x 18 ft on hardstandings; one for reception and treatment; the other for 16 beds.
- b. Three tents, shelter, portable, universal for:
 - (1) Q and medical stores.
 - (2) Staff sleeping accommodation.
 - (3) Chapel.
- c. Two 160 lb tents for stretcher store and night staff sleeping accommodation.

With this accommodation it was thus possible to retain and treat short term cases. The heat treatment tent had to be dismantled as it became a liability in the sand storms. A helicopter pad was constructed at the CCP to minimise movement of patients over rough ground.

Summary

35. To summarise, it is considered the medical arrangements worked satisfactorily. This was due to utilisation of available medical assets of all three services, under control of a joint medical staff.

BATTLE CASUALTIES, ACCIDENTS AND SICKNESS

36. A detailed breakdown of all cases requiring medical treatment at THUMIER is attached as Appendix 12.

Battle Casualties37. Incidents

- a. 25 Apr Land Rover destroyed by mine north of THUMIER. Casualties: 1 killed, 1 wounded (eventually died), 1 mild concussion, 2 FRA sustained minor wounds.
- b. 1 May SAS advance to mark dropping zone: 2 killed, 2 minor shot wounds.
- c. 5 May B Coy 3 PARA engagement in Wadi TAYM (PEGASUS village): 2 killed, 10 shot wounds including 2 very seriously wounded. Initial treatment was carried out by RMO 45 Cdo RM. Belvedere with medical staff from CCP specially tasked, and casualties evacuated direct to KHORMAKSAR.
- d. 26 May X Coy 45 Cdo RM engagement in Wadi DHUBSAN. 1 Marine killed, 3 seriously wounded, 2 minor wounds. Casualties occurred in deep ravine. Difficulty was experienced in getting them out. One Scout helicopter force-landed, another landed further down wadi. Casualties stretcher carried by section 23 PARA Field Ambulance to helicopter after casualties were evacuated to heights above ravine where Belvedere was waiting to evacuate them to THUMIER.
- e. 27 May 1 KOSB fired on in Wadi TAYM by dissidents returning to their homes. 3 minor shot wounds - evacuation no problem.
- f. 31 May 1 KOSB in a similar incident to e. above, 2 minor shot wounds.

Battle Accidents

38. The battle accident rate was high. This was due to impairment of judgement due to the heat and possibly insufficiency of water intake, fatigue, and the unusually rough terrain. Battle positions had in many instances to be negotiated at night and this was a contributory factor. A number of casualties were sustained through falling rocks. There was also the usual crop of burns cases through carelessness in the method of providing heat for 'brewing up'.

39. Major Incidents

- a. 4 Jun Accidental injury due to careless handling of hand grenades. 1 killed, 10 injured including 1 on very seriously ill list.
- b. 10 Jun Wessex helicopter crash. 1 E ANGLIAN, 1 killed 7 wounded. 3 RN officers slightly injured.

40. Minor Cases. The total number of cases evacuated from forward areas included many who came back for X-Rays, or whose injuries turned out to be less severe than could have been confidently diagnosed in THUMIER.

41. Of the 83 Battle Accidents evacuated:

- a. 16 were returned to unit and not admitted.
- b. 15 were admitted or detained for 3 days or less.
- c. 52 spent more than 4 days in a Medical Unit.

42. Cases Evacuated - General. Appendix 13 shows a breakdown of cases evacuated from THUMIER on medical grounds between 27 Apr and 30 Jun. It must be emphasised that these figures were loaded by the necessary inclusion of minor sickness, such as dental sick, who could not reasonably be treated in THUMIER. Similarly they do not include cases which were admitted from units temporarily in ADEN in between spells forward. Such cases would be shown in statistical returns of hospital admissions. They were not numerous.

43. The incidence of sickness was remarkably low and speaks well of the efficiency of preventive measures. It was noticeable that the numbers increased as the tempo of operations decreased and troops had more time to reflect on the discomfort of their surroundings.

Illnesses of Note

44. Effects of Heat

- a. Medical officers were encouraged to give this as a diagnosis when the signs or symptoms of heat exhaustion, heat syncope, or incipient heat hyperpyrexia presented without any obvious precipitating cause. In the first 35 days of the operation 10 such cases were evacuated. The diagnoses of 8 of these were subsequently altered when a stay in hospital made it plain that some underlying infection, as various as virus encephalitis, pyelitis and bronchitis, was responsible for the man having become a casualty. One case each of sunburn and prickly heat were severe enough to need evacuation and have been included in the totals.
- b. In view of the dangers which might accrue from heat effects in any operation undertaken in this Command, demonstrations of methods of recognition and treatment of heat illness were given to as many units as possible by 10 Bde Gp Med Coy. Undoubtedly this had a good effect on ADEN-based units but careful watch had to be given to units from UK. For this reason the Heat Casualty Treatment Centre of 10 Bde Gp Med Coy, which had been demonstrating its methods in ADEN, was established in THUMIER early on in the operations and continued its propaganda. A number of minor cases were treated successfully and prevented from becoming severe. These were subsequently returned to unit.

45. Malaria. See paragraph 14.b.

46. Diarrhoea. Whatever the faults of the composite ration, troops fed on it were seldom troubled by looseness of the bowels. As is usually the case the introduction of tinned equivalent and fresh rations in an area rich in fouled dust was accompanied by a rise in incidence. For example, in the week 28 May - 4 Jun, 22 cases (mostly very minor) were seen. A shortage of kitchen cleaning materials, quickly put right, probably helped to produce this number.

47. Dental

- a. This was the greatest single cause of evacuation due to sickness and reflected the dental unfitness of the British Army. This was due to a lack of RADC personnel and possibly too low a priority being given to fighting units in the queue for dental treatment. All cases evacuated from THUMIER were treated as top priority and returned to unit without delay.
- b. A dental officer RADC went to THUMIER on 25 Jun to inspect all troops in the forward areas. His task was to record priorities for treatment in ADEN during normal rotation of units.

Summary

48. It is considered that sickness rates were gratifyingly low and reflected to a large extent the physical fitness of the troops. They have emphasised once again the importance of physical fitness as a prerequisite of the efficient soldier.

DISPOSAL OF PATIENTS IN ADEN

49. All casualties and sick returning to ADEN were sorted at RAF KHORMAKSAR. Minor cases were admitted to Station Sick Quarters. Arab casualties, both FRA and dissident, were admitted to RAF Hospital KHORMAKSAR Beach. All European patients requiring hospital treatment were admitted to RAF Hospital STEAMER POINT.

Admissions to KHORMAKSAR Beach Hospital

50. Seven FRA soldiers were admitted up to 30 Jun. Two were wounded by enemy action; one was wounded by accident; four were cases of sickness. In the same period four dissidents and six civilian women were admitted with wounds and other injuries. One man died.

51. The hospital's resources were not strained by groups of casualties arriving together.

Admissions to STEAMER POINT Hospital

52. There were four occasions when patients arrived in groups. On 5 May, ten casualties of 3 PARA arrived together. On 26 May, eight casualties of 3 PARA and 45 Cdo RM were admitted between 1300 and 1900 hours. On 4 Jun, eight casualties of 1 E ANGLIAN were admitted after an accident to a Naval helicopter. These numbers were absorbed without difficulty.

Evacuation to UK

53. Of a total of 104 patients admitted to STEAMER POINT Hospital for all reasons, 15 were evacuated to the United Kingdom. The criteria used for onward evacuation were the normal ones for Middle East Command. Patients requiring treatment not available in ADEN were sent home with the minimum delay. Suitable escorts were found from Command resources. Other patients, whose period of treatment and non-effectiveness was likely to exceed a month or six weeks, were sent home on scheduled aeromedical flights.

54. The following patients were evacuated urgently. In each case, Transport Command aircraft not scheduled for the aeromedical role were used.

- | | | | |
|----|--------|-------------|--|
| a. | 15 May | Sgt BAXTER | Broncho Pleural Fistula |
| b. | 4 Jun | Mne KESSECK | Compound Fracture of Skull |
| c. | 7 Jun | Pte TYE | All had multiple injuries
requiring further major
surgery. |
| | | Pte PAMMER | |
| | | Pte MYHILL | |
| | | Mne DUNKIN | |

Additional Help from UK

55. A request for a mobile renal unit was made, to assist in treating Major MONK of the FRA, whose renal failed as a result of multiple injuries sustained in a mine explosion. The unit was warned on 26 Apr, arrived from UK on the evening of 27 Apr, and was functioning on 28 Apr. The necessary large quantities of distilled water were obtained through MPBW.

56. The patient unfortunately died of very extensive injuries, but it was shown that dialysis could be successfully performed at STEAMER POINT Hospital.

Cooperation

57. The cooperation given by Movement and Operational Staffs of HQ Middle East Command, and by Transport Command, was so invariable and whole-hearted that it came to be taken for granted.

