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MINISTRY OF DEFENCE

DESPATCH BY  
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AUGUST 1990—APRIL 1991

## INTRODUCTION

Towards the end of July 1990, the warming of east-west relations had led to a marked reduction in international tension. The size and composition of the British armed forces were under scrutiny, and the initial conclusions of the Options for Change deliberations suggested significant restructuring of our defences in response to the clearly reducing threat from the Warsaw Pact. Within a week, there was a major change in the world order; the unprovoked Iraqi invasion of neighbouring Kuwait redirected the focus of our military attention from predominantly European issues to the Middle East. On 8 August, the Secretary of State for Defence, the Right Honourable Tom King PC MP, announced that British Forces were to prepare to deploy to the Gulf region. On 10 August, the Chief of the Defence Staff, Marshal of the Royal Air Force Sir David Craig GCB DSC MA FRAES, appointed me the Joint Commander of Operation GRANBY, on which some 45,000 servicemen and women were eventually deployed in theatre.

In this despatch I will describe the way the Operation developed over the ensuing eight months, looking briefly at the background and the military build-up, before covering in more detail the six week period of hostilities which began on 16 January, and drawing a line at the acceptance of the official ceasefire on 11 April 1991. I will often describe single-Service actions; I would, however, stress at the outset that this was a joint operation with each arm's activities frequently linked to the others'. Moreover, while I will detail the involvement of British forces, we must remember that this was an international operation fought by the largest military coalition since the Second World War, and we were but one nation among many. I list at the end of my despatch the senior commanders in Operation GRANBY. I also attach maps to represent the disposition of our forces in theatre.

A full length epic would be required to do justice to the endeavours, bravery and resolve of all those involved, military and civilian, at home and abroad. While, inevitably, it is impossible to refer to all of those whose contribution would otherwise merit it, the

relative brevity of this despatch should not detract from the highest esteem in which we all should hold our participants in Operation GRANBY, whether those in the theatre of operations or those who supported them from bases in the United Kingdom, British Forces Germany and Cyprus.

## BACKGROUND

The Iraqi dispute with Kuwait has its roots in the post colonial history of the Gulf region, but the catalyst for the recent invasion came in the middle of July 1990. The immediate source of conflict was the Rumaila oilfield which straddles the Iraq/Kuwait border; President Saddam Hussein of Iraq maintained that Kuwait had stolen £1.3 bn of Iraqi oil from this field and demanded compensation. Kuwait rejected the charges and, in response, Iraq cancelled £5.5 bn of loans which it had received from Kuwait during the Iran/Iraq war.

A week after these events, the two sides agreed to talks which were held in Jeddah in Saudi Arabia; on the agenda were the disputed territory between the states, oil pricing and the cancelled Kuwaiti war loans to Iraq. On 1 August, in the middle of negotiations, Iraq pulled out of the talks; and the next morning, at 0200 hours local time, Iraqi troops crossed the Kuwaiti border. Iraq possessed the Arab World's most powerful military machine and, with a strength of over a million, the fourth largest permanent army in the World; facing them were the Kuwaiti defence forces, number a total of 20,300. In addition to his huge standing army, President Saddam Hussein had recalled the Popular Army, a militia of several hundred thousand men who had supported Iraqi frontline troops in the nine year war with Iran. He also issued orders to re-form fifteen infantry divisions and one armoured division which had been disbanded after the ceasefire in 1988.

Up to 100,000 Iraqi troops were massed on the border; the Republican Guard Force Command was chosen to lead the invasion. About 30,000 Iraqi troops, including armoured brigades equipped with modern T72 tanks, were used in the main attack across the desert towards Kuwait City, a distance of about 80 miles. Several Iraqi ships were off the Kuwaiti coast; some were used to mount a naval barrage on the capital while helicopters flew special forces from the ships into the city.

The troops crossed the border at three separate points in the north-west of the country and were met by artillery fire as they

advanced rapidly towards the capital. The invading force had about 350 tanks, a mixture of T54s and T55s as well as the T72s. As the advance was taking place, some Iraqi units broke away and occupied a strip of Kuwaiti territory at Abdaly, 80 miles north of Kuwait City. Helicopters also landed troops on the two uninhabited Kuwaiti islands of Warbah and Bubiyan, strategically located at the head of the Gulf. Ports and military airfields were significantly damaged by continuous artillery bombardment and air attacks and, despite resistance from the Kuwaiti National Guard, key buildings and facilities in Kuwait City fell to the invaders, while Army bases at Al-Jahrah, west of the capital, were overwhelmed. This was the first time in modern history that an Arab nation had invaded and totally controlled another Arab state.

Furthermore, there were strong indications that President Saddam Hussein had further ambitions. He massed 100,000 troops on the border with Saudi Arabia and mobilized 140,000 volunteers in southern Iraq. The international community could not condone such overt aggression towards Kuwait and believed it had to act swiftly if it were to prevent Iraqi troops moving into Saudi Arabia. The United Nations Security Council adopted Resolution 660 on 2 August, condemning the invasion and demanding Iraq's immediate and unconditional withdrawal. This was followed by Resolution 661 on 6 August, calling for the restoration of the legitimate government of Kuwait and imposing mandatory economic sanctions on Iraq. The United States, on 7 August, was the first nation to send forces to the area. The following day, the United Kingdom announced that it too was sending forces to the Gulf. Thus began our military involvement under the title of Operation GRANBY.

#### OBJECTIVES

The initial objective of Operation GRANBY was to help deter any further aggression by Iraq in the Gulf and particularly against Saudi Arabia. The objectives were later expanded to: secure, together with our Coalition allies, a complete and unconditional Iraqi withdrawal from Kuwait; restore the legitimate government of that country; re-establish peace and security in the area; uphold the authority of the United Nations.

#### COMMAND AND CONTROL

As Joint Commander, I exercised overall command of the Operation from my Headquarters at Royal Air Force High Wycombe. On 11 August 1990, I appointed the Air Officer Commanding Number 1 Group, Air Vice-Marshal R A F WILSON CB AFC RAF, Air Commander British Forces Arabian Peninsula, and directed him to set up his Headquarters in Riyadh, Saudi Arabia. On the same day, Commodore P K Haddacks RN became the Senior Naval Officer Middle East (SNOME) but with the ships of the Royal Navy ARMILLA Patrol remaining at the time under the operational command of the Commander-in-Chief Fleet, Admiral Sir Benjamin Bathurst GCB. Commodore Haddacks embarked on HMS YORK on 19 August 1990 as Commander Task Group 321.1. On 1 October 1990, the title British Forces Arabian Peninsula was changed to British Forces Middle East (BFME), and Royal Navy forces came under my operational command. Lieutenant General Sir Peter de la Billière KCB CBE DSO MC\* was appointed commander in theatre; Air Vice-Marshal Wilson became the Deputy Commander and Air Commander. The United Kingdom Joint Force Headquarters in Riyadh, Saudi Arabia was located close to the United States CENTCOM Headquarters to allow our commanders to maintain a close liaison with their American counterparts. Air Vice-Marshal Wilson was succeeded on 17 November 1990 by Air Vice-Marshal W J Wratten CB CBE AFC RAF, Air Officer Commanding Number 11 Group. Commodore C J S Craig DSC RN relieved Commodore Haddacks as SNOME on 3 December 1990.

#### THE JOINT HEADQUARTERS

While Operation GRANBY was directed by Her Majesty's Government acting through the Ministry of Defence in Whitehall, the Operations Centre in the UK was established in the recently-completed Primary War Headquarters bunker at Royal Air Force High Wycombe. This Joint Headquarters had the great advantage of being largely self-contained with the battle staff, which numbered some 500 people per shift at the height of the conflict, working with the support of full administrative and catering facilities within the complex. I organized the staff into three tiers: functional cells, the Battle Management Group (BMG) and the Command Group. There were 32 functional cells, each responsible for a specific area of the Operation. They reported to ten Assistant Chiefs of Staff at the 1-star level who then met twice daily as the BMG, which was chaired by the 2-star Director of Operations (DOPS). I led the Command Group meetings, which followed on from the BMG meetings, when I was briefed by the DOPS and selected members of the BMG, was

given advice from the senior representatives of each Service, and took decisions or gave direction. This structure proved to be resilient and efficient; and I knew that I was receiving the most timely, reliable and relevant information on which to plan the British contribution to the Coalition effort.

#### COMMUNICATIONS

The Headquarters was equipped with a comprehensive suite of sophisticated communications equipment which enabled us to maintain close contact with those issuing the political and military directives from London, as well as with the Joint Force Headquarters in Riyadh. The communications experts from all three Services worked unstintingly in the months following the Iraqi invasion and produced a network of satellite and land-based systems emanating from High Wycombe and the Naval Fleet Headquarters at Northwood which gave me and my staff at the Joint Headquarters reliable and totally secure links to the operational theatre by telephone, facsimile and signal. They also provided the facilities which allowed the Riyadh Headquarters to communicate easily and securely with front-line units, whether in established positions or on the move. Modern warfare demands extensive secure communications, and such provision played a significant part in our operations. We also, for the first time, made very substantial use of data systems in exercising command and control of all our deployed forces.

In addition to the almost global disapproval of Iraq's invasion of Kuwait, which was signalled by the strongest set of United Nations Security Council resolutions to have ever been agreed, the overriding aim in the early days was to deter and, if necessary, to check any Iraqi invasion of northern Saudi Arabia. Our intelligence assessment indicated that an invasion could be launched immediately and so it was crucial for the nations opposing Iraq to signal their resolve by rapid deployment of forces. From the British standpoint, the Royal Navy's ARMILLA patrol group WHISKY, consisting of HM Ships YORK, BATTLEAXE and JUPITER with RFA ORANGELEAF, was already available to respond. New directives were soon issued ordering the ships to provide protection for entitled merchant ships; to monitor shipping passing to, from and within the Gulf; to develop an assessment of ships, particularly tankers, breaking the sanctions imposed by the Security Council; to be prepared to support evacuation of British dependents from the Gulf states; and to support the activities of other British forces in the area.

Notwithstanding this naval presence, the first priority was rapidly to provide defensive forces in Saudi Arabia, and to this end a squadron of Tornado F3 aircraft, on detachment at Akrotiri in Cyprus for armament practice, was deployed to the air base at Dhahran on the Gulf coast. These aircraft, armed with Sidewinder and Skyflash air-to-air missiles, are the most modern fighters in the Royal Air Force; they were supported by VC10K tanker aircraft. The Tornados landed at Dhahran early on 11 August, flew their first operational missions within two hours of arrival, and were soon mounting regular defensive Combat Air Patrols, an essential task that they undertook throughout the crisis. In parallel, the Air Headquarters was established at Riyadh, and the army deployed 70 men to provide satellite communications and postal and courier detachments to Saudi Arabia, Oman and Bahrain. Later this was expanded to include also Royal Engineer and medical support to airfields, and Royal Artillery Javelin detachments aboard ships. As contingency planning progressed, we anticipated the possibility of a mine threat at sea by deploying, on 13 August, three Mine Counter Measures Vessels (MCMVs), HM Ships ATHERSTONE, CATTISTOCK and HURWORTH, from Rosyth to the eastern Mediterranean. By this date, HMS YORK had been joined by HMS JUPITER on station in the southern Gulf, and HMS BATTLEAXE had arrived at Fujairah in company with RFA ORANGELEAF. Augmented support for the increased naval activity was provided by deploying RFAs OLNA, FORT GRANGE and DILIGENCE. Royal Marines Air Defence detachments were quickly flown from Plymouth to provide additional close-range air defence.

Following the Government's announcement that both a Tornado F3 and a Jaguar squadron were to be sent to the Gulf, Jaguar ground attack and tactical reconnaissance aircraft from Royal Air Force Coltishall were deployed to Thumrait in Oman. The Sultan of Oman's Air Force also operates this aircraft and many of the RAF Jaguar pilots had flown from that airfield during bilateral exercises. In view of the distances involved, air-to-air refuelling support was necessary and two VC10K tankers were deployed with the Jaguars to Thumrait. Surface surveillance of the Gulf waters from the air was required and three Nimrod maritime patrol aircraft were deployed to Seeb airfield in Oman where they too had taken part in training exercises over recent years. By the middle of August, the Tornado F3, Jaguar, VC10K and Nimrod aircraft were all flying operational sorties from their detachment bases in the Arabian Peninsula.