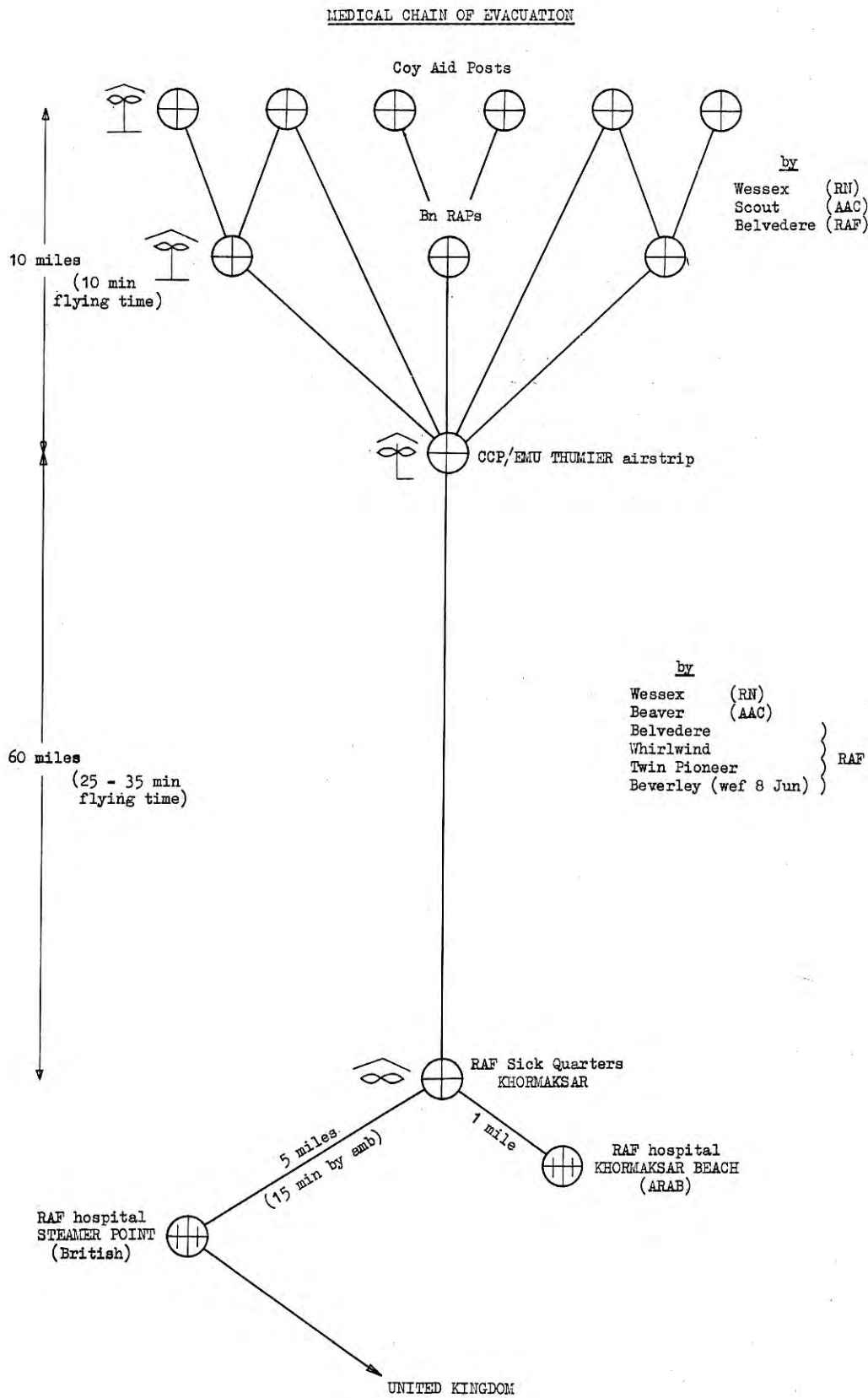
Appendix 10. Section IV to Annex M to RADFAN ReportCLIMATIC STRESS

1. Regular meteorological observations were not available for May.
2. Figures for June are given below.

Date	0530 hrs			Maximum 1200-1430 hrs				1800 hrs		
	Dry	Wet	Globe	Dry	Wet	Globe	WBGT	Dry	Wet	Globe
June	Bulb	Bulb		Bulb	Bulb			Bulb	Bulb	
1	Not available			98	76	113	86	87	76	88
2	80	73	77	98	77	116	87	88	76	87
3	80	71	75	101	79	114	88	88	76	89
4	82	75	79	99	80	120	89	87	76	87
5	80	68	76	104	84	114	92	86	72	90
6	84	68	78	104	78	116	88	89	75	88
7	86	66	82	104	78	118	89	94	74	92
8	82	66	79	105	84	122	94	95	75	98
9	83	72	80	105	80	120	90	91	73	90
10	80	68	77	104	74	120	86	Not available		
11	Not available							- "	- "	
12	- " -							- " -	- " -	
13	- " -							- " -	- " -	
14	81	70	77	105	84	121	93	90	77	90
15	85	68	75	104	75	120	86	88	75	91
16	84	70	77	100	77	119	87	87	74	91
17	80	70	79	103	81	116	90	86	72	90
18	82	65	80	105	80	121	90	88	73	89
19	80	66	78	99	81	119	88	85	75	88
20	86	73	75	104	78	116	88	95	72	90
21	81	71	80	105	80	119	90	91	75	91
22	83	66	82	101	80	120	90	94	72	90
23	80	72	80	102	78	115	89	90	73	88
24	87	73	83	90	80	117	89	86	70	89
25	84	75	80	102	81	117	91	87	72	87

3. The WBGT or Heat Stress Index has been calculated for the midday maximum dry bulb temperatures.
4. The generally accepted interpretation of the index in training is as follows:
 - a. Exceeding 80° Discretion should be used in planning heavy exertion for unacclimatised personnel.
 - b. Exceeding 85° Strenuous exercise of unacclimatised personnel should be avoided.
 - c. Exceeding 88° Physical Training should be suspended.
 - d. Hardened personnel who are acclimatised can carry on with limited activity at WBGT index between 88-90° for periods not exceeding 6 hours a day.
 - e. Above 90° the risk of heat illness is considerable.

Appendix 11, Section IV to Annex M to RADFAN Report



Appendix 12. Section IV to Annex M to RADFAN Report

TOTAL ALL SICK AT THUMIER 2 MAY - 25 JUN

Unit	All Sick	Battle Casualties	Battle Accidents	Sick	URTI	Skin	Psych	Effects of Heat	Dental	Diarrhoea and Vomiting	Malaria	VD	Others
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(k)	(l)	(m)	(n)	(o)
HQ 39 Inf Bde Gp	121		13	108	9	24	4	2	3	26			40
16/5 L	6		2	4				1					3
4 RTR	27		7	20	1			1	2	6		1	9
3 RHA	26	1	3	22	3	5			2	6		1	5
7 RHA	19	1	7	11	2	2				3			4
170 Med Bty	21		4	17	2		1		1	2		1	10
3 Indep Field Sqn	91	1	13	77	6	14		5	1	17			34
12 Field Sqn	16		4	12		1		1	1	4			5
13 Field Svy Sqn	1			1									1
34 Field Sqn	21		2	19		5			1	2			11
261 Postal det	2			2		1							1
213 Sig Sqn	64		9	55	3	8	1	2		18			23
254 Sig Sqn	7		1	6		3							3
1 RS	89	1	15	73	6	14	1	10	7	9			26
1 KOSB	140	6	22	112	2	21		5	14	14			56
1 E ANGLIAN	156	9	42	105	11	14	11	17		10	1		41
45 Cdo RM	70	5	14	51	4	13		3	2	5			24
3 PARA	41	13	10	18	1	7	1	3	1	1			4
22 SAS	2			2		1							1
653 Sqn AAC	18		7	11		6				2			3
2 Coy RASC	5			5		2		1		1			1
16 Coy RASC (AD)	33		11	22	2	3	1	2		8			6
60 Coy RASC	10		2	8			1			1		1	5
10 Bde Gp Med Coy	3	1	1	1				1					
24 OFP	45		4	41	2	13	2			12			12
Det 1 Inf Wksp	17		4	13					2	2		1	8
13 Armd Wksp	5		1	4		1			1				2
52 Ccmd Wksp	5		3	2									2
518 Coy RPC	25		6	19		6	1		2	4			6
TAER	5		1	4						1		1	2
Total	1091	38	208	845	54	164	24	54	40	154	1	6	348

Notes: 1. Includes all evacuation to ADEN.
2. Includes all repeat attendances.

Appendix 13. Section IV to Annex M to R/ADFAN Report

MEDICAL EVACUATIONS FROM THUMIER 27 APR - 30 JUN

Units	All Evac Cases	All Battle Casualties	All Battle Accidents	All Sick	URTI	Skin	Psych	Effects of Heat	Dental	Diarrhoea Group	Malaria	Others
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(j)	(k)	(l)	(m)	(n)
HQ 39 Inf Bde Gp	13		2	11	1		1		2			7
16/5 L	1		1									
4 RTR	10		5	5								
3 RHA	8			8	1					2		3
7 RHA	5		4	1	1				2			5
3 Indep Field Sqn	18		2 BID 1	16		1			1	3		11
12 Field Sqn	1			1								1
13 Field Svy Sqn	2			2								1
34 Field Sqn	3			3							1	1
213 Sig Sqn	5		1	4			1			1		2
254 Sig Sqn	3			3						1		2
1 RS	33		6	27	2				6	1		2
1 KOSB	53	5	11	37		3	1	2	11	1		16
1 E ANGLIAN	60	5	29 BID 2	26	4		2	2	1	2	1	18
45 Cdo RM	21	5 BID 1	7	9	1				1	1		16
3 PARA	34	14 BID 2	10	10	1		1		1	1		6
22 SAS	7	4 BID 2		3					1			7
2 Coy RASC	5			5	1				1	1		1
16 Coy RASC (AD)	1		1									4
10 Bde Gp Med Coy	2		2									
24 OFP	1			1								1
13 Armd Wksp	3			3					2			1
518 Coy RPC	4		2	2				1	1			1
815 Sqn RN	3		3									
RAF	6		1	5	1							
FRA	5 DIS 9	1 DIS 9	1	3								4
												3
Total	307 DIS 9	34 DIS 9	88	185	13	4	6	6	29	14	2	111

BID = Brought in dead
DIS = Dissidents

Section V to Annex M to RADFAN ReportORDNANCE

1. Units Involved. At the beginning of the operation, before control was taken over by HQ 39 Inf Bde Gp, ordnance services concerned with the operation were HQ RAOC Middle East Command, Ordnance Depot ADEN and Stores Sections 52 Command Workshop and 13 Armoured Workshop. All the ordnance units concerned were up to strength. Ordnance Depot ADEN had completed the putting to stock of the last of the War Maintenance Reserve of 33,000 items received during the preceding months.

2. Initial System. In the initial stages ordnance stores for units in the operation were supplied through unit Quartermasters acting as rear echelons in ADEN. The responsibility for bidding for transport for moving stores forward was at this stage left with units. This system was supplemented by an air supply system for urgent stores. In order to operate the air system the Air Maintenance Section was reinforced by 4 men who arrived in ADEN on 7 May. There were no stores on the ground in the THUMIER area and at this stage the size of the force did not warrant an OFP. It was planned to put the Stores Transit Section at THUMIER.