The airfield at Akrotiri in Cyprus became an important staging base for transport flights, tanker support and transit sorties, and as a holding base for additional air assets. Phantom FGR2 aircraft from Royal Air Force Germany provided air defence against a possible Iraqi attack by medium bombers. This force was supplemented by the Rapier Blindfire surface to air missiles of 20 Squadron Royal Air Force Regiment. Three Royal Navy Attacker class patrol vessels were also deployed, becoming operational at the end of October, to counter the terrorist threat from seaward, while a RAF Regiment Light Armoured Squadron maintained protection on land. From the Army extra port operators were deployed to assist with the handling of ships destined for and returning from the Gulf which were routed via Cyprus. The heightened state of alert on the island meant considerable extra guarding commitments for the garrison troops and the deployment of extra soldiers from UK to assist with garrison security. In addition, Territorial Army composite transport squadron was deployed to replace the UN Force in Cyprus (UNFICYP) transport squadron as almost all Royal Corps of Transport (RCT) assets were deployed to the Gulf.

In Saddam Hussein we were facing an unpredictable opponent and we had to be prepared for a pre-emptive Iraqi attack including the use of Scud Short Range Ballistic Missiles and perhaps armed with chemical or biological warheads. Moreover, there was no sign that he intended to withdraw his troops from Kuwait. Indeed, his aggressive acts continued with the seizure of Western civilians as hostages and their movement to key military and strategic sites as human shields, with intense pressure put on western diplomatic staffs in Kuwait city, and with the occupying Iraqi soldiers looting shops and intimidating the civilian population. Consequently, economic and diplomatic pressure was increased with the United Nations playing the lead role. While we all hoped for a peaceful resolution, it became increasingly likely that allied offensive action would be required to drive Iraqi forces from Kuwait. Nevertheless, if we could rigorously enforce the UN sanctions, there was just a chance that war could be avoided: Royal Navy forces played a significant role in the embargo operations.

#### EMBARGO OPERATIONS

The imposition of a ban on the movement of commodities into or out of Iraq/Kuwait by United Nations Security Council Resolution 665 shifted the objectives of the ARMILLA patrol ships from the protection of British entitled merchant shipping to the enforcement of the UN sanctions. The success of this endeavour depended upon the close co-operation of naval forces in the Multi-national Maritime Force, provided primarily by thirteen non Middle Eastern nations, namely Australia, Argentina, Belgium, Canada, Denmark, France, Greece, Italy, Netherlands, Norway, Spain, the United Kingdom and the United States, together with those of certain Gulf States. In addition, the United States and United Kingdom provided surface surveillance from maritime patrol aircraft. On 21 August Ministers of the Western European Union (WEU) countries agreed to co-ordinate enforcement activities; guidelines and a network of WEU naval points of contact were established. Representatives of the participating states attended a conference in Bahrain on 8 September to establish the basis of international co-operation, and the various naval commanders met the following week to develop the military modus operandi and to institute a series of patrol boxes throughout the Gulf and the Gulf of Oman. Thereafter, a different country chaired respective monthly meetings to decide a schedule of nations to police the boxes.

A vital aspect of the embargo operations was the need to exchange information on the location, destination and cargo of all vessels within the region stretching from the Suez Canal to the Gulf. Well-founded arrangements for the monitoring of merchant shipping were extended to provide allied nations with a comprehensive appreciation of shipping movements, and a special cell was set up in London specifically to fuse data on Iraqi flagged vessels or other contacts of interest. Boardings themselves tended to be joint undertakings by warships of more than one nation, with one unit in contact designated the Scene of Action Commander (SAC). The Royal Navy made a considerable contribution to the enforcement effort, challenging a total of 3,171 merchant ships and participating in 36 boardings in the period up to the official ceasefire. In addition, RAF Nimrod aircraft flew 295 surveillance sorties from their base at Seeb in support of embargo operations. The professionalism and skill that our forces displayed in the conduct of boarding impressed other navies considerably; notably our use of high-powered Rigid Inflatable Boats (RIB) to enable boardings to take place while target vessels remained under significant headway, and the insertion of Royal Marine boarding parties and naval personnel using a method of abseiling from Lynx helicopters known as rapid roping.

This most effective allied action ensured, from the outset, that no merchant ship reached Iraq through the Gulf without being stopped

and inspected, and it also demonstrated the unequivocal resolve of the world community. Iraq made little effort to break the embargo in this area and, despite a relatively high level of patrol activity, the Royal Navy was directly involved in only two such potential incidents. I will describe these, the successful interception and boarding of the Iraqi cargo vessel AL WASITTI and the diversion of the tanker MV TADMUR, to illustrate the complexities inherent in such operations.

On 7 October 1990, both vessels were located in the Gulf of Aden by HM Ships BATTLEAXE and BRAZEN who proceeded to shadow them, in company with ships from the United States Navy and Royal Australian Navy. The AL WASITTI was assessed to be empty but TADMUR was suspected of carrying a small cargo under a false bottom in her holds. Their interception was authorised and the United States Navy (USN) Task Group Commander promulgated a tri-national boarding plan; the two Royal Navy ships were designated as the SAC for their respective incidents.

The AL WASITTI boarding began with a conventional challenge on VHF radio channels by HMS BATTLEAXE but the freighter, rather than reply to repeated requests to stop, increased speed and ignored all communication attempts. This prompted the SAC, in close consultation with the Ministry of Defence, to implement the next level of the Rules of Engagement, which permitted the firing of shells across the bows of the vessel. Despite this measured escalation in the use of force, the AL WASITTI refused to co-operate and Royal Marine boarding teams from HM Ships BATTLEAXE and LONDON were inserted by helicopter before a United States search team boarded by RIB: the ship was then cleared to proceed. While this protracted episode was unfolding, HMS BRAZEN continued to shadow MV TADMUR before boarding her without undue difficulty. This incident, however, highlighted different aspects of international co-operation; after the vessel was discovered to be carrying excessive amounts of foodstuffs, it was decided to divert the TADMUR to a friendly port. The refusal of the vessel's master to divert voluntarily and the necessary diplomatic activity involved in establishing a suitable destination added to the complexities facing those responsible for embargo enforcement.

As the United Nations deadline of 15 January 1991 for Iraq to withdraw from Kuwait approached, attention turned to preparations for hostilities and embargo enforcement was then conducted from the operating areas allocated for transition to war. Routine boardings by Royal Navy ships continued at frequent intervals although, increasingly, the possibility that merchant ships might be used for covert military purposes had to be considered. On one occasion, our (MCMVs) were called in to check the Shar Allum Shoal in the central Gulf, which the United States Navy had declared a mine danger area after the Iraqi MV ZANOUBIA had been spotted lowering objects into the water. The interception of various merchant vessels, such as the Iraqi MV AIN ZALAH, re-emphasised the problematic nature of the boarding task itself. In the weeks before the United Nations deadline, and then once hostilities had started, the nations of the WEU assumed the lead in co-ordinating embargo operations in the Gulf, concentrating their patrols in the vicinity of the Straits of Hormuz, and I was pleased that HM Ships BRILLIANT and EXETER were able to participate in this operation for a short period as they entered the Gulf in early February 1991.

#### MILITARY BUILD-UP

Following our initial reaction to the Iraqi invasion, Her Majesty's Government assessed that we would have to consolidate our military stance to reinforce our political commitment for Iraq to withdraw from Kuwait, even as we waited to see what effect the economic embargo would have. While there were signs that sanctions were causing hardship within Iraq, there was no indication that it would force President Saddam Hussein to recall his troops. The military build-up therefore had to proceed in parallel.

In the latter part of August, the Secretary of State for Defence announced that our military contribution was to be increased. I deployed a composite squadron of Tornado GR1 aircraft from Royal Air Force Germany to Muharraq air base in Bahrain on the Gulf coast: the aircraft's capability to carry out offensive counter air operations and interdiction providing an additional deterrent to any further Iraqi aggression. The Secretary of State also announced that the naval force level in the Gulf was to be increased to four warships and authorised the deployment of the Type 42 air defence destroyer HMS GLOUCESTER. Furthermore, the three Royal Navy MCMVs already deployed to the Mediterranean were ordered to proceed through the Suez Canal to the Gulf on 6-7 September where the oceanographic survey vessel HMS HERALD sailed to join them to act as the MCM Command Ship. In September, HM Ships LONDON, BRAZEN and CARDIFF formed Group X-ray and sailed as planned to relieve the three escorts of Armilla Group

Whisky which had been on station since July. The Royal Marines and Royal Artillery provided Javelin surface-to-air missile detachments in all the escorts, together with additional teams for port security duties and protection of the RFAs. During the campaign, for contingency purposes, we also assigned HMS OTUS and OPOSSUM, both conventionally powered diesel submarines. The Army had some 300 men deployed providing communications, medical and postal support throughout the theatre.

On 14 September, Her Majesty's Government gave a further clear indication that the United Kingdom was prepared to resist force by announcing that the 7 Armoured Brigade would deploy from BAOR to the Gulf. The Brigade, including War Maintenance Reserves, would comprise 9,500 men, 145 Challenger tanks, 110 Warrior infantry fighting vehicles and 28 M109 guns. Its support would include the provision of 2 engineer regiments, 2 transport regiments, 2 ordnance battalions, 2 armoured workshops and a host of other specialist units including an armoured field ambulance. A detailed reconnaissance was rapidly conducted, which laid the foundations for the start of a huge logistic operation soon afterwards; the Brigade was complete in theatre by 3 November and quickly started live firing and other work-up exercises. Fifteen Royal Air Force Puma helicopters were earmarked to support the ground forces and were flown direct to the Gulf in C5 aircraft of the United States Air Force.

On the same day that the deployment of 7 Armoured Brigade was announced, the Secretary of State also made public that a further 18 Tornados were to move to the Gulf: six fighter and 12 attack aircraft. The reinforcements arrived by mid-October—the fighters to increase the Dhahran force to 18 Tornado F3s, while the ground-attack aircraft deployed to a newly-activated airfield at Tabuk in north-western Saudi Arabia, quite close to the Iraqi border. The Tornado and Jaguar aircraft were supported in their training missions by VC10K tanker aircraft of 101 Squadron, operating from Muharrag and Seeb airfields; these aircraft subsequently moving to King Khalid International Airport near Riyadh.

The Royal Air Force Regiment was deployed in strength for 'Survival to Operate' (STO) duties, and two Rapier surface-to-air missile squadrons were detached to the air bases at Tabuk and Muharrag. STO tasks involved the defence, and if necessary recovery, of airfields from enemy air, ground and Nuclear, Biological and Chemical (NBC) attack. The Regiment provided STO command and control, as well as training elements, at Tabuk, Muharrag and Dhahran. These were established Host Nation Bases, but the prospect of air attack required the Royal Air Force Regiment and Royal Engineer units to enhance the facilities for collective protection. I also deployed two of the Regiment's Light Armoured Squadrons for ground defence and counter-terrorist operations at the airfields. Other teams guarded a US Patriot Battery, provided close protection for the Commander BFME, operated specialist chemical and biological defence vehicles, and secured our air-to-air refuelling aircraft at King Khalid International Airfield.

On 15 November, 7 Armoured Brigade was declared operationally ready south of the Kuwaiti/Saudi border and I transferred tactical control to the Commander of the United States 1st Marine Expeditionary Force. A week later, the Secretary of State decided to deploy the 4th Brigade and additional troops and so increase the United Kingdom ground forces to divisional strength. The plan was to have this division—I (British) Armoured Division—operational in theatre by 31 January. When complete the division would comprise, including War Maintenance Reserve, 28,000 men, 221 Challenger tanks, 327 Warrior infantry fighting vehicles and 79 M109 and M110 guns, 16 Multiple Launch Rocket Systems (MLRS) plus armoured reconnaissance and anti-tank helicopter regiments, 3 engineer regiments, a Rapier air defence regiment and 2 Javelin air defence batteries. Providing support would be 5 transport regiments, 2 ordnance battalions, 3 armoured workshops and other specialist sub units. Furthermore, the Army would provide 4 field hospitals, 1,600 beds in all, as the bulk of the medical support for our forces in the Gulf, and a further 5,000 soldiers would be deployed in all. Helicopter support for the Division was provided by the Royal Air Force with 12 Chinooks and 19 Pumas, and by the Royal Navy with 12 Sea Kings.

Our offensive air capability in theatre was also increased. The squadron of Jaguars moved forward from Thumrait to Muharrag which enabled them to carry out attack sorties into the Kuwaiti Theatre of Operations (KTO) without total dependence on air-to-air refuelling. Locating them closer to the KTO increased their daily sortie rate and, therefore, their overall warfighting capability and contribution to the Coalition's air effort. Following further reinforcement, there were, by mid-January, 45 RAF Tornado GR1s in theatre, six of which were the GRIA reconnaissance variant, with a further six being equipped to fire ALARM (Air-Launched Anti-Radiation Missiles). This weapon had been in the development stage but the manufacturer, British Aerospace, accelerated the clearance

procedures to provide this vital defence suppression missile. The six Tornado GRIAs at Dhahran represented the one type of allied aircraft which, flying at low level, would be able to provide day and night tactical reconnaissance of enemy positions. To support the defensive and offensive aircraft, I positioned 15 tanker aircraft at Muharrag and King Khalid International airfields, a mixed fleet of VC10Ks of 101 Squadron, Victors of 55 Squadron and a Tristar of 216 Squadron.