3. Arrival of OFP. The rapid build up of the force in the RADFAN area made it necessary to bid for an OFP and it was decided to ask for 24 OFP from KENYA, less its assault detachment and transit section. It was decided also to leave behind the bath unit, due to the shortage of water in the operational area. The OFP moved in two parts. The advance party, including the OC, moved by air and the remainder, including vehicles and stores, by LST from KENYA. Offloading was completed on 26 May, and 27 May was spent in preparing for the move to THUMIER and in taking on additional stores which included considerable quantities of clothing and some controlled stores. The OFP moved up to the brigade area at THUMIER on 28 May and was in operation some 10 minutes after arrival. With the arrival of the OFP it was possible to employ the Transit Section in the Ordnance Depot. Based on "Traffic", they prepared stores for movement by road and air to the OFP, which naturally on arrival took over the transit function in the brigade area.

4. Revised System. From 28 May it was possible to use an orthodox supply system for ordnance stores, unit demands being met by 24 OFP. Demands not met by the OFP were referred to Ordnance Depot ADEN. Ammunition was handled by the Composite Platoon RASC which was replenished from the Ammunition Depot in ADEN. Vehicles were always issued to rear echelons direct from the Vehicle Sub-Depot.

5. Depot Load. It was necessary to call upon some reserve holdings of stores, both War Maintenance Reserves and Project Stores. As reserves were used, arrangements were made to recoup them as quickly as possible by sea. It proved possible to meet more than 90% of the demands made. The Ordnance Depot, when supporting the operation without an OFP, was making between 3,000 and 4,000 issues per week. This load, combined with the urgency of demands which involved greater effort than routine demands, meant that the effort in the Ordnance Depot was increased by about 75%.

6. Issue Details. Details of issues of main ordnance items from the start of the operation up to 30 Jun are listed at Appendices:

- a. Stores. Appendix 14. (Selected items).
- b. Vehicles. Appendix 15.
- c. Ammunition. Appendix 16.

At Appendix 17 is a summary of the main ordnance shortages experienced, and action taken to overcome them.

Appendix 14, Section V to Annex M of RADFAN ReportORDNANCE STORES ISSUED FOR OPERATIONS UP TO 30 JUN

Jerricans POL	4458
Containers Water 4½ gall	5156
Binoculars	45
Sets Radio	45
Bayonets SLR L1A3	149
Watches	13
Boots DMS	2108
Rifles 7.62	129
3" Mortars	3
.303 Brens	2
Socks Grey (prs)	100
Boots Hockey	638
Jackets Bush	500
Denims	300
Trousers KD	4000
Jackets KD	1026
Shorts KD	1606
Shirts KF	73
Generating Sets 6 KVA	1
Pistols .38	6
1260 W Charging Engines	2
300 W Charging Sets	1
Polarpacs	54
Sterling Machine Carbines	6
2" Mortars	7
Sandbags	52080
Dannert Wire (Coils)	1944
Barbed Wire (Cwts)	354
Pickets 6'	6402
Pickets 2'6"	4150
Chaguls	1260
Hessian (Yds)	2940
Hats Tropical Large	200
Tents GS	8
Tents MUGS	1
Water Bottles (for 37 Pattern Equipment)	852
Water Bottles	1348
Water Bottle Carriers	200
Tentage, Cooking and Camp Equipment to Camp	
Scales Part 5 for 2,500 men	
Complete Scaling for Clothing, Ferrets and	
Major Assemblies for 24 OFP	
Infantry Battalion AF G1098 complete	

Note: The summary above does not include MT spares.

Appendix 15, Section V to Annex M to RADFAN ReportVEHICLES ISSUED FOR OPERATIONS UP TO 30 JUN

	<u>QUANTITY</u>
Truck 3-ton GS Cargo	57
Truck 3-ton Charging Sigs	1
Truck 3-ton Tipping With Winch	3
Truck 3-ton Armourer	1
Truck 3-ton Electrical Repair	1
Truck 3-ton Instrument Repair	1
Truck 3-ton Power Generator and Charging	1
Truck 3-ton Water	2
Truck 1-ton Welding	1
Truck 1-ton Radio Repair	1
Truck 1-ton Signals Centre Light	1
Truck 1-ton Water	5
Truck $\frac{3}{4}$ -ton Cargo	3
Truck $\frac{3}{4}$ -ton FFR	1
Truck $\frac{1}{4}$ -ton Cargo	44
Truck $\frac{1}{4}$ -ton FFR	33
Car Saloon Grade 4	1
Trailer 2-ton Caravan	1
Trailer 2-ton Servicing	1
Trailer 1-ton Water	1
Trailer 1-ton Cypher Office	1
Trailer $\frac{1}{2}$ -ton Cargo	25
Trailer $\frac{1}{2}$ -ton Water	4
Scout Car Liaison Ferret	1
Scout Car Recce Ferret	1
Tractor 10-ton Med Arty	4
Tractor S4-Drott	1

Appendix 16, Section V to Annex M to RADFAN ReportAMMUNITION ISSUED FOR OPERATIONS UP TO 30 JUN

<u>NATURE</u>	<u>QUANTITY</u>
303 Ball Mk 7	95,316
303 Ball Mk 7z S/Belt	297,680
303 Tracer	11,528
7.62mm Ball	952,956
7.62mm GPMG	950,600
7.62mm Tracer	2,880
9mm Ball	482,400
.380 Rev	5,328
30 Browning	412,000
Flares Tripwire	2,670
Carts 1" Red	1,750
Illum	4,379
Green	2,890
Carts 1½" DS All	3,278
GR All Types	480
Green	530
Red	84
Illum	40
Grenades 36 M	7,618
83 Blue	1,044
Green	96
Red	1,620
Yellow	2,232
80 White Phos	3,513
Fuze FIO3	408
Grens 94 Heat	1,023
Rockets 3.5" HESH	2,417
Bombs ML 2" Mor Smoke	4,418
Illum	5,000
Bombs ML 3" Mor HE	17,503
WP	6,984
120mm BAT HESH	530
Grens Smoke No 8	200
Dets Elec No 33	1,350
Dets No 27	6,862
Primers Dem 10Z	8,836
Plastic Explosive	49,685 lbs
Charge Dem No 1 6"	102
Fuze Safety No 11	12,295 feet
Cordtex	123,500 feet
Igniters S.F. Percn	2,140
Electric	743
Matches Fuzee	98 boxes
Switches No 4	82
5	104
6	82
Clips Det Cord Junction	2,300
76mm A/Car HE	832
76mm A/Car HESH	880
Shell BL 5.5" G HE	1,801
Carts BL 5.5" CHGE 9	464
4	1,698
Super	340
Tubes P.S.A.	2,600
Fuzes 117	2,032
M513	525
213	306
105mm P/How HE	13,085

SUMMARY OF ORDNANCE SHORTAGES DURING RAEFAN OPERATIONS

Serial	Designation	Unit	Action Taken	Results
(a)	(b)	(c)	(d)	(e)
1.	Muzzle Brakes	J Bty 3 RHA	Sig to MOD (MCE 1 of 2 May) for qty 2 air freight	Stores arrived 9 May
2.	GPMC Tripods	1 E ANGLIAN 45 Cdo RM	Sig to MOD (RTT 2 of 3 May) for qty 12 air freight	Stores arrived 9 May
3.	Boots DMS	1 E ANGLIAN	Sig to MOD (RTT 1 of 3 May) for 1000 pairs air freight	Stores arrived 11 May
4.	MT Spares for:- a. Land Rover Mk 8 FFR b. Bedford 3-ton	Ord Depot ADEN	Air mail letter (4305 Q(AE) of 6 May) for red star air	Started to arrive 1 Jun
5.	Truck 1-ton FFR	HQ 39 Inf Bde Gp	Sig to MOD (OLI 10 of 6 May) for qty 1 red star air	Arrived red star sea on SS SACRAMENTO 18 Jun
6.	Sets Radio A 41	Ord Depot ADEN	Sig to MOD (RTT 20 of 6 May) for qty 30 sets to be sent red star air	Arrived by air and issued 29 May
7.	Chaguls	Ord Depot ADEN	Sig to BLFK (RTT 2 of 8 May) for all spare chaguls	Qty 1000 chaguls arrived 12 May
8.	Trucks 3-ton Cargo	Ord Depot ADEN	Sig to MOD (OLI 10 of 7 May) for qty 40, red star sea	Vehicles arrived on SS SACRAMENTO 18 Jun
9.	Sump assy crank case	Ord Depot ADEN	Sig to MOD (HCB 8 of 11 May) for qty 9 red star air	Stores arrived 13 May
10.	Handling Gear	Ord Depot ADEN	Sig to MOD (RCB 9 of 11 May) for 6 sets of powered roller conveyers	12 May MOD replied that there were none avail in UK
11.	Water Jerricans	Ord Depot ADEN	Sig to MOD (OMN 13 of 12 May) for qty 6,000 red star sea	Stores arrived on SS CALEDONIA 18 Jun
12.	Helicopter Cargo Nets	1st Air Sup Pl RASC	Sig to MOD (HCB 1 of 13 May) for maximum available quantities by red star air	7 x 1,000 lb) nets arrived 3 x 2,000 lb) by air 20 May
13.	Sprayers Insecticide Aerosol Portable	10 Bde Gp Med Coy	Sig to MOD (RTT of 15 May) for qty 2 red star air or sea	Arrived 29 May and issued
14.	Water Bottles 44 Pattern	Ord Depot ADEN	Sig to MOD (RTT 607 of 21 May) for 1,000 red star sea	MOD released on 25 May (Not received by 30 Jun)
15.	Servicing Trailers	HQ 39 Inf Bde Gp	Sig to MOD (OLI 2 of 12 May) for release of qty 2	Released by MOD 2 Jun (Not received by 30 Jun)
16.	Battle Batteries (For A 40 and A 41)	All units	Sigs to MOD for air freight to fill gap until sea consignments could arrive from UK	The following arrived from UK during the early stages of the operation: a. A 41 - 752 b. A 40 - 144 In addition 350 x A 41 arrived as requested from KENYA

Section VI to Annex M to RADFAN ReportELECTRICAL AND MECHANICAL ENGINEERINGRepair and Recovery System1. Establishment

- a. Initial Ad Hoc EME Force Detachment. A detachment of 1 officer and 13 tradesmen (raised to 15) found from personnel of 13 Armoured Workshop and 52 Command Workshop was deployed to THUMIER on 17 Apr to meet the initial unit and field repair tasks of the original force.
- b. Subsequent Build-Up. On arrival of HQ 39 Inf Bde Gp and additional major units, unit repairs were taken over by HQ 39 Inf Bde Gp LAD and unit attached tradesmen. An assault platoon, strength 1 officer, 27 tradesmen and 4 attached, arrived from KENYA on 18 May and was deployed to THUMIER on 23 May. Forward repair teams from 13 Armoured Workshop remained in support to meet recovery and 'A' vehicle repair commitments. The task of this new detachment was the overload of unit repairs and field repairs for all units committed in the RADFAN area under command HQ 39 Inf Bde Gp.

2. Organisation Chart. This is shown at Appendix 18.

3. Command and Control. Details are given in Appendix 19.

4. Current Strength. By 30 Jun, the strength of detachment 1 Infantry Workshop was 1 officer and 37 tradesmen. The detachment was then capable of carrying out field repair to all vehicles, armaments, instruments, small arms and telecommunications. Vehicle mounted machinery and plant, providing welding, battery charging machinery and instrumentation facilities, were also established. Locally-produced shelters were erected to give covered working accommodation.

5. Total EME Resources Deployed at THUMIER at 30 Jun

<u>Serial</u> (a)	<u>Unit</u> (b)	<u>Officers</u> (c)	<u>Tradesmen</u> (d)
1.	HQ 39 Inf Bde Gp	1	1
2.	Det 1 Inf Wksp including Forward Repair Teams (13 Armd Wksp)	1	37
3.	39 Inf Bde Gp LAD		15
4.	Det 4 RTR LAD		10
5.	Det 653 Sqn AAC Wksp		12
6.	J Bty, 3 RHA		8
7.	Bn Unit Tradesmen		26
8.	Total	2	109

Build-Up of EME Effort

6. On 21 Apr a small REME repair detachment of 13 tradesmen under the command of a subaltern moved to THUMIER to provide forward repair support for troops then beginning to deploy in the RADFAN area.

7. This ad hoc detachment was hurriedly assembled from the personnel of 52 Command Workshop and 13 Armoured Workshop. Although short of much basic equipment, a great variety of repair work was handled, stores and MT spares being ferried up by the road convoy or in urgent cases by air supply from 52 Command Workshop in ADEN, some 60 miles away.

8. Much of the repair effort on vehicles operating in the RADFAN was due to smashed sumps, damaged chassis and broken suspension. By early May field repairs to telecommunication equipments and small arms were being undertaken in addition to the normal vehicle repair commitment.

9. In reply to a request for reinforcements, an assault platoon of 1 Infantry Workshop arrived by air from KENYA and deployed to THUMIER on 23 May thus relieving the temporary detachment and allowing its personnel to return to their now hard-pressed workshops in ADEN and LITTLE ADEN. Including the forward repair teams and recovery element from 13 Armoured Workshop, the REME field repair resources at THUMIER had now risen to 1 officer and 37 tradesmen and the full range of workshop skills were represented.

10. By this time the troops now deployed had substantially increased and HQ 39 Inf Bde Gp was now set up with its LAD. Total REME deployed in the RADFAN area eventually rose to 2 officers and 109 tradesmen, including LADs and attached tradesmen.

Work Load

11. General. The work load throughout the period was heavy and included the recovery and repair of drowned Ferret Scout Cars and other vehicles washed away in a wadi flood, mined vehicles and the anticipated load of equipment damaged by the bad going. As the THUMIER camp developed to meet increasing needs, a great deal of domestic assistance was provided by the workshop detachment.

12. Aircraft Servicing. During this period, 653 Squadron AAC Workshop REME maintained a large effort on THUMIER Air Strip to deal with the repair of aircraft hit by enemy fire and the accelerated servicing due to the high number of flying hours; i.e. Scout 60 hours per aircraft per month (normal 35 per month), Auster 53½ hours per aircraft per month (normal 30 per month), Beaver 49 hours per aircraft per month (normal 45 per month). Two REME aircraft technicians repaired the Scout helicopter forced down in the Wadi DHUBSAN under fire. This aircraft was later flown back to THUMIER and then to ADEN.

13. Local Factors. The extremely harsh terrain and high temperature created an exceptionally high work load from the equipments involved and made the repair task more arduous.

Repair Statistics

14. Summary. The following equipments were repaired at THUMIER by the workshop detachment during the period 21 Apr - 30 Jun:

a. A Vehicles	23
b. B Vehicles	219
c. Telecommunications and Instruments	236
d. Small Arms and Machine Guns	40
e. Armament and General	61

All these were field repairs with a work content of 25 - 80 man-hours.

15. A Vehicles. The range of A vehicles repaired by the detachment extended from Ferret to Centurion although Centurion tanks were only operating in the RADFAN area for a very limited period.

16. B Vehicles. The B vehicle load remained fairly constant throughout the period under review but there was an increase in work content as equipment rapidly aged under the conditions imposed. This trend was expected to continue and will probably result in a large number of replacement vehicles being needed.

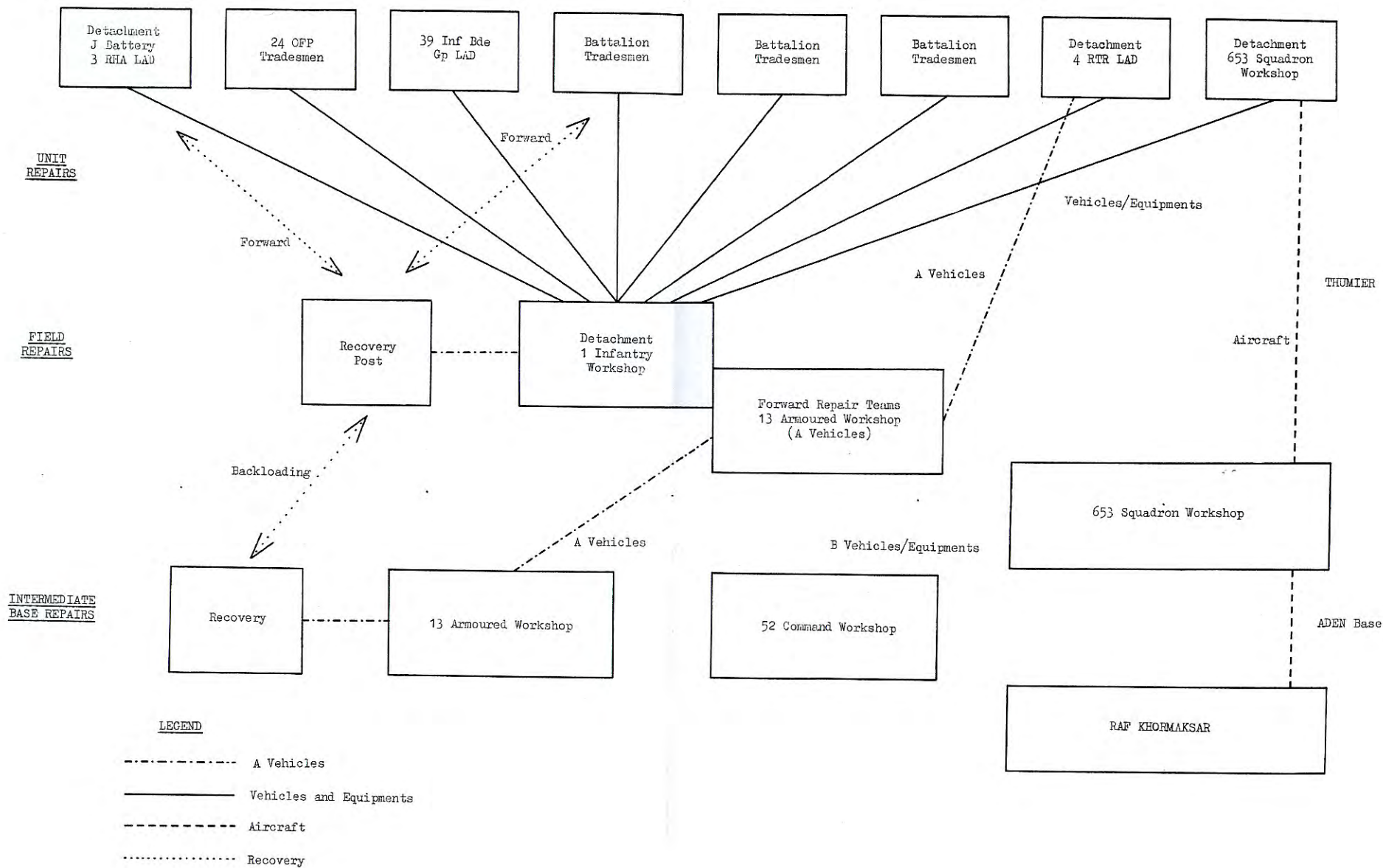
17. Telecommunications. A large number of telecommunication repairs was successfully undertaken. The range of radio sets handled was extensive and the value of being able to establish this repair potential well forward was obvious. There were difficulties in providing test equipment.