#### LOGISTICS

The distance from the United Kingdom to the Gulf is 3,000 miles by air or 6,300 miles by sea: the scale of moving such a large component of our fighting forces over such a distance was colossal. To give an indication of the size of the task, consider the deployment of 1 (BR) Armoured Division alone: 28,000 people, and up to 400,000 tonnes of freight, including ammunition, stores and 15,000 vehicles, were transported to theatre, and the Division was then sustained and committed to battle in inhospitable terrain some 200 miles from the port of entry at Al Jubayl.

The logistic outload required the use of an extensive sea tail, RAF air transport assets and chartered civilian air cargo aircraft. The first ship sailed on deployment for Operation GRANBY on 28 September and the last ship arrived on 15 February; at the height of the preparation phase, in late December, there were some 50 vessels loading or en route to the Gulf. A total of 114 different ships from 20 nations took part in the deployment; some made more than one return journey in accumulating the total number of 146 round trips. Unlike Operation CORPORATE, there was no need to requisition British flagged ships. Commercial merchant ships were chartered through representatives on the Baltic Exchange. There was competition for Roll On-Roll Off ferries, which were in heavy demand, but otherwise there was little difficulty in meeting our requirements. Most ships had armed military escorts aboard but the enemy did not seek to disrupt our extended sea lines of communication and every ship arrived safely; only a very small number were delayed by bad weather or mechanical problems. I count the sea tail, which was responsible for the delivery of the vast majority of all the necessary ammunition, equipment and stores to support our forces, as a most successful part of the Operation.

For the air outload, we relied heavily on the RAF Air Transport Force of Hercules, VC10 and Tristar aircraft and supplemented the fleet by chartering civilian cargo aircraft. Up to 500 tonnes of urgent freight was carried daily. The Force was mobilised to a high level of activity as soon as Operation GRANBY started and it operated over the whole eight months at between two and three times its normal peacetime rates, which themselves are demanding. On 30 October, an Air Transport Detachment was set up at King Khalid Air Base with 3 Hercules and supporting elements. As the demand for in-theatre airlift personnel increased, a further two Hercules were deployed in January 1991. I was very pleased when the New Zealand Government offered two Hercules to operate alongside those of the Royal Air Force. The New Zealanders made a significant contribution to our airlift and with my aircraft flew over 2300 sorties in support of our forces operating from both normal and desert strips. Back in the United Kingdom, I had to deploy engineers from throughout the Royal Air Force to the transport bases to meet the increased routine maintenance and rectification tasks of the fleet. I also relied on the specialist movements teams to ensure maximum aircraft utilisation and that every load was safe. RAF Akrotiri in Cyprus, strategically located almost exactly half way between the United Kingdom and the Gulf, was a most important facility. This airfield was used as a staging base and its traffic increased tremendously. There were almost 14,000 Operation GRANBY movements at Akrotiri, and of these nearly 8000 were dedicated freight moves by air transport aircraft. To place these figures in perspective, the number of Operation GRANBY movements corresponds to the total expected in almost 10 years at the normal peacetime rate. In addition, the Victor, VC10K and Tristar tanker aircraft were used extensively to deploy non-stop attack and air defence aircraft, including some from other Coalition air forces, to and from the theatre.

As for maritime and air forces, many new equipments were brought into service for the land forces. In some cases, such as MLRS and the rifle launched grenade, these were early purchases of equipment due to enter service in the future. However, there were new buys for which financial provision had not previously been available. Existing equipment was modified in view of the desert conditions and the Iraqi weapon systems. Night vision aids, computers and satellite communications equipment were made available on a much larger scale than had previously been envisaged. Both Challenger tanks and Warrior infantry fighting vehicles were uparmoured. These enhancements provided 1 (BR) Armoured Division with major improvements in its operational capability.

While the strategic deployment continued, the logistic units in Saudi Arabia were working intensively to receive and sort the supplies which were arriving, and then deliver them to the front-line units. To facilitate this process, a chain of logistic bases was established between Al Jubayl and the Forward Assembly Area from which 1 (BR) Armoured Division was to launch its offensive. Forward logistic bases had to cater for the anticipated daily consumption of up to 1200 tonnes of ammunition, 500,000 litres of fuel, 400,000 litres of water and 30,000 individual rations. We positioned more than 120 replacement vehicles and some 1600 tonnes of spare parts in the desert, and prepared to carry out running repairs in theatre. Moving all the troops with their vehicles, equipment and supplies was an enormous task. We used 800 vehicles ranging from tank transporters and fuel tankers to Landrovers, driving a total of over 14 million kilometres. The Royal Engineers produced over 12 million maps, moved 850,000 tonnes of soil and dug 160 kilometres of ditching. In a joint project with US forces, they designed, planned and built a fuel pipeline which eventually stretched some 290 kilometres across the desert.

The scale of the logistic operation was huge, as these figures demonstrate. To compare it with a previous, well-known operation, the daily needs of 1 (BR) Armoured Division were of the same order as those for the whole of 21 Army Group in the early part of Operation OVERLORD, the D-Day landings in 1944. I believe that 1 (BR) Armoured Division was probably the best prepared and supported force ever fielded by the British Army.

#### FINAL ALLIED PREPARATIONS

During the autumn of 1990, political pressure on Iraq continued. However, neither economic sanctions, diplomatic measures nor the threat of military action brought about any apparent softening of President Saddam Hussein's attitude. A crucial date for the Coalition was Thursday, 29 November, when the United Nations Security Council approved Resolution 678 calling on Iraq to withdraw from Kuwait by 15 January and authorising the use of "all necessary means" to effect withdrawal if the deadline passed and Iraq had not acceded. Although our forces had to remain vigilant to react to any Iraqi provocation, this date now provided the focal point on which offensive operations by the Coalition could begin. However, we then had to consider other factors which would influence the timing of any allied attack. We realised that the high summer temperatures in the region would place our troops at a disadvantage compared with the indigenous armies, and this indicated that military action should be completed before April. Furthermore, the major Islamic religious festival of Ramadan would begin in mid-March and, with several Arab nations in the Coalition, it would have been inappropriate to be in the throes of war at that time. Finally, some allied forces had been in the area since August and we could not keep them at full war readiness indefinitely. Taking all these factors into consideration, Coalition leaders planned to begin an attack soon after the 15 January deadline if Iraqi forces were still occupying Kuwait. It was anticipated that the campaign would last about six weeks.

Early in December, President Saddam Hussein announced that all foreign hostages would be released. Barring this one concession, his intransigence remained absolute and hostilities seemed increasingly likely; so our soldiers, sailors and airmen reviewed their preparations for war. In addition to individual unit training, a series of large-scale exercises enabled ships, army formations and squadrons to practise their skills with their Coalition allies, with particular emphasis on operating under chemical and biological warfare conditions. The Christmas/New Year period saw a heightened alertness to guard against a pre-emptive Iraqi attack, followed by an increase in the intensity of work-up preparations as the United Nations deadline approached.

This preparation phase was not without cost. During the preparations for the land battle, nine soldiers of 1 (BR) Armoured Division died. Considering the intensity and hazardous nature of the training, the accidents which our land forces suffered were mercifully few. Similarly, there were two accidents to RAF aircraft: a Jaguar crashed while on a low flying sortie on 13 November, killing the pilot, and a Tornado GR1 flew into the ground in Oman on 13 January, killing both pilot and navigator. In addition, a Tornado GR1 was badly damaged in a night landing accident at Tabuk in November; both crew members ejected but were quite seriously injured. Tragic as these accidents were, the fact was that we had put a significant proportion of our armed Services on a war footing in a distant and environmentally demanding theatre in the space of only four months, and had trained and prepared them fully for combat. It reflects well on the professionalism of our forces and on the realism of our peacetime training that our fighting machine was mobilised so quickly and efficiently, and was at the highest state of readiness when the UN deadline expired.

#### IRAQI MILITARY STRENGTH

Despite the huge allied military build-up and our clearly stated intention to eject the Iraqi forces from Kuwait if Saddam Hussein refused to withdraw in compliance with UN Security Council Resolution 660, President Saddam Hussein elected to reinforce his troops rather than withdraw them. Iraq mobilised its reserve forces and formed new divisions to protect Baghdad, while the majority of the army was deployed into Kuwait and south-eastern Iraq. The force in this area opposing the Coalition armies as the UN deadline approached was estimated as being over 600,000 men formed into over 40 divisions, with some 4,500 tanks and 3,250 artillery pieces. A substantial defensive barrier of minefields, sand walls, razor wire fences and oil-filled ditches was built along the border of Kuwait and southern Iraq with Saudi Arabia to obstruct our forces and attempt to channel them into areas favourable for Iraqi counter-attack. A further 20 divisions with 1,000 tanks and a similar number of artillery pieces were retained in central and northern Iraq, bringing the total number of Iraqi ground troops to an estimated 1.2 million. By comparison, the Iraqi Navy was less impressive, being equipped with only about 15 surface-to-surface missile armed fast attack craft, some 5 of which had been captured from the Kuwaiti navy, and a number of miscellaneous small craft many of which could be used for minelaying. The shore-based Silkworm anti-ship missile system also posed a significant threat.

The Iraqi Air Force fielded about 750 fixed-wing combat aircraft capable of operating in a variety of roles. Their inventory contained almost 50 MiG 29 Fulcrum air superiority fighters and 30 MiG 25 Foxbat interceptor/reconnaissance aircraft as well as 170 older generation air defence aircraft. Their 70 Mirage F1s could be used in the air defence or ground attack role with a diversity of weapons, and were supplemented in the attack role by a squadron of long-range SU-24 Fencers and 300 Flogger, Fitter and Frogfoot aircraft. Iraq had also recently acquired an air-to-air refuelling and airborne early warning capability and had a small air transport fleet. In addition, they had a diverse fleet of over 500 assault, attack and troop-lifting helicopters shared between the Air Force and Army Aviation. The Iraqi Air Force was deployed on more than 60 airfields, some of which were vast constructions with very considerable runway and taxiway redundancy. Over 600 hardened aircraft shelters had been built on the main operating bases. Defensively, Iraq had an extensive arsenal of surface-to-air missile and anti-aircraft artillery batteries. For command and control of its forces, a vast network of deep and hardened bunkers had been constructed throughout the country.

#### THE FREEING OF KUWAIT BEGINS

On the night of 16 January, at 2336 hours GMT, the Coalition forces began their attack against Iraq. The opening bombardment came from the air, with American F-117 stealth fighters and cruise missiles, fired from surface ships and submarines, being used to attack key command and control and air defence centres. They were followed shortly afterwards by formations of allied aircraft attacking a variety of targets from numerous directions. In addition to their significant contribution to air operations, naval forces began the task of gaining sea control of the Northern Gulf and thereby posing the threat of an amphibious landing. On land, half a million ground troops were poised along the 200 miles of Saudi border with Kuwait and Eastern Iraq. The objectives of the first phase of the campaign were to establish air superiority, to paralyse the enemy's command, control and communications system, to destroy his nuclear, chemical and biological warfare facilities, and then to begin the process of attrition of Iraqi ground forces from the air to prepare the way for the coalition armies to liberate Kuwait quickly and with minimum allied casualties.

This was a combined arms, multi-national assault with General Norman Schwarzkopf of the United States Army nominated as the overall commander. United Kingdom forces were involved in all aspects of the campaign and I will describe their activities under single-Service headings which, to maintain a logical sequence, will begin with air operations, then cover naval operations and finish with the land offensive. I reiterate that we were part of a large Coalition force and that the delineation by Service is for clarity only; for the operations of all three arms were interdependent throughout the hostilities. The total number of British servicemen and women in theatre was about 45,000 which made us the third largest contingent after the United States and Saudi Arabia. The Coalition force numbered over 700,000 men and women drawn from 30 nations. The United States provided the majority of the personnel—some 540,000 people—and consequently took the lead in formulating the operational plans.

#### AIR OPERATIONS

On that first night, as part of a complex, highly co-ordinated air campaign, twenty Royal Air Force Tornado GR1 aircraft, each

armed with two JP233 airfield denial weapons, flew from the air bases at Muharraq, Tabuk and Dhahran to carry out attacks against Iraqi airfields. The aircraft refuelled in the air just south of the Iraqi border, in radio silence, from Victor and VC10K tankers. They then descended to very low level to delay detection by Iraqi radars and engagement by their surface-to-air missiles and guns. The crews were carrying out a role for which they have been well trained, both in Europe and in theatre. Although taken by surprise, the Iraqi ground defences soon recovered and began to engage our aircraft. However, the Tornados, flying low and fast in small packages in total darkness, and assisted by their electronic jamming pods, were able successfully to press home their attacks. Two additional Tornado GR1s, each armed with three ALARM, flew in support, firing their missiles just before the attacking aircraft dropped their JP233 weapons, which dispensed runway cratering bombs and anti-personnel minelets onto their targets. All of our aircraft returned safely. In the morning, a further wave of four Tornado GR1 aircraft from Muharraq, loaded with a total of 32 1000lb bombs, carried out daylight attacks from low level against further Iraqi airfields; one aircraft failed to return from this raid. Later in the day (17 January) four Muharraq-based Jaguars flew successful attacks against a barracks in Kuwait with each aircraft delivering its load of 1000lb bombs despite encountering severe enemy ground fire. And as darkness fell, Tornado GR1s took off on more airfield attack sorties. The Tornado F3s continued to mount defensive air patrols but were not put to the test by the Iraqi Air Force which failed to mount any offensive operations into Saudi air space. Our Nimrod aircraft from Seeb flew maritime surveillance sorties and contributed to the compilation of the surface picture in the Gulf. In the first 24 hours of the air campaign, Royal Air Force aircraft flew 58 offensive, 37 air defence, 19 air-to-air refuelling and 3 maritime surveillance sorties, which set a pattern and rate of flying for the whole campaign. I will now outline the contribution made by each RAF aircraft type to the air campaign.

For the next five days, the Tornado GR1s continued to carry out day and night attacks against Iraqi airfields using JP233, with each package being accompanied by further GR1s armed with 1000lb bombs and ALARM missiles to suppress the enemy defences. However, the GR1's role changed significantly on 23 January. By then it had become apparent that the Iraqis were unlikely to commit their air force in any strength until the ground battle began. A few air defence aircraft had been launched to intercept allied raids but most had been destroyed by allied fighters. There was little point in continuing at that stage to attack airfield operating surfaces with JP233 which had to be delivered from low-level where the primary threat was coming from extensive enemy anti-aircraft gunfire. With the Iraqi surface-to-air missile threat largely negated by allied air action and electronic countermeasures, it was decided to switch the Tornado GR1s to medium level bombing where they could operate above the effective height of nearly all the Iraqi guns. Their targets included radar control centres, ammunition dumps, petroleum storage depots, power stations and Scud Short Range Ballistic Missile sites. To improve the accuracy of medium-level bombing, twelve Buccaneer aircraft from No's 12 and 208 Squadrons, both based at Lossiemouth in Scotland, were deployed to the Gulf to use their Pavespikes laser designation equipment. The attack aircraft launched in mixed formation packages, with the Buccaneer crews designating the target and the Tornado GR1 crews releasing the laser-guided bombs. The first such bombs were dropped on 3 February, initially against bridges being used for the resupply of Iraqi troops in the KTO and, later in the campaign, against petroleum storage sites, hardened aircraft shelters and aircraft operating surfaces. In all, the Buccaneers flew 214 sorties. On 10 February, the Tornado force obtained its own laser designation capability with the arrival at Tabuk of two pre-production TIALD (Thermal Imaging Airborne Laser Designation) pods. The TIALD system, unlike Pavespikes, could be used at night as well as by day, and these pods—known affectionately by the crews as Sandra and Tracey—proved extremely successful. By 14 February, all three of our GR1 bases were conducting precision-guided bombing attacks, and these were sustained until hostilities ended. Throughout the air campaign, the Tornado GR1s flew over 1500 offensive sorties, their crews displaying great skill and courage in pressing home their attacks. In addition to the aircraft shot down during the first daylight Tornado raid, another five Tornado GR1s were lost on operations, five aircrew were killed and seven became prisoners of war. One other Tornado developed serious mechanical problems shortly after take off and the crew ejected safely.

On the night of 18/19 January, the Tornado GR1A—the reconnaissance version of the aircraft—undertook its first operational mission. From then until hostilities ceased, the six Dhahran-based GR1As flew 123 night low-level sorties, often deep into Iraq, using their infra-red linescan equipment with considerable

success. This Tornado variant provided the Coalition with much vitally important intelligence on the enemy's force dispositions, and it was also used in the hunt for Iraqi Scud missile launchers. The firing of Scuds posed little direct military threat but, by targeting them on Jerusalem, Haifa and Tel Aviv, Iraq sought to attempt to provoke Israel into military retaliation in the hope of turning the conflict into a holy war and thereby splitting the Coalition. This risk led the allies to divert considerable air effort onto attacking Scud launchers once they had been located.

From the outset of hostilities, the Jaguar Squadron at Muharraq was allocated a variety of targets in Kuwait including Iraqi barracks, coastal defence positions, surface-to-air missile batteries, supply depots and ammunition dumps. The Jaguars were also used to attack Iraqi naval vessels operating in the northern Gulf. The Jaguars were armed mainly with 1,000lb bombs and CRV7 rockets, they also dropped cluster bombs, from low and medium levels, on to concentrations of armour and artillery positions. On 29 January, a formation of Jaguars was returning from an attack on a Silkworm anti-ship missile site on the Kuwaiti coast when their pilots spotted some Iraqi fast patrol boats. Their location was passed to HMS GLOUCESTER, who instigated successful engagements on these and other enemy craft by naval forces and by further RAF Jaguars. The next day, two Jaguars used rockets and guns to disable a Polnochny class landing ship support vessel. In addition to its offensive role, the Jaguar was used for daylight tactical reconnaissance. Once the land offensive began on 24 February, the Jaguars were tasked on some longer-range interdiction missions into Iraq, which required them to flight refuel en route. Overall, although its attacks were limited to daylight bombing, our Jaguar force was most effective against a wide variety of targets, flying more than 600 operational sorties over enemy territory, often in the face of heavy fire, without loss.

Our Tornado F3 fighters, in common with other Coalition aircraft mounting defensive air patrols, were not involved in any engagement with Iraqi aircraft. The Royal Air Force had procured the F3 to defend the United Kingdom against attacks by long-range bombers. In this conflict, however, the threat was primarily from modern, agile fighter aircraft operating close to their home bases in Iraq, and the few that flew were engaged by American and Saudi F-15 air superiority fighters. However, the potential Iraqi air threat caused us early in the crisis to improve the survivability and performance of the Tornado F3. Modifications already in the pipeline were greatly accelerated as a result of excellent co-operation between the RAF and Industry. The F3's role was to mount combat air patrols by day and night, mainly over Saudi Arabia, but towards the end of the campaign some patrols were flown within Iraqi airspace. The aircraft proved extremely reliable and flew a total of 2,600 sorties during the 7 months deployment. However, while none of the RAF air defence forces—fighter aircraft or Rapier batteries—were involved in action, they nonetheless made a most valuable contribution to the overall air defence screen and undoubtedly helped to deter Iraqi air attacks against Coalition bases and forces.

Our Victor, VC10K and Tristar tankers played a vital role in support of the Coalition air forces, extending the range of offensive aircraft and the endurance of air defence fighters. In the six-week air war, these aircraft flew over 730 sorties and off-loaded 13,000 tonnes of fuel to almost 3,000 aircraft. While most recipients were our own Tornados, Jaguars and Buccaneers, RAF tankers also dispensed fuel to 800 other Coalition aircraft, including Saudi Arabian Tornado ADVs, Canadian CF-18s and USN F-14s and A-6s. Much of the refuelling was conducted at night, and usually in radio silence to deprive the enemy of warning of the timing and direction of attacks.

Just before the air campaign began, the nature of Nimrod operations changed from the search for vessels seeking to break the embargo to the direct support of allied warships operating at the northern end of the Gulf. Together with aircraft from the United States Navy, they provided constant surface surveillance of these waters, and whenever they located a potentially hostile vessel, passed its position so that naval fixed-wing aircraft or helicopters could investigate and, if confirmed hostile, engage. During hostilities, the Nimrods flew 112 sorties over the waters of the northern Gulf, contributing significantly to both offensive and defensive naval operations.

The heavy involvement of our Air Transport Force of Hercules, VC10s and Tristars throughout the build-up phase continued during hostilities. Indeed, the hours flown by the force rose as the urgency for resupply by air increased. By the end of the conflict, the transport fleet had logged over 50,000 flying hours on operation GRANBY, having flown at more than twice their normal peacetime rate. The aircraft had carried 30,000 tonnes of freight and 66,000 passengers, consuming 54 million gallons of fuel on over 12,500 sorties. By any standards, this was a most impressive performance.

When hostilities began, there were 43 support helicopters in theatre: 19 Puma and 12 Chinook aircraft from the Royal Air Force, together with 12 Royal Navy Sea King helicopters detached from duties with the Royal Marine Commando Brigade. The Support Helicopter (SH) Force was employed in direct support of 1 (BR) Armoured Division, their primary allocated task being casualty evacuation. However, in the event the force operated in a variety of support roles, including the ferrying of prisoners of war back to allied internment camps. Before the start of the land offensive, the SH Force was engaged in Divisional training exercises before moving, in mid-January, to its Forward Operating Bases to the south and east of Hafar al Batin. Once the land battle began, the force continued to support the Armoured Division into Iraq and then into Kuwait. When hostilities ended, the helicopters had flown a total of 2,358 sorties and carried more than 1,261 tonnes of equipment and stores, and 17,773 troops and prisoners of war. Fortunately, they were not required much for casualty evacuation. The SH Force overcame many unique engineering and operational challenges to become a most effective support element of the British land forces.

The Royal Air Force Regiment provided the SH Force with integral sections of Gunners and a Landrover-borne defensive element. As the land offensive approached, reinforcements were moved up from Muharraq and the majority of No. 1 Squadron (RAF Regiment)'s armour, consisting of Scorpion and Spartan vehicles, was flown from Germany into the desert strip of Al Qaysumah. The Squadron re-grouped quickly, crossed the breach into Iraq with 1 (BR) Armoured Division and ended the war astride the Kuwait-Basra highway. The Royal Air Force Regiment strength in theatre rose to 1,000, representing 20 per cent of the Royal Air Forces's deployed manpower. As in previous conflicts, they responded rapidly to unforeseen circumstances and demonstrated a characteristic flexibility in performing a wide diversity of tasks.

In this section on the air campaign, I have dwelt, quite properly, on the operational aspects. However, I was also impressed by the achievements of logistics staffs in support of over 160 aircraft of 16 different types deployed in theatre. The establishment of large stockpiles of aircraft spares, weapons and fuel, and regular air resupply, ensured that there were no significant logistics constraints on our air operations. Moreover, the high availability and serviceability rates of our aircraft reflected the outstanding efforts of our ground crews and all those in a lengthy supply chain. In addition, I commend our engineering staffs for the extensive preparation work that they conducted in the early months of the Operation. As our aircraft had been optimised for war in the Central Region of Europe, they needed to be modified and enhanced to fit them for operations in the desert. A total of 242 different modifications were embodied in 303 aircraft, at a cost of over 300,000 service manhours.

#### NAVAL OPERATIONS

Once again, it is important to put the United Kingdom contribution into proper perspective. While we provided the second largest naval force after the United States, our ships represented less than 10 per cent of the total Coalition strength. Nevertheless, in some areas the Royal Navy played a proportionately much greater part than our numerical presence might imply; this necessitated full integration with the predominant USN and the transfer of tactical control of a number of our ships to USN Task Group Commanders. It is noteworthy that only the USN and Royal Navy took part in offensive maritime operations.

The overall plan envisaged that the Coalition naval force would move progressively further north to dominate the extreme northern Gulf, neutralise the Iraqi Navy, and conduct MCM operations and Naval Gunfire Support in preparation for the arrival of the main amphibious force off Kuwait. The Royal Navy's initial contribution was to provide two Type 42 destroyers, HM Ships GLOUCESTER and CARDIFF, which formed an important element of the forward air defence barrier protecting the three US Carrier Battle Groups, USS RANGER, ROOSEVELT and MIDWAY and their escorts, in the central Gulf. The Type 42s also supported surface surveillance operations in the north. The Iraqis had the capability to attack our ships with stand-off missiles launched from aircraft, ships and coastal batteries, which led SNOME to operate the remainder of his ships under the umbrella of the layered Coalition air defence established throughout the Gulf.