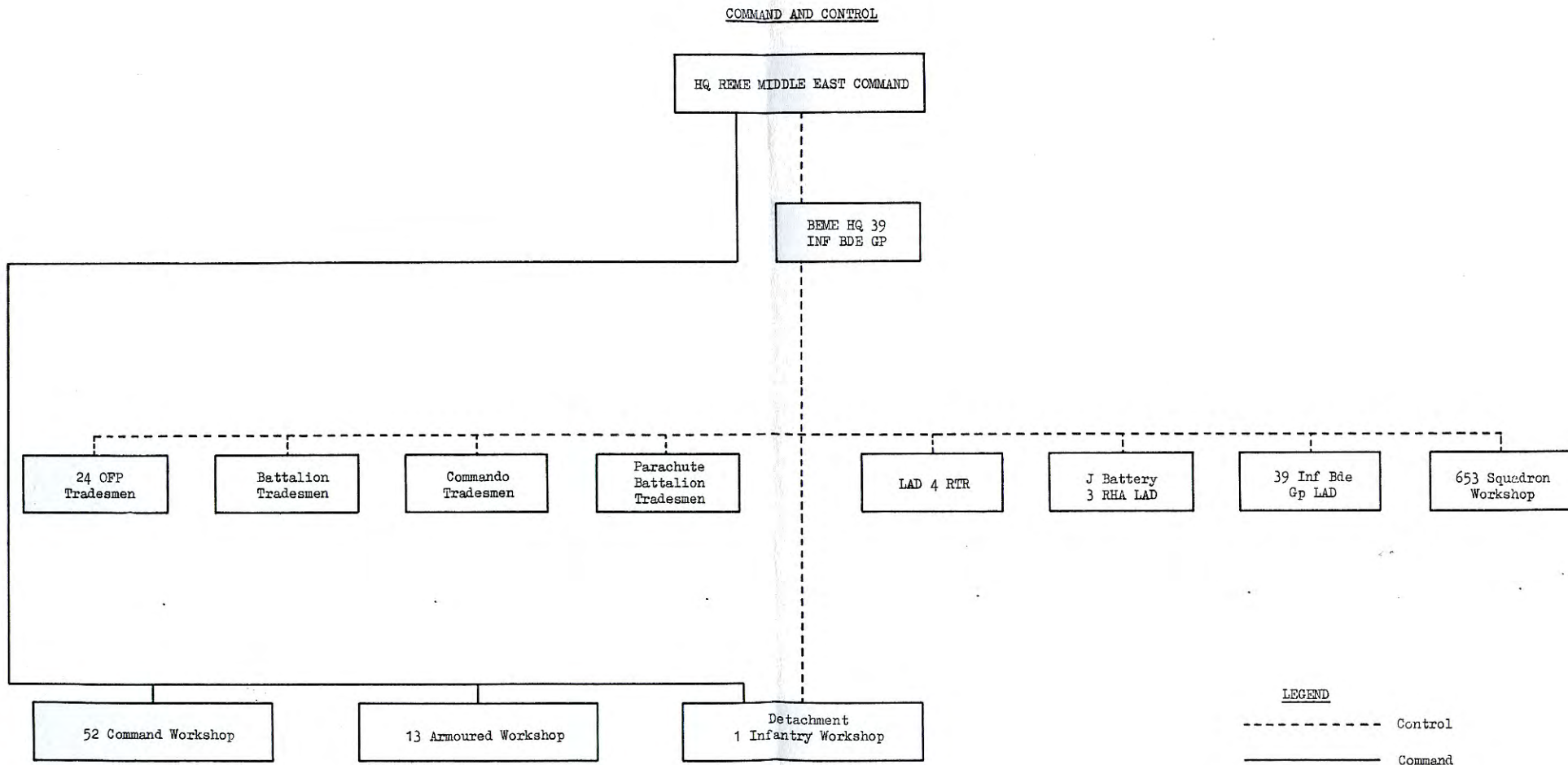
18. Small Arms and Machine Guns. Units tended not to submit small arms and machine guns for repair promptly, but to amass a large volume of work until the unit's return to ADEN. In order to reduce this trend, an armourer repair vehicle was located with the detachment and units were informed of the available facilities for small arms repairs.

19. Armaments. The heavy rate of fire required of 105-mm pack howitzers, the great majority being at charge 6 or 7, kept unit gun fitters busy. For most of the period there were 50% more guns in use than were covered by unit establishments.

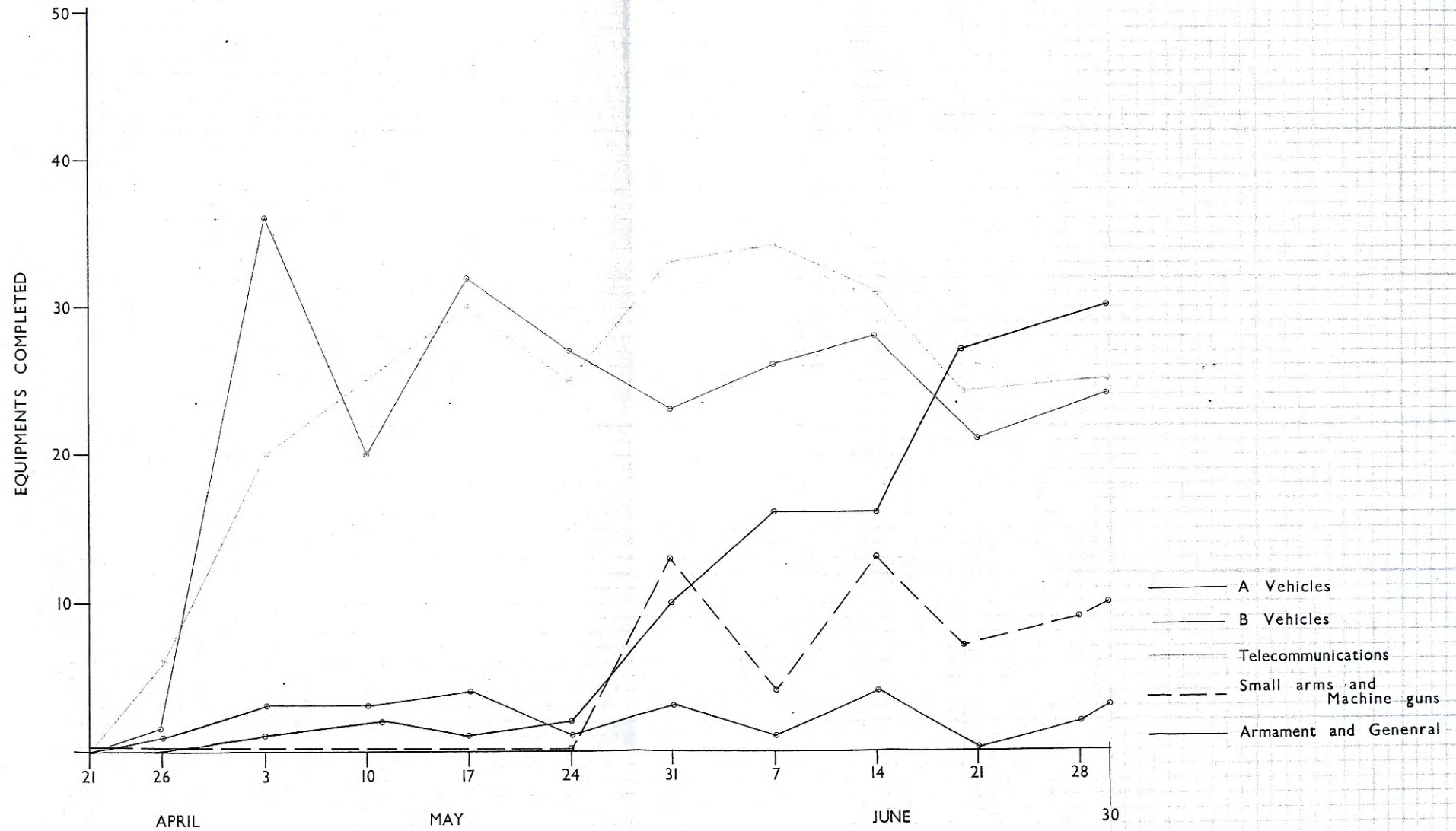
20. Repair Graph. The week by week output of the detachment is illustrated graphically at Appendix 20.

ORGANISATION CHART (WORK FLOW)





WEEKLY WORK LOAD WORKSHOP DETACHMENT - THUMIER



Section VII to Annex M to RADFAN ReportPROVOST1. Establishment

- a. Provost support was provided by 1 sgt and 6 NCOs from HQ Provost and Security Services until HQ 39 Inf Bde Gp provost elements arrived from UK.
- b. HQ 39 Inf Bde Gp arrived without an established Inf Bde Gp Pro Unit. An ad hoc unit was formed as follows:
 - (1) One sgt and 9 NCOs attached from Northern Ireland Comd Pro Coy arrived with HQ 39 Inf Bde Gp.
 - (2) 1 offr and 8 OR arrived 20 May - 14 Jun.
 - (3) A further 6 NCOs and 1 REME craftsman were requested on 17 Jun, and were agreed.

2. Tasks

- a. Provision of road check points at THUMIER and DHALA to search all civilian vehicles.
- b. Control of military convoys.
- c. Signing and traffic control in Force HQ area.
- d. Control of one-way traffic in the forward area.
(5 NCOs permanently on the RABWA Pass).
- e. Increased sign-posting, traffic control and patrols as the roads improved.
- f. Airstrip control post at THUMIER.
- g. Base traffic patrols.

3. Stores

- a. HQ Provost and Security Services were not equipped for a field force role and the equipment held was inadequate for their initial task.
- b. The bde gp pro sect brought only a limited amount of signing equipment by air due to weight restrictions.
- c. Essential stores were indented for and the only delays in issue were the stores peculiar to RMP which had to be obtained from UK.