As the campaign progressed, the Primary Casualty Reception Ship, RFA ARGUS, was stationed close enough to the forwardmost ships to balance timely medical and airborne logistic support against acceptable risk, and was escorted by SNOME's Flagship, HMS LONDON, for added protection against air attack. It was from this position that RFA ARGUS was able to provide immediate medical assistance to the casualties sustained when USS TRIPOLI suffered mine damage. The rest of the British Underway Replenishment

Group of RFAs ORANGELEAF, FORT GRANGE and OLNA, together with the Forward Repair Ship RFA DILIGENCE, remained further down threat in the Gulf in company with HMS BRAZEN, while RFA RESOURCE and three LSLs SIR PERCIVAL, SIR TRISTAM, and SIR BEDIVERE held the reserve ammunition stocks for 1 (BR) Armoured Division. The MCM Group consisting of the Hunt Class vessels ATHERSTONE, CATTISTOCK, HURWORTH, DULVERTON and LEDBURY, together with their command and engineering support ships, HMS HERALD and RFA SIR GALAHAD, were poised in the southern Gulf. Subsequently, these supporting echelons moved further north to maintain the cohesion of the force.

The non-appearance of the Iraqi Air Force was as apparent at sea as elsewhere, and the only airborne attack to be mounted in the direction of naval units was on 24 January when Saudi fighters successfully engaged two Floggers and one Mirage F1 before they could launch their missiles. Consequently, while HMS GLOUCESTER and HMS CARDIFF contributed fully to air defence in the front line, it was in the prosecution of anti-surface warfare that the Royal Navy made most impact in the early stages of the conflict. Although only a small element of the total Coalition surveillance effort, Lynx helicopters from Royal Navy escorts flew nearly 600 sorties in the northern Gulf on search and interdiction operations against Iraqi naval units.

The first anti-surface action occurred on 29 January when RAF Jaguars detected Iraqi fast patrol boats heading off the Kuwaiti coast as part of a combined operation to attack the port of Al Khafji. Lynx from HM ships GLOUCESTER, CARDIFF and BRAZEN were launched to locate and engage the enemy flotilla with Sea Skua missiles, leaving two sunk or damaged and scattering the remainder which were attacked by fixed-wing aircraft as they sought shelter along the coast. Over the next two days, our Lynx successfully pressed home further attacks against Exocet-armed patrol craft. These incidents, together with continued Coalition attacks on enemy units during the subsequent 'Battle of Bubiyan Channel', effectively broke the back of Iraqi naval resistance and led the allied Naval Commander to declare Coalition sea control of the Gulf on 8 February. Thereafter, Iraqi units made only isolated attempts to operate at sea, all of which drew attacks from the air, with more successful engagements by Royal Navy helicopters, including four by the Lynx embarked in HMS MANCHESTER which took our tally of sunk or disabled enemy ships to at least ten.

HMS MANCHESTER had arrived in the Gulf at the end of January with HM Ships BRILLIANT, EXETER and BRAVE as part of Group YANKEE to augment and subsequently relieve the ships of Group X-RAY. A minor but nonetheless notable aspect of HMS BRILLIANT's arrival was the inclusion in her complement of members of the Women's Royal Naval Service who were serving in combatant ships in a war zone for the first time.

The greatest threat to our ships was posed by mines. Evidence of the scale of Iraqi mine stocks was well known from our involvement in clearance operations after the Iran/Iraq war, and we fully expected a very large number of both moored and more sophisticated ground mines to be laid in preparation for this war. In the Gulf itself, the presence of this weapon, like the potential threat of chemical and biological munitions as well as the residual threat from air launched anti-ship missiles, had to be considered in every aspect of naval operations. Ships and aircraft frequently spotted free floating mines throughout the Gulf, some of which demanded ships to take swift avoiding action before specialist Explosive Ordnance Disposal teams could deal with them.

The primary role of the Coalition MCM Force was to conduct pre-cursor mine clearance operations off the Kuwaiti coastline so that the USN battleships MISSOURI and WISCONSIN could close to bombard shore defences in preparation for a possible amphibious landing by the US Marine Corps. The initial mine clearance operations were related to a raid on Faylakah Island east of Kuwait City, codenamed Operation DESERT SLASH, which represented an integral part of the overall campaign deception plan. Early on 14 February, HMS HERALD and the five Royal Navy Minehunters met up with the USN MCM Group north of Bahrain to transit towards the operation area. Based on available intelligence, the optimum route to the designated Battleship Fire Support Area (BBFSA) had been identified, but was necessarily close to enemy held territory and so put ships at risk not only from the mines themselves but also from shore missile sites. Meanwhile, RFAs ARGUS, DILIGENCE, SIR GALAHAD and OLNA moved forward to provide close support for the Group. HM Ships LONDON, BRAVE and EXETER afforded air defence protection for these high value units, while HMS GLOUCESTER was assigned to escort USS MISSOURI. Clearance operations started on 15 February and were conducted without incident until the morning of 18 February when USS TRIPOLI, the USN MCM Command

ship, and USS PRINCETON, a Ticonderoga Class cruiser, were each struck by a mine. The extent of resultant damage was a stark reminder of the danger posed by a weapon which is widely available and often extremely effective, and which can be laid from a variety of platforms by a relatively unsophisticated enemy. Nevertheless, after a brief pause to regroup, continued progress enabled USS MISSOURI to enter the BBFSA on 23 February and commence bombardment of Faylakah Island the next day.

As our ships approached within 10 miles of the coast, the threat from enemy shore defences was of increasing concern and early on 25 February HMS GLOUCESTER detected on radar a fast-moving contact leaving the coastline 21 miles to the west. In less than a minute, the ship's Operations Room team swiftly assessed the contact as a Silkworm missile, posing a direct threat to allied naval units including the US battleship nearby, and fired two Sea Dart surface-to-air missiles which destroyed the incoming Silkworm. Although this incident represented the final action at sea before the suspension of hostilities, allied naval units could not afford to relax as the task of clearing mines from the approaches to Kuwait was effectively only just beginning.

The logistic support provided by the Royal Fleet Auxiliary at sea and the naval stores organisation ashore was critically important. Unlike the other two Services, the presence of the ARMILLA Patrol had ensured that an existing structure of stores support was already available in theatre. Throughout the initial phase, our ships continued to use the port of Jebel Ali as the main base support facility, although augmentation with Royal Navy Supply and Transport Service personnel and expansion of its facilities was necessary. RFA DILIGENCE, the Forward Repair Ship, remained alongside to carry out more complex maintenance and the fitting of equipment enhancements; but following the outbreak of hostilities, she sailed to provide similar support and a Battle Damage Repair capability, the latter being effectively used to assist USS TRIPOLI and PRINCETON after their ministrikes. Similarly, RFA SIR GALAHAD accompanied the MCM force to meet their engineering support requirements. RFAs OLNA, ORANGELEAF and BAYLEAF took the lead in replenishing our ships with fuel, and by the end of the campaign had supplied over 40,000 tonnes of diesel and 2000 tonnes of aviation fuel. Other Coalition tankers were used to fuel our escorts when the tactical situation demanded. RFA FORT GRANGE carried naval stores and ammunition as well as six months supply of frozen and dry foodstuffs, while RFA RESOURCE, primarily tasked to hold the UK land forces war reserve of ammunition, carried 8000 man months of frozen and dry provisions and NAAFI items. This balanced force of afloat support ships also exploited the utility of the LSLs as delivery vessels after they had off-loaded their ammunition at Al Jubayl. The contribution of the Sea King helicopters embarked in RFAs FORT GRANGE and ARGUS was vital in transporting high-priority items to front-line units as they advanced. In order to shorten what became a 500 mile supply chain, SNAME ordered the forward movement of the main support base from Jebel Ali to Bahrain. The availability and serviceability of Royal Navy ships and their equipment remained very high throughout the operation, and full credit must be given to the engineering and support staffs, predominantly civilian, who prepared and enhanced them.

#### SPECIAL FORCES OPERATIONS

United Kingdom Special Forces (SF), drawn from all three Services, were committed at an early stage in the campaign. This deployment developed into the largest and most significant UK SF operation since 1945. Operating in their classic strategic role they carried out long-range information reporting and offensive action missions in support of the overall allied campaign. Their area of responsibility included Western Iraq and the Kuwaiti theatre of operations (KTO). The forces deployed operated on foot, by vehicle and in helicopters in the worst weather conditions experienced in the area for 30 years. Troops had to endure climatic extremes which ranged from sandstorms through fog to nights where the cold was so intense that diesel fuel froze. In these arduous conditions re-supply was minimal due to enemy air defences and men were fighting in survival conditions. In this most testing environment it is a great tribute to the professionalism of all concerned that some patrols operated behind enemy lines for well over a month.

Their prime operational task was identified by General Schwarzkopf as countering the threat of Iraqi Scud missiles. This objective was achieved with outstanding success by the destruction of a number of fixed launcher sites, mobile launchers, command and control and air defence systems. This was done both by direct ground action and by the identification of targets for air attack. Quite apart from the damage wrought on Iraq's offensive ballistic missile capability, the psychological impact of these SF operations in

Western Iraq, hundreds of miles behind the front line, cannot be over-estimated.

In course of the operation, the SF had to close with the enemy and there were many individual acts of outstanding bravery. Four men died in action and four men were wounded. The intensity of some of the combat and the courage displayed is rightly recognised by the high proportion of decorations awarded to the Special Forces.

The Royal Marines, Soldiers and Airmen of the Special Forces who rose to these high standards displayed qualities of fortitude, determination and courage which were in the highest traditions of our Services and of the special place which the SF hold in those Services. They earned my own highest regard and there is no doubt that the contributions the SF made to the Allied success was of an order out of all proportion to their numbers. To protect the security of their operational methods, and as requested by the SF themselves, it is not proposed to publish further details of their operations, which made an outstanding contribution to the overall campaign.

#### THE LAND CAMPAIGN

Between the arrival of 1 (BR) Armoured Division's advance party on 5 December and the air move being complete on 11 January, units married up with their equipment and started training; time was short for this since the main allied preoccupation was to plan and effect a discrete move of the bulk of coalition armoured forces from an area south of Kuwait to one south of eastern Iraq, in accordance with the overall offensive plan. This meant planning for 1 (BR) Armoured Division to be switched from the tactical control of the US Marines in the east to 7 (US) Corps which would move west, without making any public declarations to this effect.

As the land offensive approached, the final UK ground force order of battle consisted of 1 (BR) Armoured Division, comprising 4 Brigade, 7 Armoured Brigade and the Divisional troops; the Logistic Support Group; and the Prisoner of War Guard Force. Tanks and Warrior infantry fighting vehicles in 4 Brigade were manned by 14th/20th Kings Hussars, 1st Battalion The Royal Scots and 3rd Battalion The Royal Regiment of Fusiliers, with artillery and engineer support from 2nd Field Regiment and 23 Engineer Regiment. In 7 Armoured Brigade, the Royal Scots Dragoon Guards and Queen's Royal Irish Hussars provided the armour whilst 1st Battalion The Staffordshire Regiment manned Warrior, with support for the Brigade coming from 40th Field Regiment and 21. Engineer Regiment. Combat support for the Division—reconnaissance, artillery, engineers and anti-tank helicopters—was provided by 16th/5th The Queen's Royal Lancers, 26th Field Regiment, 32nd and 39th Heavy Regiments and 12th Air Defence Regiment, together with 32 Armoured Engineer Regiment and 4 Regiment Army Air Corps. The Prisoner of War Guard Force came from 1st Battalion Coldstream Guards, The Royal Highland Fusiliers and the King's Own Scottish Borderers. In-theatre Battle Casualty Replacements were drawn from across the Army. Excluding in-theatre war reserves, the fighting equipment of the Division was 180 Challenger Main Battle Tanks, 260 Warrior infantry fighting vehicles, 72 M109 and M110 guns, 16 MLRS, 24 Rapier and 72 Javelin air defence systems, and 18 Lynx anti-tank helicopters.

On 14 January, 1 (BR) Armoured Division began the planned move forward from its training areas north of Al Jubayl to the Divisional assembly area, codenamed KEYES, 35 kilometres east of Hafar Al Batin, which was in the 7 (US) Corps Assembly area JUNO. This in itself was a mammoth task. Successfully moving the Division, its Forward Maintenance Area and its armour on low loaders, on a single road used by all the other allies, over a distance of over 200 kilometres and under conditions of operational secrecy, was achieved by the outstanding efforts of the Royal Army Ordnance Corps, Royal Corps of Transport and Royal Military Police units involved, together with excellent staff planning. On 26 January, I formally transferred the tactical control of 1 (BR) Armoured Division to 7 (US) Corps, and the Division was declared ready for offensive operations on 31 January when it had completed its move forward. The Division continued its final preparations and work-up until 14 February when it started to advance to its final assembly area, codenamed RAY, north-west of Hafar Al Batin. This move was completed two days later and was carried out under conditions of tight operational security as part of a comprehensive deception plan. The move included a passage of lines exercise with 1 (US) Mechanised Infantry Division as a rehearsal for the forthcoming break-in battle. Rapiers from 12 Air Defence Regiment were deployed to cover the Forward Assembly Area, while 2 Squadron 14 Signal Regiment (Electronic Warfare) were busy contributing to the intelligence picture on the enemy facing us. The overall aim was to outflank the main Iraqi forces in Kuwait by pushing northwards into eastern Iraq before engaging the Republican Guard armoured and mechanised divisions located just

to the north west and north of Kuwait, although we sought to deceive him into expecting our attack to be launched directly into southern Kuwait and by an amphibious landing from the sea.

We preceded offensive operations themselves by four days of extensive artillery strikes coupled with further deception tactics. The first British ground action of the war took place on 18 February when the Artillery Group of 32nd and 39th Heavy Regiments engaged enemy ground positions with M110 Self Propelled Guns and the new MLRS. On 23 February the Alternate Headquarters of 1 (BR) Armoured Division advanced to collocate with 1 (US) Mechanised Infantry Division's Tactical Headquarters. At this stage, 97 per cent of the Challenger main battle tanks, 98 per cent of our Warrior infantry fighting vehicles and M109 guns, and 90 per cent of our Lynx helicopters were serviceable and ready for action.

The ground offensive started at 0100 hours (GMT) on 24 February, deliberately in the way the Iraqi forces appeared to be expecting. Naval gunfire and amphibious feints from the Gulf, with frontal attacks through the defensive fortifications in southern Kuwait, were aimed at distracting Iraqi attention from the main thrust into eastern Iraq. The initial operations were by 18 (US) Airborne Corps on the left flank and MARCENT and the Joint Force Command (East) on the right; 1(BR) Armoured Division Harbour Parties and Main Body began moving forward shortly afterwards. It was planned that the main armoured thrust from 7 (US) corps, which included 1 (BR) Armoured Division, would begin its attack at least 24 hours after the ground operation began. However, because both 18 (US) Airborne Corps and MARCENT advanced much more quickly than was expected, 7 (US) Corps was ordered to attack on the afternoon of the first day. 1 (US) Mechanised Infantry Division conducted breach operations against the light enemy defensive positions throughout the remainder of 24 February, with 1 (BR) Armoured Division remaining at 2 hours notice to move once 16 lanes had been cleared though the enemy minefields facing their Forward Assembly Area.

The leading elements of 1 (BR) Armoured Division, 16/5 Lancers with 32nd and 39th Heavy Regiments providing fire support from the area of the breach, crossed into Iraq at 0200 hours on 25 February, followed at 1145 hours by 7 Armoured Brigade with the Queen's Royal Irish Hussars in the vanguard. The first contact with the enemy occurred at 1630 hours when the Brigade attacked and destroyed a major communication site, with 1st Battalion The Staffordshire Regiment fighting through this position and clearing enemy trenches and bunkers. An enemy armoured company counter-attacked but was defeated with the loss of all its tanks. 7 Armoured Brigade secured their initial objective (codenamed COPPER) by 2000 hours. 4 Brigade, with fire support from 2nd Field Regiment, then advanced towards its first objective (BRONZE) where it encountered pockets of enemy armour, artillery, infantry and logistic elements; the Brigade destroyed at least 12 tanks, 11 guns and 20 other vehicles and secured the position by 0200 hours on 26 February.

By daybreak on 26 February, 7 Armoured Brigade had destroyed 18 tanks, with anti-tank helicopters from 4 Regiment Army Air Corps taking their share, and defeated a weak enemy task force to secure objective ZINC, while 4 Brigade destroyed 50 more enemy vehicles and captured 2 Iraqi divisional commanders as it continued its advance to capture objective BRASS. The 1st battalion The Royal Scots, supported by tanks from the 14/20 Hussars, destroyed numerous armoured personnel carriers as it overwhelmed enemy infantry emplacements in the position. During the afternoon, the Queen's Royal Irish Hussars Battle Group led the 7 Armoured Brigade attack on objective PLATINUM with the Royal Scots Dragoon Guards providing flank protection. Simultaneously, the 3rd Battalion The Royal Regiment of Fusiliers assailed 4 Brigade's next objective (STEEL), destroying three battalions of artillery.

As it became clear that the enemy was either retreating or surrendering in large numbers, the Division was ordered to swing east and continue the advance to capitalise on its early success. Both brigades encountered isolated groups of enemy tanks, infantry and supporting elements, but quickly destroyed them on their way to securing objectives VARSITY and TUNGSTEN by mid-morning on 27 February. 4 Brigade was subsequently inundated by thousands of Iraqi soldiers fleeing from abandoned positions in the south and seeking to surrender. That night 7 Armoured Brigade was tasked to race east towards what had been considered the vital ground for the defence of Kuwait, the Matla Ridge north of Kuwait City. The objective (COBALT) was seized by 0500 hours as planned and, in the process, 2 FROG missile launchers, a FROG missile and a command complex were captured.

By this time the lines of communication were extremely stretched. The Royal Highland Fusiliers and the King's Own Scottish Borderers, part of the Prisoner of War Guard Force following up behind the leading brigades, were awash with prisoners and busy

supervising their move back to the divisional prisoner of war compound manned by the Coldstream Guards. Logistic resupply had been maintained despite a rapid advance across the desert over 200 kilometres from the initial breach. Moreover, communications were maintained throughout by the Royal Signals over the full length of the lines of communications, and the Royal Engineers and Royal Electrical and Mechanical Engineers had ensured that not only were all physical obstacles overcome but also that virtually the whole armoured vehicle fleet was still operational.

When hostilities were suspended at 0500 hours on 28 February, the Coalition commander ordered the land forces to remain in place and take up defensive positions, but to be prepared for further offensive operations should they prove necessary. Our troops were told to destroy all enemy military equipment within their areas of responsibility, while continuing the tasks of surveillance, reconnaissance and the collection and processing of Iraqi prisoners of war. Thereafter, both brigades moved to secure positions on the main road running from Kuwait City to Basra. The land campaign had lasted just short of 100 hours and in that time the Coalition force had routed an Iraqi army that originally had over half a million men. Mercifully, our own casualties were extraordinarily light, amounting to only 15 Army personnel killed and 43 wounded, although the tragedy of such small losses was magnified by the death on 26 February of nine soldiers from the 3rd Battalion, the Royal Regiment of Fusiliers, as a result of an air attack by friendly forces. Three of the soldiers were attached from the Queen's Own Highlanders, exemplifying how reinforcements were spread throughout the length and breadth of the Division.

#### MEDICAL SERVICES

One of the major concerns during the planning for Operation GRANBY was to seek to minimise the number of allied casualties. I was particularly conscious that Iraq possessed chemical weapons and had employed them against Iran and even against its own people. I therefore had to mobilise a significant medical presence in theatre and put in train a system for treatment of the injured back in the UK.

The medical plan ultimately resulted in the establishment of 1,800 UK hospital beds in Saudi Arabia, Bahrain and on board RFA ARGUS in the northern Gulf. The beds and their associated surgical facilities were formed as dressing stations and medical support troops, as well as general surgical and evacuation hospitals. We also developed a major aeromedical evacuation plan both within the theatre and from the theatre back to the UK, which involved the use of over 60 helicopters and fixed wing aircraft, some dedicated solely to aeromedical evacuation, together with arrangements to charter eight aircraft from civilian companies if the need arose. Regular medical personnel from all three Services staffed these facilities and were supplemented by the mobilisation of the Territorial Army (205 Scottish General Hospital RAMC(V)), Royal Auxiliary Air Force (4626 Aeromedical Evacuation Squadron) and other individual reservists with specialist skills.

In addition, we had to prepare to deal with the potentially large number of prisoner of war casualties. The Secretary of State for Defence invited other nations to assist in this task and Memoranda of Understanding were agreed with a number of countries. Canada, Norway, Romania and Sweden provided formed hospital units totalling 710 beds; and Denmark, the Netherlands, New Zealand and Singapore contributed surgical teams who worked in conjunction with UK and other national units. In addition a surgical team from Belgium worked in the RAF Hospital at Akrotiri in Cyprus.

Medical support was just one area where we received invaluable backing from the civilian community. Many of our medical personnel were reservists who readily volunteered. In addition, there was a considerable amount of preparatory work carried out at hospitals in the UK in anticipation of an influx of injured troops. Many people played a part, for example those who had retired from nursing and underwent refresher training to release specialist nurses for front-line duty, and those who freely offered transport and accommodation for relatives of injured servicemen returned to mainland hospitals. No-one was more relieved than I when the number of casualties was so low, but I take this opportunity to pay tribute to the dedication of the many who were instrumental in the establishment of comprehensive medical support facilities which, had the battle taken a different turn, would undoubtedly have saved many lives.

#### POST HOSTILITY EVENTS

After consultations with the British Government and other Coalition members, President Bush gave the order to suspend hostilities at 0500 hours GMT on 28 February. The limited resistance which the Iraqis mustered, almost certainly because of the

constant air attacks and, later, the artillery barrages to which they had been subjected, resulted in fewer than 250 allied servicemen being killed. 47 British men gave their lives during the Operation, 9 in the pre-hostilities stage, 24 in action, 10 during hostilities (not in action) and 4 subsequent to hostilities.

There was much clearing up to be done. The extensive minefields laid by the Iraqis in the northern Gulf had to be cleared, with the immediate priority being to open up a deep-water channel into the port of Ash Shu'aybah for military and support shipping. In reflecting our pre-eminence in MCM operations, it was particularly fitting that Royal Navy mine clearance divers should confirm the safety of the harbour before HMS CATTISTOCK, the first vessel to enter, led a USN warship and a merchant ship towards their berths. Once plans of the Iraqi minefields had been handed over, our minehunters continued to clear the waters, with MCM vessels from other nations joining the UK/US forces in this vital task. Further out to sea, the role of the frigates and destroyers reverted to that of enforcing sanctions under the United Nations resolutions, and two Nimrods remained at Seeb to support these operations.

During hostilities, the Iraqis had deliberately pumped oil into the northern Gulf, creating the largest ever oil slick—35 miles long and 10 miles wide. The flow had been stemmed by allied precision bombing of the pumping stations, and experts had already begun their efforts to contain the damage before the war ended. Their work is still ongoing. As the ground offensive started, we received reports that the occupying forces were setting fire to oil wells in Kuwait. Within a few days well over 500 oil heads were ablaze. The flames and plumes of smoke made an eerie backdrop to the ground operations in Kuwait, and thereafter remained a striking illustration of the vast amount of work which will be needed to restore the country to its pre-war state.

Our 12 prisoners of war were soon freed and quickly reunited with their families. The first British units returned to their home bases on 10 March but, in view of the continuing internal unrest in Iraq, an infantry battle group was retained in Kuwait and a squadron of Tornado GR1 aircraft held at Muharraq, together with two Victor tankers. Specialist teams from the Royal Engineers started to clear minefields and assisted in the recovery of essential services within Kuwait, while logistics personnel organised the return of the Division's equipment. On 3 April, the United Nations Security Council set out the terms for a formal ceasefire; Iraq indicated acceptance on 6 April and it came into force on 11 April. The focus of attention then turned away from the erstwhile battlefield towards the north and east of Iraq and in particular to the plight of the Kurdish refugees who were fleeing from the retribution being handed out by the Iraqi army. British forces soon became involved in providing humanitarian assistance and protection to the hundreds of thousands of Kurds who had fled to the mountains along the Turkish/Iraqi border. Operation HAVEN, spearheaded by 3 Commando Brigade Royal Marines, had begun.

#### PUBLIC INFORMATION AND MEDIA REPORTING

For me, one of the most enduring memories of the Gulf War was the television news film of a Tomahawk cruise missile flying towards its target in the centre of Baghdad. Throughout the preparation phase and during hostilities, media reporting of events was detailed and speedy, and we made a conscious decision early on to assist as best we could the many reporters and agencies. The Ministry of Defence negotiated with the Saudi Arabian authorities to obtain visas for some 170 British journalists, radio and television reporters and technicians so that they could cover British and allied military activities. A number of these people were formed into small Media Response Teams and were attached to major army formations in the field, went to sea in Royal Navy ships, or were based with Royal Air Force detachments. These teams were therefore able to report at first hand on the UK's participation in the conflict, and I compliment them for their generally accurate coverage. In addition to the specific information relayed by these teams, the broader picture was provided at daily press briefings in Riyadh and at other regular briefings notably in London.

The speed of modern satellite communications meant that the public sometimes received information on their television sets more quickly than I did through the military command chain. Media analysis of this information was extensive and provoked a lively debate on the war situation; however, there were occasions when media information from theatre was either inaccurate or incomplete; the resulting analysis was then at best speculative and at times misleading. It was vital to preserve the integrity of the Coalition deception plan, and thus a temporary news blackout was imposed when the land offensive began. The rationale for this was generally accepted by the media. Overall, Operation GRANBY was the most extensively reported campaign ever, and I was generally impressed by the quality of the reporting. It is clearly important that the public

are kept informed of the progress of military operations, but there is a balance to be struck if operational security is not to be put at risk. While there was some frustration amongst journalists, I believe in the circumstances we got this balance about right.