4. Reliefs. All ranks were brought back at intervals to HQ Provost and Security Services for leave and rest.

Section VIII to Annex M to RADFAN ReportPAY

1. On 4 May HQ Middle East Command requested MOD to provide a Field Cash Office (FCO) to support 39 Inf Bde Gp. As an interim measure a FCO consisting of one offr and one OR was formed locally from staff provided by the Comd Pay Office.
2. Whilst awaiting transfer to THUMIER, the cashier assembled AF G1098 stores for a FCO and acted as cashier at the ADEN Transit Camp exchanging cash for units arriving from UK and BAHREIN.
3. The FCO left ADEN on 15 May and was set up in the AMA at THUMIER. The location chosen for the FCO was close to the airstrip, for easy conveyance of cash, and was sited near Bde Gp HQ and postal detachment.
4. Although the initial cash requirement was unknown, no serious difficulties were met. The chief problem was the large requirement of EAST AFRICAN 10-shilling notes needed to pay camel-drivers and native labour; insufficient notes of this denomination were available, even in ADEN.
5. On 31 May the field cashier and NCO arrived from UK and shortly went to THUMIER to relieve the stand-in FCO, which returned to ADEN.
6. It was expected that cash already in the THUMIER area would circulate freely (i.e. from cashier to unit, to soldiers, to NAAFI and back to the cashier again) and so be available for re-issue. This only occurred to a limited extent since the payment to camel-drivers and Arab labour which formed a large portion of the daily payments never returned to the cashier. It was therefore necessary to institute a twice weekly delivery of cash from ADEN and this arrangement continues.
7. During the first month of operations at THUMIER, EAS389,169 was issued to units in 39 Inf Bde Gp and EAS8,900 was paid to officers. During the same period the NAAFI paid in to the FCO, EAS213,040 and the postal detachment paid in EAS32,605.

Section IX to Annex M to RADFAN ReportACCOUNTING

1. At first, the fact that it was intended to mount an operation was restricted to selected members of the staff on a need to know basis and the actual despatch of the Force took place within a few days. Because of security and shortage of time, a discussion on the accounting aspect was held by Q(Finance) with the Command Secretary and one member of his staff. At this stage it was not envisaged that the operation would be prolonged and it was decided that, provided simple records were kept of all transactions, (endorsing all vouchers etc. connected with the operation with a codeword), there would be sufficient data, at its conclusion, to make any necessary adjustments to the various store/supply accounts upon which to base reports of extra costs etc, to MOD. A short instruction, outlining this simple procedure, was included as paragraph 7 of Admin Instr 1/64 (See Section I, Appendix I).

2. As the operation developed, and its scope and length increased, it became clear that the issue of some form of accounting instruction would be necessary. Whilst acknowledging the need to retain adequate accounting procedures in order to safeguard officers with vehicles, stores and equipment on their charge, there was a requirement to reduce paper work to a minimum consistent with the state of operations. In addition, there was the additional factor that units of the Federal Regular Army, (which came under the financial and administrative control of the Colonial Office on 1 Apr) were placed under command of Force HQ. Their inclusion in the Force involved the principle of charges to be raised against the Colonial Office for supplies or services rendered to the FRA and, exceptionally, the Command Secretary was given discretion by MOD to initiate recovery action from FRA for certain types of issues/services.

3. Q(Finance) Branch, in close conjunction with the staff of the Command Secretary, therefore issued an accounting instruction on 8 May. The broad principles upon which this instruction was based were:

- a. Full peace accounting in ADEN.
- b. A modified system of peace accounting up to and including the AMA (THUMIER)
- c. War accounting forward of the AMA.

A copy of the instruction is at Appendix 21.

4. The Command Secretary's staff and Q(Finance) kept in close touch with all concerned in the application of this instruction and visits were made to HQ 39 Inf Bde Gp and Q representatives of units in the operational area. After 5 weeks experience, it was clear that there were no practical difficulties in the implementation of the instruction

5. The requirements of audit were carefully noted and, at this stage, it was considered that they could be met. The principle of costs "lying where they fall" was applied to supplies and services provided for those units of the FRA under command of HQ 39 Inf Bde Gp. A similar principle was applied to all transactions between the three Services in the RADFAN area.

6. The instruction was effective mainly due to the cooperation of all unit representatives who were concerned with accounting. Their determination to reduce deficiencies to a minimum and to account for items expended, destroyed or lost was commendable.

Appendix 21, Section IX to Annex M to RADFAN ReportCOPYMIDDLE EAST COMMANDOPERATIONAL ACCOUNTING PROCEDURE FOR STORES, EQUIPMENT, VEHICLESPOL AND SUPPLIESGeneral

1. The broad principles upon which this Instruction is based are as follows:-

- a. Full Peace accounting in ADEN.
- b. A modified system of Peace accounting up to and including the AMA (THUMIER).
- c. War accounting forward of the AMA.

2. In accordance with paragraph 2 of the Introduction to Equipment Regulations Pamphlet 3 (1962), normal peacetime accounting is to be maintained subject to the modifications set out in this Instruction for those units which are not able to maintain normal accounts. These modifications do not relieve Commanding Officers of the responsibility for the safe custody, care and economical administration of stores and supplies on charge to the units under their command and it is necessary to ensure that sufficient safe-guards and adequate accounting procedures are maintained consistent with the state of operations. This situation will be kept under review and any further modifications will be notified by HQ Middle East Command.

3. Units and sub units, located in ADEN, ordered to the Operational area are to take with them either their full normal Peace accounts maintained as described in Equipment Regulations Pamphlet No 3 (1962) or extracts in the form of a sub-ledger of the Unit's Peace Account.

4. Units and sub-units from other Commands, or from locations other than ADEN, accompanied by 'fly-in' scales are to bring with them normal stores accounts showing stores in their procession. Such 'fly-in' scales are to be struck off charge of the unit's main account left behind at its permanent location by Certificate Issue Voucher, and brought on charge in accounts which will have been pre-prepared and are to show stores in possession on arrival in the AMA. Provided accounts are pre-prepared in accordance with these Instructions it will simplify their maintenance in the Operational area; War Office Mounting Instructions for Emergency Operations, paragraphs 163-164 refer.

Stores, Equipment and Vehicles

5. Ordnance Depot ADEN is to remain on normal (Peace) Ordnance accounting procedures.

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6. If an ad hoc organisation is established in the AMA to receive, hold and issue stores or supplies it is to maintain an account of all transactions and the account is to be supported by suitable receipt and issue vouchers except where direct issues are made to a forward unit (see paragraph 11 below).
7. Brigade HQ are to maintain a record of all vehicles received showing the source from which obtained and the unit to which issued.
8. Initial issues to units, on arrival in the AMA, will be either by:-
 - a. Normal voucher action, these stores will be taken on charge as in paragraph 10 below or,
 - b. On AF G1098 with insert sheets; these stores are to continue to be accounted for on AF G1098, but are to be transferred to the Equipment Ledger at the first opportunity, or by a date within six months of the original issue.
9. All vouchers and indents for stores equipment and vehicles are to be enfaced with the appropriate code-word as notified by HQ Middle East Command.
10. All receipts and issues of stores, equipment and vehicles, except issues to forward sub units as in paragraph 11 below, are to be recorded in the accounts mentioned in paras 3 and 4 above and are to be supported by vouchers which will be given a separate series of numbers. Where normal Army forms are not available vouchers are to be prepared on alternative forms or plain paper and CRVs/CIVs are to be made out where no other document is held to support the appropriate entry.
11. Issues from units located in the AMA to their sub units forward of the AMA are to be struck off charge without voucher action but the entry in the ledger is to indicate the sub unit to which issued and the quantity. Sub-units in forward areas are to maintain simple administrative records sufficient only to show receipts in order to provide sub unit commanders with a stores 'state'.
12. Units are to voucher arms and ammunition of men leaving the unit in the normal way. Similarly, they are to sign and return AF G1033 for arms and ammunition vouchered to them by other units.

POL, Rations

13. Unit POL accounts are NOT required but the POL Point at AMA is to maintain a record of all bulk receipts, which show the source from which received and is to be supported where possible, by loading lists, issue notes or other documents. Issue vouchers, AF G825 are NOT required, but POL Point AMA will record issues as they occur - NO voucher action is necessary by the unit to whom issued.

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14. Ration accounts are NOT required but all units and detachments, other than those which are attached to another unit for messing, are to maintain a record of complete rations drawn. Brigade HQ is to forward a reconciliation of rations drawn against daily feeding strengths to the Command Secretary on the last day of each month.

Air Despatch

15. NO form of ledger or accounting for stores or supplies in transit is required to be kept by the Air Despatch Company. Where receipt of stores or supplies has to be acknowledged by the Company from a base installation or unit in ADEN, any voucher in connection with that consignment will be endorsed with the designation and flight number of the aircraft to which assigned for forward movement to the Operational area. Subsequent aircraft manifests will record the movement of the consignment and relieve the Company of any further form of accounting. (See also paragraph 6 for stores and supplies which are air landed at AMA).

16. a. Clothing Allowance for HQ 39 Bde and Sig Sqn, 1 E ANGLIAN, KOSB, Sqn SAS and 4 RTR less Sqn in SHARJAH is to cease from 30 May 64.
- b. Units who have detachments which are located in the operational area for periods of 14 days or longer, e.g. 10 Bde Gp Med Coy, 254 Sig Sqn, Comp Pl RASC, Air Despatch Coy etc., will declare, by name, those individuals liable to be sent on detachment to the Operational area. Clothing Allowance is to cease for these personnel from 30 May 64. The commitment of providing a detachment, in rotation, will be found from this list, i.e. if the strength of the detachment is to be maintained at 10, it may be necessary to earmark 20 - 25 individuals liable for duty on detachment. Whilst acknowledging that any individual is liable, as a soldier, to be dispatched to the Operational area it is clear that, unless the situation deteriorates to a major extent, there are a number of ADEN based soldiers who are unlikely to be deployed forward, by virtue of their employment, and if they were so deployed it would be for a period of less than 14 days.

- c. AF H1157 will continue to be maintained, any issues in excess of scale will be recorded.

17. Free issues of clothing are to be made to personnel who have been located in the AMA or forward area during period 10 May - 29 May 64 and to those personnel NOT in receipt of Clothing Allowance from 30 May 64 onwards.

Reversion from War or Modified Peace Accounting

18. As units or sub-units are redeployed they are to adopt the accounting system appropriate to that area, e.g. on return to ADEN they are to return to full Peace accounting.