#### CONCLUDING REMARKS

Since the formation of the North Atlantic Treaty Organization in 1949, most of our forces have been trained for war as part of a large international alliance. However, since the Korean War, actual hostilities involving British forces have all been outside the NATO area and, Suez apart, conducted either alone or with Commonwealth allies. Operation DESERT STORM/GRANBY has proved that disparate forces can fight together effectively under a coalition flag. I must mention also the leading role of the United Nations. All allied military action was in accordance with resolutions passed by the Security Council, and the highly successful interaction between political leaders and military commanders which led to such an efficient expulsion of Iraqi forces from Kuwait has provided an encouraging blueprint for the future. This crisis has shown that the United Nations can respond effectively in the face of unprovoked aggression, and it is to be hoped that this example of international resolve will deter other potential aggressors.

Operation GRANBY served as a timely reminder that our Services may be called upon to operate in distant theatres at short notice. In keeping with the campaigns that over the centuries have built up the history and traditions of the British Armed Forces, our servicemen and women acquitted themselves on Operation GRANBY with resolve, professionalism and courage, which rightly attracted the praise of the allies in theatre and the public at home. They did a marvellous job; I am very proud of them and greatly privileged to have commanded them during this operation.

P B HINE, Air Chief Marshal, Joint Commander, Operation GRANBY

#### JOINT HEADQUARTERS

##### JOINT COMMANDER

Air Chief Marshal Sir Patrick HINE GCB ADC RAF

##### CHIEF OF STAFF

Air Marshal Sir John KEMBALL KCB CBE RAF

##### NAVAL DEPUTY

Rear Admiral R T NEWMAN (to 29 January 1991)

Rear Admiral A P WOODHEAD (from 29 January 1991)

##### LAND DEPUTY

Lieutenant General Sir Michael WILKES KCB CBE

##### DIRECTORS OF OPERATIONS

Air Vice-Marshal R E JOHNS CBE LVO RAF

Air Commodore T NATTRASS AFC RAF

Brigadier P J SANDERS CBE (from 18 February 1991)

#### THEATRE

##### COMMANDER BRITISH FORCES ARABIAN PENINSULA

Air Vice-Marshal R A F WILSON CB AFC RAF (11 August to 30 September 1991)

##### COMMANDER BRITISH FORCES MIDDLE EAST

Lieutenant General Sir Peter de la BILLIERE KCB CBE DSO MC\*

##### DEPUTY COMMANDER and AIR COMMANDER

Air Vice-Marshal R A F WILSON CB AFC RAF (to 17 November 1990)

Air Vice-Marshal W J WRATTEN CB CBE AFC RAF (from 17 November 1990)

##### SENIOR NAVAL OFFICER MIDDLE EAST

Commodore P K HADDACKS RN (to 3 December 1990)

Commodore C J S CRAIG DSC RN (from 3 December 1990)

## Subordinate Formations

## ROYAL NAVY

## FRIGATES/DESTROYERS

HMS BATTLEAXE Commander A C GORDON-LENNOX RN  
 HMS BRAVE Captain R M WILLIAMS RN  
 HMS BRAZEN Commander J C RAPP RN  
 HMS BRILLIANT Captain T D ELLIOTT RN  
 HMS CARDIFF Commander A R NANCE RN  
 HMS EXETER Captain N R ESSENHIGH RN  
 HMS GLOUCESTER Commander P L WILCOCKS RN  
 HMS LONDON Captain I R HENDERSON RN  
 HMS JUPITER Commander J W T WRIGHT RN  
 HMS MANCHESTER Commander A W FORSYTH RN  
 HMS YORK Captain A G McEWEN RN

## SUBMARINES

HMS OPPOSSUM Lieutenant Commander S W UPRIGHT RN  
 HMS OTUS Lieutenant Commander P B MATHIAS RN

## COMMANDER MINE COUNTER MEASURES TASK GROUP

Commander J C SCOLES RN (to March 1991)  
 Commander M C NIXON RN (from March 1991)  
 HMS ATHERSTONE Lieutenant Commander P N M DAVIES RN  
 HMS BICESTER Lieutenant Commander T A CURD RN  
 HMS BRECON Lieutenant Commander J R STAVELEY RN  
 HMS BROCKLESBY Lieutenant Commander N M C CHAMBERS RN  
 HMS CATTISTOCK Lieutenant Commander M P SHRIVES RN  
 HMS DULVERTON Lieutenant Commander C G WELBORN RN  
 HMS HURWORTH Commander R J IBBOTSON RN  
 HMS LEDBURY Lieutenant Commander F L SMYTH RN  
 HMS HECLA Commander H P MAY RN  
 HMS HERALD Commander P H JONES RN

## PATROL CRAFT

HMS ATTACKER Lieutenant A N WORMAN RN  
 HMS HUNTER Lieutenant S J TURNER RN  
 HMS STRIKER Lieutenant P W HARPER-HILL RN

## SUPPORT HELICOPTER FORCE

Commando Helicopter Operational Support Cell, Commander T J ELTRINGHAM RN  
 845 Naval Air Squadron, Lieutenant Commander M D SALTER RN  
 848 Naval Air Squadron, Lieutenant Commander N J NORTH DSC RN  
 846 Naval Air Squadron (embarked in RFA ARGUS), Lieutenant Commander L A PORT RN

## ROYAL MARINES

Detachment Commander, Captain S A PRITCHARD RM (to January 1991) Captain M V WILLS RM (from January 1991)

## ARMY

FIRST (BRITISH) ARMoured DIVISION Major General R A SMITH OBE QGM

Commander Royal Artillery, Brigadier I G C DURIE OBE  
 Commander Logistic Support Group, Brigadier M S WHITE

## 4TH BRIGADE Brigadier C J A HAMMERBECK

14th/20th King's Hussars, Lieutenant Colonel M J H VICKERY  
 1st Battalion The Royal Scots (The Royal Regiment), Lieutenant Colonel I A JOHNSTONE OBE  
 3rd Battalion The Royal Regiment of Fusiliers, Lieutenant Colonel A L D De HOICHEPEID-LARPENT

2nd Field Regiment, Lieutenant Colonel D E RATCLIFFE  
 23 Engineer Regiment, Lieutenant Colonel D J BEATON

## 7TH ARMoured BRIGADE Brigadier P A J CORDINGLEY

The Royal Scots Dragoon Guards (Carabiniers and Greys), Lieutenant Colonel J F B SHARPLES  
 The Queen's Royal Irish Hussars, Lieutenant Colonel A G DENARO  
 1st Battalion the Staffordshire Regiment (The Prince of Wales's), Lieutenant Colonel C T ROGERS  
 40th Field Regiment, Lieutenant Colonel R R H CLAYTON MBE  
 21 Engineer Regiment, Lieutenant Colonel J D MOORE-BICK

## DIVISIONAL TROOPS

16th/5th The Queen's Royal Lancers, Lieutenant Colonel P E SCOTT  
 12th Air Defence Regiment, Lieutenant Colonel P V VILLALARD  
 26th Field Regiment, Lieutenant Colonel M A CORBETT-BURCHER  
 32nd Heavy Regiment, Lieutenant Colonel P H MARWOOD  
 39th Heavy Regiment, Lieutenant Colonel P B WILLIAMS  
 32 Armoured Engineer Regiment, Lieutenant Colonel A R E HUTCHINSON  
 1st Armoured Division Headquarters and Signal Regiment, Lieutenant Colonel J E F KIRBY  
 4 Regiment Army Air Corps, Lieutenant Colonel F M WAWN

## SECOND/THIRD LINE SUPPORT

39 Engineer Regiment, Lieutenant Colonel R PRIDHAM  
 1 Armoured Division Transport Regiment, Lieutenant Colonel G J HAIG  
 4 Armoured Division Transport Regiment, Lieutenant Colonel D E FORREST  
 7 Tank Transporter Regiment, Lieutenant Colonel K M TAIT  
 10 Regiment Royal Corps of Transport, Lieutenant Colonel P CHAGANIS  
 27 Regiment Royal Corps of Transport, Lieutenant Colonel P D VERGE  
 1 Armoured Field Ambulance, Lieutenant Colonel M G BRAITHWAITE  
 5 Armoured Field Ambulance, Lieutenant Colonel B K REES-RUSSELL  
 22 Field Hospital, Lieutenant Colonel C J TOWN  
 24 Airmobile Field Ambulance, Lieutenant Colonel T J MAGEE OBE  
 32 Field Hospital, Colonel P LYNCH  
 3 Ordnance Battalion, Lieutenant Colonel A TAYLOR  
 5 Ordnance Battalion, Lieutenant Colonel M D WOOD MBE  
 6 Ordnance Battalion, Lieutenant Colonel T J MURRAY  
 6 Armoured Workshop, Major M R H LOWER  
 7 Armoured Workshop, Lieutenant Colonel R J CROUCHER  
 11 Armoured Workshop, Major A M MCPHERSON  
 187 (Tancred) Company Royal Pioneer Corps, Major C D LANGFORD  
 518 Company Royal Pioneer Corps, Major C CODE  
 908 Pioneer Labour Support Unit, Major M J WYKES

## PRISONER OF WAR GUARD FORCE

1st Battalion Coldstream Guards, Lieutenant Colonel I H MCNEIL MBE  
 1st Battalion The Royal Highland Fusiliers (Princess Margaret's Own Glasgow and Ayrshire Regiment), Lieutenant Colonel A J ROBERTS  
 1st Battalion the King's Own Scottish Borderers, Lieutenant Colonel C I DARNELL MBE

## THEATRE TROOPS

30 Signal Regiment, Lieutenant Colonel G N DONALDSON OBE (to December 90) Lieutenant Colonel S J KIDNER (from December 90)  
 33 Field Hospital, Colonel I S CREAMER MC  
 205 (Scottish) General Hospital (RAMC(V)), Colonel G N B JONES