19. When a unit reverts to full Peace accounting a Board of Officers is to be convened to carry out a 100% stocktaking of all stores and supplies brought back by the unit or sub-unit, and action taken in accordance with Equipment Regulations Pamphlet 3. A copy of the proceedings of the Board is to be sent to the Command Secretary, HQ Middle East Command and the appropriate Command Secretary for units returning to another Command.

Writes Off and Losses

20. The Instructions and Powers laid down in QR (1961), as modified by Middle East Command Standing Orders, Section 31, Appx 'C', will continue to apply to losses. All losses, whether within the powers of an Officer Commanding or not, are to be struck off charge by CIV. Losses in excess of the powers of a Commanding Officer are to be the subject of a simple Board of Inquiry, sufficient only to establish the facts of the case. Subsequent application for write-off will be forwarded to HQ Middle East Command.

Audit

21. a. Unit normal main ledgers will remain subject to audit by the Command Secretary of their parent Command.
 - b. All ledgers and records opened specifically for the Operation will be closed prior to leaving the Operational area and are to be forwarded to the Command Secretary, Middle East Command, for audit.
22. Where replacement of a complete unit by another takes place which includes the hand over of stores, equipment and vehicles, instructions regarding accounting will be issued by HQ Middle East Command.

Accounting in Relation to FRA

23. Because FRA is under the financial and administrative control of the Colonial Office, there is a requirement to isolate services and supplies given to that Force. Whilst it is clear that in a combined operation separation is difficult, where possible, vouchers or indents for any services or supplies intended for FRA should be endorsed "FOR FRA".

Annex N to RADFAN ReportAIR SUPPORT

1. No report on the RADFAN operation would be complete without reference to the part played by the Royal Air Force and Royal Navy aircraft. This is a single service report but the operation was essentially joint, both in planning and execution. Details of the Royal Air Force contribution will be available in their own report, but the following statistics have been included here (Appendix 1) to indicate the scale of air effort during the operation.

2. Two reports written by Forward Air Controllers are at Appendices 2 and 3.

STATISTICS (RAF and RN)
(14 Apr - 30 Jun)

Appendix 1 to Annex N to RADFAN Report

UNIT	AIRCRAFT TYPE	SORTIES	PAX LIFTED	FRT LIFTED (lbs)	ARMAMENT EXPENDED	CASEVAC
8 Sqn RAF 43 Sqn RAF 208 Sqn RAF 1417 (FR) Flight	HUNTER mk 9 and 10	642	-	-	3" Rocket Proj: 2,508 30 mm Cannon: 183,900	-
37 Sqn RAF	SHACKLETON	85	-	-	Bombs 1,000 lb: 12 20 lb Grenade Clusters: 3,504 Flares 4.5": 445 20mm Cannon: 18,195	-
815 Sqn RN	WESSEX	992	2,485	400,250	-	40
26 Sqn RAF	BELVEDERE	1,027	1,798	1,110,515	-	48
Search and Rescue Flight RAF	WHIRLWIND	57	95	41,140	-	26
87 Sqn RAF	TWIN PIONEER	324	3,697	399,887	-	161
892 Sea Vixen Sqn (embarked on HMS CENTAUR)	SEA VIXEN	Recce 22 Photo 7 Strike 22	-	-	3" Rocket Proj: 31 2" Rocket Proj: 835	-

Note: 815 Sqn RN operated six Wessex helicopters from 25 May - 22 Jun.
892 Sea Vixen Sqn operated twelve Sea Vixen from 16 - 22 Jun.

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Appendix 2 to Annex N to RADFAN ReportFACs REPORT - OPERATION OF B COY 3 PARA ON 5 MAY

1. At first light 5 May B Coy 3 PARA was approaching the eastern face of the CAP BADGE feature. It had been hoped to reach the summit of CAP BADGE before first light, but progress during the night march from the COCA COLA feature had been slower than expected. The ACT was moving 400 yards ahead of the rear platoon.
2. As the ACT rounded a small spur, Coy HQ and the leading platoons were engaged by small arms fire from a fort, some houses and several positions on the lower slopes of CAP BADGE. Almost immediately the ACT itself was engaged and took cover in a nearby ditch. A Shackleton aircraft was flying over the area and radio contact was quickly made with it. A pair of Hunters were airborne and were due to arrive in the area within five minutes. They duly appeared and came under control of the ACT.
3. The most easily identified enemy positions were chosen as the first targets. The fort was soon destroyed by rocket fire and one of the houses by cannon. This house was within 150 yards of one of the platoons. Good use of identification panels made it easy for the pilots to distinguish friend from enemy.
4. Meanwhile the company was moving to occupy suitable strong points in the nearby village. Using fire and movement the ACT made its way to the village pausing to direct fire onto particular houses and enemy positions on the hill side.
5. Target identification was difficult due to the extremely good camouflage of the enemy positions. Coloured panels made the ACTs position too conspicuous for comfort and smoke being used by the company tended to conceal identification marks. Pilots therefore fired short cannon bursts and the FAC corrected this fire onto the targets.
6. On reaching the village the ACT set itself up on a roof top, but was soon forced to move due to sniper fire from the hill sides which overlooked the village. Platoons pointed out the sniper positions to the FAC who then directed Hunter strikes accordingly. When necessary, corrections were relayed from the platoons by the FAC. This technique proved successful and effective strikes were brought down on the enemy within 150 yards of the platoon positions.
7. Air support continued in this way throughout the morning and by 1400 hrs most of the enemy had withdrawn. A company of 45 Cdo RM linked up with B Coy 3 PARA and the advance to the summit of CAP BADGE continued. Apart from directing an attack onto a distant house from which the enemy had been firing on resupply aircraft the ACTs task was complete.
8. It had been impossible to give close artillery support due to the nature of the ground and the enemy positions. Brilliant flying and good shooting by the Hunter pilots made good this deficiency. Without this support B Coy might have suffered more casualties in dealing with the well prepared enemy positions.

Appendix 3 to Annex N to RADFAN ReportFACs REPORT - OPERATION OF 2 FRA IN WADI MISRA ON 5 JUN

1. There can have been few better examples of co-operation between the three Services and amongst the various Army units involved in the RADFAN operations than during a small engagement that occurred on 5 Jun; 2 FRA were picqueting high ground on the east of the Wadi MISRA when they observed ten dissidents about three thousand yards further to the east; the FOO from J Bty 3 RHA quickly brought fire down on the area, and the dissidents were seen to run to cover into a large house. The guns continued to engage for some while, but without much success, so CO 2 FRA called for an air strike; he also asked for an FAC as his battalion did not have one.
2. The only FAC in the Wadi MISRA was with C Coy 1 E ANGLIAN on one of the peaks on the western side of the wadi; this FAC had an hour to spare before he was due to control the last of a series of three planned strikes on targets further up the wadi. A warning order from his adjutant had the FAC hastily collecting in air panels and his arrival at the landing point coincided with that of a Naval Wessex helicopter that had been diverted by BASO from its resupply mission.
3. Having been dropped on the east side of the wadi, the FAC had just put out the panels and identified the target when the first Hunter appeared overhead; it started to rain quite hard and at times it was impossible to see the target from the ground. Luckily there had been time to make arrangements to fire a 105mm white smoke round onto the target area; due to the weather conditions only one of the four pilots managed to see the smoke, but a second round was seen by two of the other pilots.
4. The first pilot fired all eight rockets at a house 100 yards from the target; this house was in dead ground as far as the FAC was concerned, but luckily the pilot missed, and the remaining three aircraft were directed onto the correct target.
5. The second aircraft also fired all eight rockets in one salvo, and all missed; at about this time the FAC had visions of having to ask for a re-strike!
6. The remaining two pilots very wisely decided to fire their rockets in groups of four, and both scored hits on the target. The combination of bad weather conditions and the inherent inaccuracies of the three inch rocket made shooting difficult and the pilots did well to get any hits at all.
7. All four aircraft then put in several cannon attacks on the house and surrounding area; when the aircraft returned to base there was only one wall of the house left standing.
8. The FAC was immediately collected by Scout helicopter and ferried back across the wadi, arriving almost exactly an hour after leaving; the planned strike had in fact been cancelled and the target was destroyed by two Saladins when the advance up the wadi was continued later in the day.
9. The FRA were very impressed by the quick reaction time; their battalion had only joined the brigade net recently. Previously an air request would have taken at least an hour to be met but on this occasion the time from the request being sent, to the aircraft appearing overhead, was 20 minutes.

Squadrons guaranteed a 30 minute reaction time under normal conditions; aircraft on immediate stand by, with the pilots strapped in, could reach the area within seven or eight minutes of the request being approved. The distances involved were not great. KHORMAKSAR airfield is only fifty miles from the operational area. An additional advantage lay in the fact that BASO was in direct contact with the airfield, and in emergencies the normal request procedures could be abbreviated.

Radfan

South Arabia's Troubled Land

The tribesmen who inhabit the northern slopes of Radfan are known as "Al Aj'ood." They are divided into six main sub-tribes. Like the rest of the Aden Protectorates, there has not been an official census in Radfan, but the estimated total population is 20,000. The number of each of the six sub-tribes could be estimated from the number of fighting men each can provide:

Qotaibi	about	2500
Hajeeli	..	1000
Bakri	..	800
Da'eri	..	600
Mahla-i	..	350
Ibdali	..	200

New areas of the Protectorates has suffered as much of fighting and bloodshed with the authorities in Aden and the rulers of royalist Yemen like Radfan, especially its biggest sub-tribes, the Qotaibi.

There are various reasons for the frequent clashes which led to bloodshed and destruction, but most probably the two main reasons are:

1. Ignorance, poverty and disease prevailing in Radfan impelled the tribesmen to fight for their living, thus to reveal to the authorities how far neglected and sick their land had become.

2. The repeated attempts by the British Government to cede this territory to the Amirate of Dhala which attempts have been opposed by the tribesmen who are independent of spirit and fairly easily led but hard to drive.

AMIR'S ASSYLUM

In fact Radfan and its neighbouring territory Halmin were always a safe assylum in which the Amir of Dhala found refuge whenever he was expelled by the Othoman Turks who occupied Yemen, and by the Imam of Yemen. On a number of occasions the Amir of Dhala depended solely on the tribesmen of Radfan and Halmin who marched on Dhala and re-captured it for him.

The Sultans and Amirs of the Protectorates used to levy taxes on goods passing through their territories. The trade routes between Aden and Yemen and Dhala penetrated Radfan, but the Radfanis were forbidden from enjoying this income.

ADEN GOVT. INTERVENES

As far as we know this was the reason for the first clash between the Government of Aden and the tribesmen of Radfan 83 years ago. In 1881 the Qotaibi rose in rebellion and imposed taxes on camel caravans in Hardaba Pass. In 1884 the Government of Aden intervened in support of the Amir of Dhala Ali Moqbel. Fifty sappers of the Aden Troop with some others were despatched. Severe fighting took place and after the destruction of a few forts, the Qotaibis tendered their submission.

In 1886 the Amir died and was succeeded by his nephew Shayef bin Fejl. The Qotaibis declined to recognize him and resumed their independence.

In 1888 the Political Resident in Aden summoned a meeting at Al Mahjaba in the Alawi territory. The Amir of Dhala, among other chiefs subscribed to a schedule of rates to be levied in future. In that meeting the Qotaibis recognized the Amir.

In 1913 the Amir left for India to attend the coronation of King George V. He died in that country a few days after his arrival. His son Nasr succeeded him. In 1914 World War I broke out. The Turks occupied Dhala without much resistance, and Amir Nasr took refuge in Radfan. When the war ended in 1918 the Turks withdrew from Sheikh Othman, Lahej and Dhala. Dhala was captured by the Imam of Yemen. The Amir and his Radfani tribesmen marched on Dhala and drove out the Imamic troops, but two days later Yemeni reinforcements arrived, recaptured Dhala and then marched against Radfan and occupied the Qotaibi and Bakri territories.

QOTAIBI SHEIKH ARRESTED

The Qotaibi Sheikh fought the Imamic troops and requested the Government of Aden to assist him. The Resident informed him to wait for the result of the negotiations between the British and the Imam. Sheikh Mohammed Saleh Al-Akhram was enraged and thought that the Aden Government were planning to surrender his territory to the Imam of Yemen.

Before doing so, the Sheikh found it advisable to communicate with the Imam's envoy in Dhala and commence friendly relations. The commander of the Imam's troops in Qataba received him with all hospitality and fired guns in his honour upon arrival in Dhala. But no sooner had he returned to his territory than he was asked to send a hostage to confirm his loyalty and

allegiance to the Imam. The Sheikh felt extremely insulted. But he sent the hostage. The Imam's envoy was apparently not satisfied. He sent a group of soldiers and arrested the Sheikh and put him in the prison of Qa'taba where he remained for seven months. He was released when his tribesmen agreed to pay a considerable ransom.

When the Sheikh died in 1928, his grandson Hasan bin Ali succeeded him. The new Sheikh wrote to the Government of Aden describing the hardships suffered by his tribesmen from the commander of the Yemeni forces in Qa'taba. He mentioned the treaties concluded between his people and the British in which the Government undertook to protect them. The Sheikh then, accompanied by a number of prominent Radfanis arrived in Aden. The Resident welcomed them and advised them to return to their land and inform him of any future aggression from Imamite troops.

RAF ATTACK QATABA

In the same year a Yemeni force marched on the Qotaibi territory and arrested the Sheikh's uncle Moqbel bin Abdulla. When the news reached Aden, the R.A.F. attacked the Yemeni town of Qa'taba.

The Sultan of Lahej and the Governor of Tazé interceded with the Imam who ordered the release of the Sheikh's uncle.

Atrocities continued for many months during which the R.A.F. bombed and machine-gunned a number of Yemeni towns including Tazé.

Major Fawl, the Asst. Resident wrote to Sheikh Hassan bin Ali instructing him to drive out the Yemeni contingent from Suleik fort on the road to Dhala. The small Yemeni force surrendered without resistance. The commander of Qa'taba sent reinforcements of 900 soldiers to retake Suleik. While this force was heading towards the fort, the Amir of Dhala was on his way to Radfan and Halmin to mobilize their tribesmen against Dhala. A severe battle took place near Suleik but the Imamite force was compelled to withdraw. The Amir then marched with his Radfani and Halmin tribesmen. The R.A.F. assisted in the battle which resulted in a complete withdrawal of the Imamite troops from Dhala.

In 1934 a treaty was concluded between the Imam of Yemen and the British. The trade routes were opened again.

SHEIKH FINED 500

Sheikh Hassan bin Ali was under obligation to maintain a force of road guards. No sooner was the treaty signed than the guards plundered a camel caravan. The Govern-

ment of Aden imposed on Sheikh Hassan bin Ali a fine of 500 Maria Theresa dollars and the surrender of a hostage. The Sheikh declined to pay the fine or to surrender the hostage, and organized his men on commanding positions. The R.A.F. were first sent to drop light bombs, and a certain amount of damage was done. This however did not move the Sheikh to pay the fine. Then heavier bombs were dropped in order to pin down tribesmen from returning to their homes at night and by being kept away from their crops.

NOT QUITE ABSOLUTE

The Amir of Dhala was very concerned about the fighting in Radfan. He was in a small way suzerain in these troubled territories, but not quite an absolute ruler. He was of the opinion that the Sheikh's uncle was the key instigator behind the fighting.

Meanwhile the Radfanis were holding out and repulsing all offensives. They seemed not to be afraid of air attacks. They could easily reconstruct their simple sangars if these were destroyed by bombs.

A number of soldiers of the Aden Protectorate Levies who were Radfanis were sent on leave while the fighting was on.

ONE SHEEP A DAY

When they reached their villages, they carried their arms and enough ammunition and joined their compatriots. They lived in a cave on a sheep a day.

They kept their eyes open by shooting at aeroplanes. They did not realise the futility of such a defence. They had just turned to typical tribesmen as soon as they arrived in their mother land. Their comrades in arms in the A. P. Levies camp were not the least surprised as they would do the same thing once they are off duty in their own lands.

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The Amir of Dhala wanted the fighting in Radfan to come to an end in order to gain more authority there. He acted as a mediator and decided to pay the fine of 100 thalers and then reimburse it out of the Qutaibi road subsidy. The Sheikh did not trust the Amir and got it in writing from him. This brought the war to an end.

But has the fighting really ended in Radfan? Hostilities continued ever so often and, no doubt, they will continue as long as the primitive proud and poverty-stricken Radfanis remain untouched by modern means of civilization.

NEWSPAPER CUTTINGS OF INTEREST

1. From ADEN Chronicle of 28th May :-

In 1884 a British Expeditionary Force Dispatched to Fight Radfani Rebels,

Following prolonged negotiations Britain and Dhala Protectorate signed a treaty of friendship in 1880. Sheikh Ali Mockbell of Dhala agreed to be protected and to guarantee the security of the trade route between his country and Aden. In return for this pledge he would receive 50 Maria Theresa Dollars every year, valued today at approximately Sh. 5000.

But the people, the Quteibis who are fighting in Radfan these days, did not benefit by the agreement. In 1884 they rebelled and attacked the trade route charging taxes on all traffic passing through their territory at the Hardabah Pass. Britain dispatched a small force equipped with artillery and blasted rebel strongholds as a prelude to negotiating with the rebels.

Two years later Sheikh Mockbell Saif died. He was succeeded by his nephew Emir Shayef Saif whom the rebels refused to recognise. A conference was held in Alawi country under British supervision. According to the agreement Radfani tribes agreed to recognise the new Emir provided they were allowed to continue collecting taxes and sharing them on a fifty-fifty basis with the Emir.

Again in 1903 the Radfanis rebelled, forced traders to pay road dues and again a detachment of the Aden Troop

marched to subdue them. Their villages shelled and livestock perished.

BITTER MEMORIES

In bitter memory of Sailat Et Misrah, a poet said 60 years ago:

*Oh, Haid Radfan,
The rocket has ruined me,
My home is empty,
My world is disturbed.*

Radfan comprises a rugged tract of country 60 miles north of Aden. Radfani tribes are fierce warriors, staunchly ungovernable inhabiting difficult mountains and living on poor subsistence. Summer temperatures hit 130F degrees.

There are six main tribes:

—Ahl Abdulla
—El Hogai
—El Bakri
—El Quteibi
—El Addiari
—El Mahlae

They occupy Wadi Taym and are subdivided into numerous sub-tribes. Radfan highlands lie to the north of Dhah, towering northwards but sloping towards Wadi Bana in the Fadhl state. Some areas are fertile and grow qat, coffee and bananas. Their highest peak is Al-Hooriah 8117 feet.

IMPORTANT WADI TAYM

Wadi Taym waters the southern slopes of the Radfan hills and flows as tributary of Wadi Bana. The rainy season feeds several streams of which the

Ghail, 15 feet wide, waters some of the cultivated tracts.

In 1929, Radfan was again bombed by British planes. Bombing was not very accurate then and spies were sent from Aden to Radfan. Wadi Taym and even Halmain (which forms part of Radfan country) to set bon-fires at strategic positions for the planes to drop incendiaries and bombs.

SCATTERED IN POVERTY

Many of the Radfanis were further impoverished and hundreds of them took refuge in Aden. They could do nothing for a living except beg, and were known as the Juood. Many others deserted their homes and took refuge in Qaataba, Mawia and Tatz in Yemen.

In spite of pounding their homes, burning their crops and cattle they remained recalcitrant, and as rebellious as ever. Many of them trekked into the Yemen, where Saif-ul-Islam Ahmed (later Imam Ahmed), gave them a warm welcome and ordered provisions of millet to be supplied to them.

For some years they stayed away but ultimately found it uncomfortable to remain refugees for ever and returned to Radfan.

Emmwood.



"ALLAH SAVE US... GERM WARFARE!"

DAILY MAIL JUNE 25, 1965