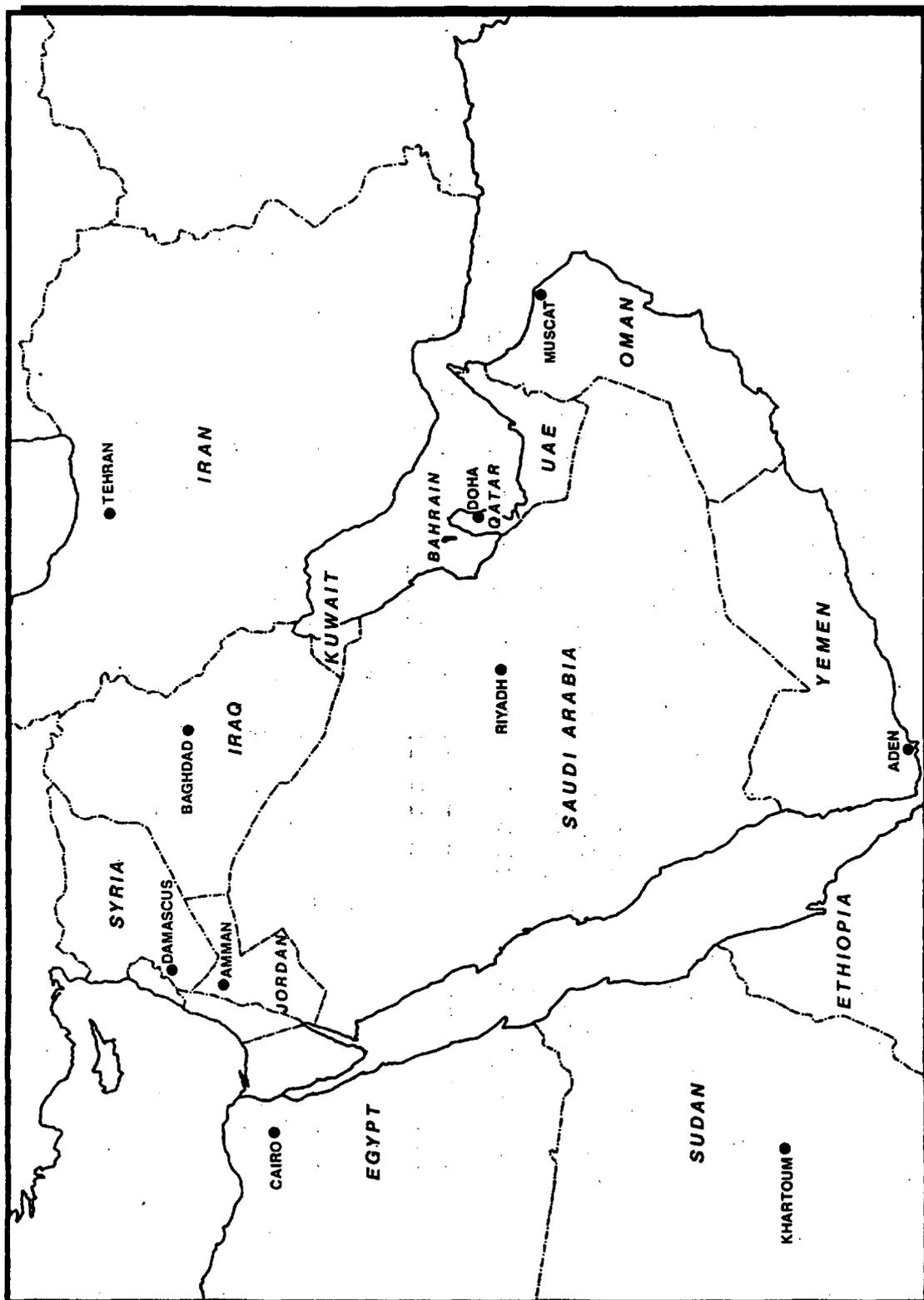
## ROYAL AIR FORCE

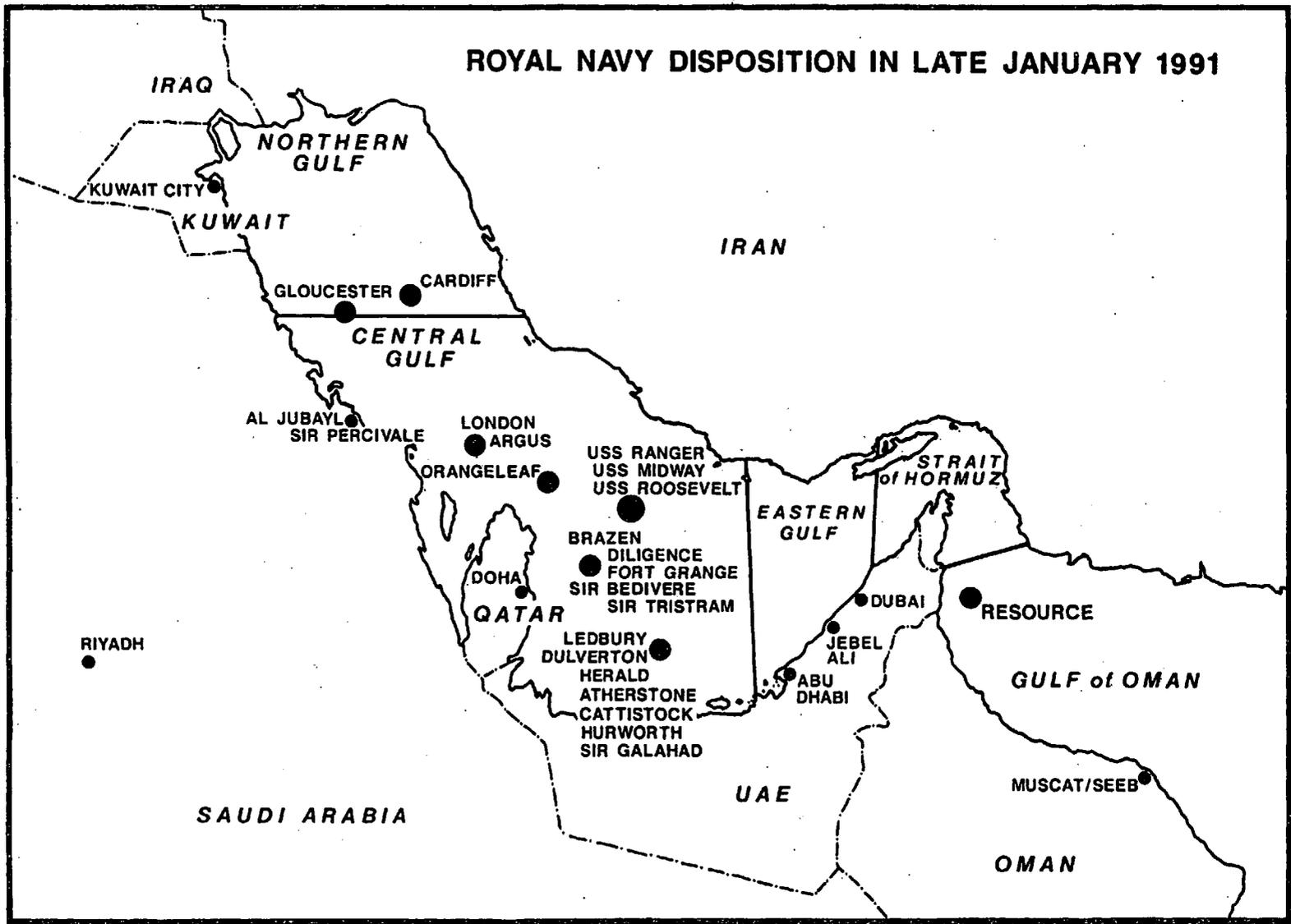
## DETACHMENT COMMANDER/OFFICER COMMANDING

Detachment Dhahran

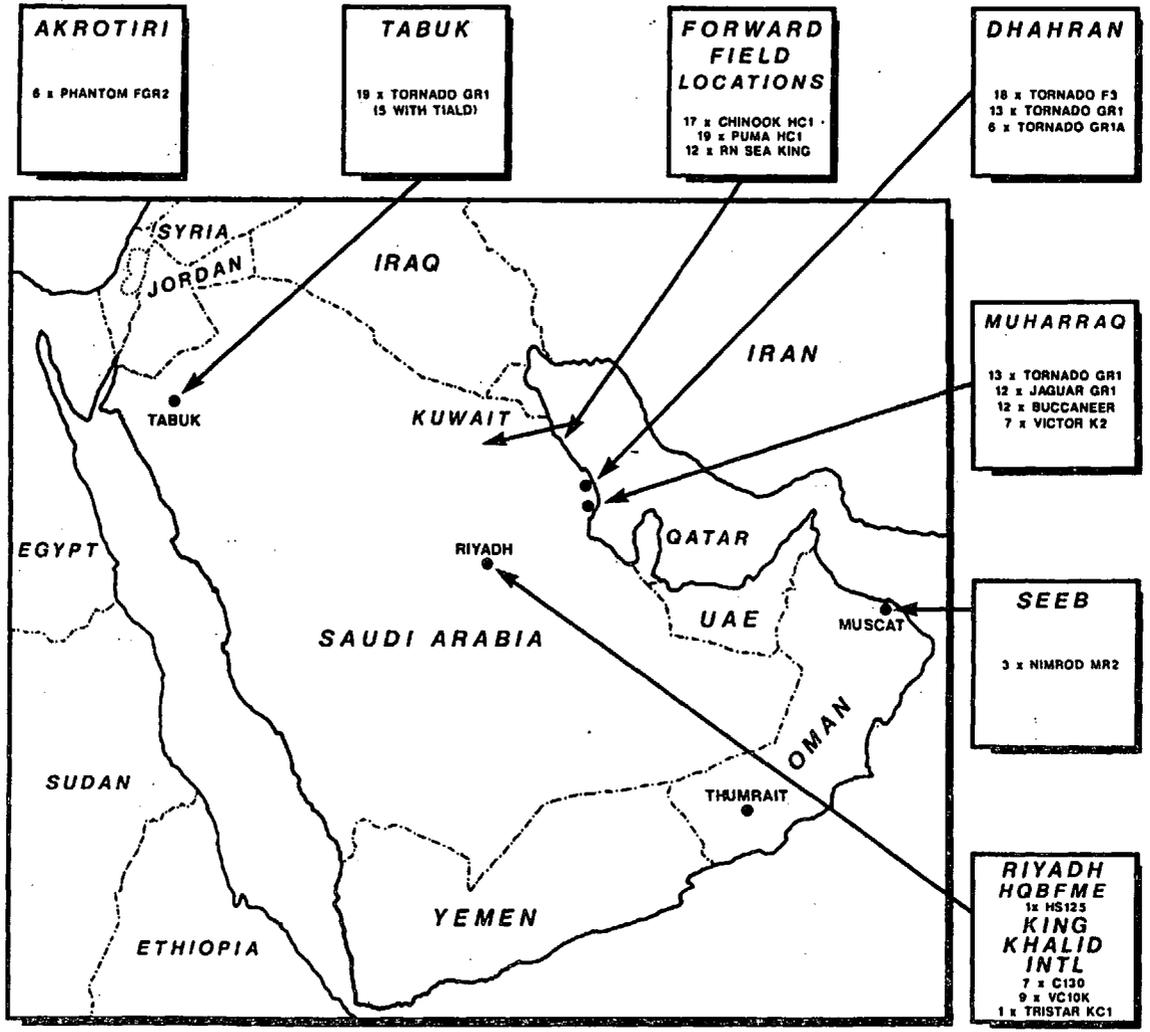
Group Captain R S PEACOCK-EDWARDS RAF, (to October 1990)

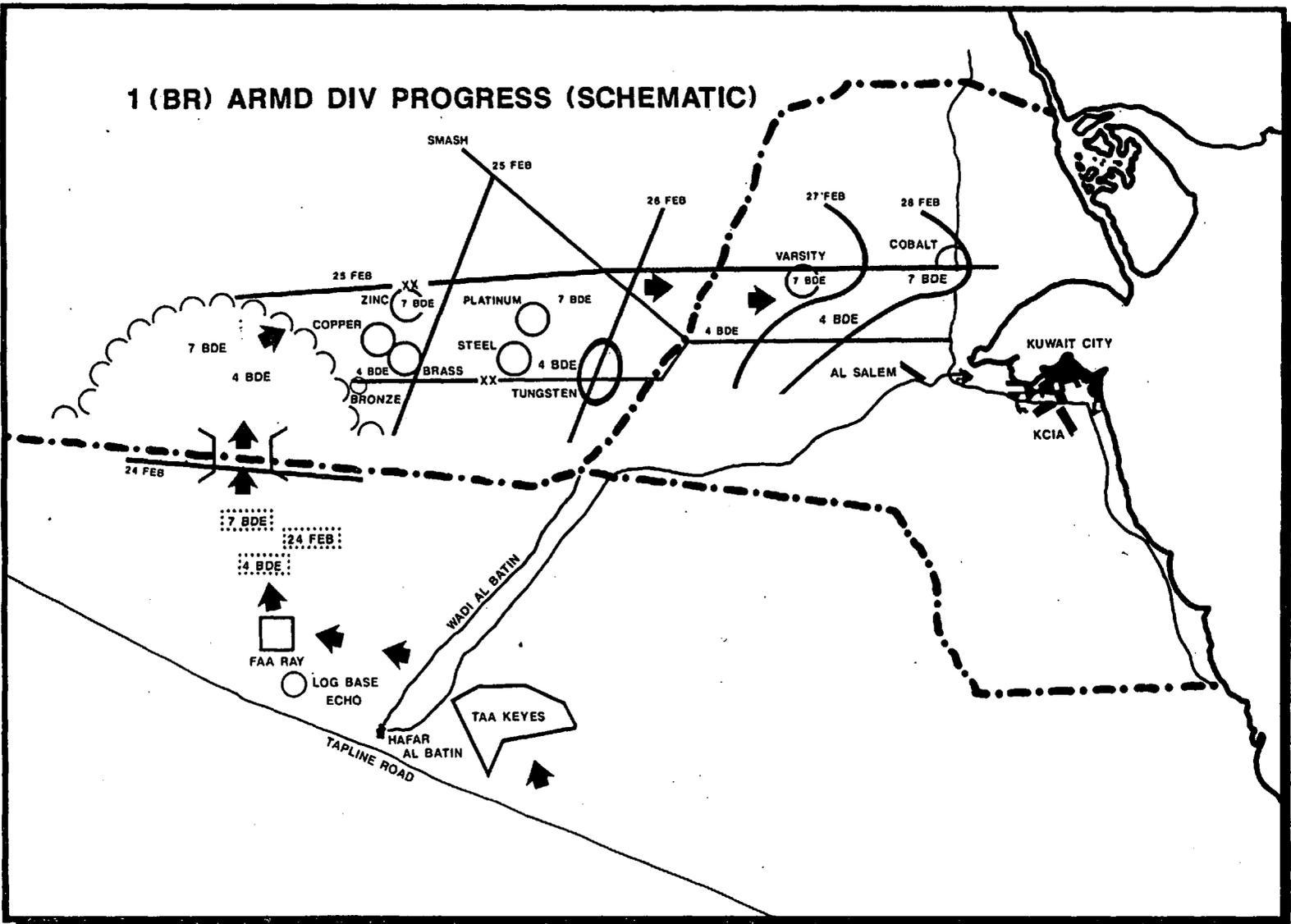






# AIR ORDER OF BATTLE





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