JAYHAWK!

The VII Corps in the Persian Gulf War



Stephen A. Bourque

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by

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Foreword

The last major conflict of the twentieth century, the 1990–1991 Persian Gulf War, represented war in transition. In part, it was a campaign similar to those fought in World War II, during which nation-states confronted each other with large armies and massive armored and mechanized forces. However, it also saw the widespread introduction of weaponry based on the microchip, thermal imagery, and the computer. The news media, forced to fill the ever-growing demand for visual information, broadcast and rebroadcast images of smart weapons hitting targets and of large numbers of forlorn Iraqi prisoners on their way to internment. The ground war's rapid conclusion, as well as the paucity of allied casualties, left many Americans with the impression that Operation DESERT STORM was a "Nintendo war"—won by overwhelming technical advantage and culminating in a simple drive through the desert. In the celebrations that followed the conflict, the American military basked in the sunlight of its apparently flawless execution and subsequent victory.

This study of the U.S. Army's VII Corps in DESERT STORM alters these images of easy and inevitable success. Despite a six-week air bombardment, the Iraqi Army, especially its *Republican Guard*, fought bravely and aggressively in the VII Corps sector. In many cases the Iraqis had numerical advantages and, in some cases, equipment advantages as well. Bad weather and extensive Iraqi defensive measures often mitigated the allied technological edge, while coalition command and staff processes, especially during the last days of the conflict, were stretched to the limit and perhaps on the verge of becoming ineffective. Yet, the allies inflicted a decisive defeat on the Iraqi Army. Well-trained crews led by technically and tactically proficient officers and noncommissioned officers used their superior equipment to overcome the friction of the battlefield. Pushed to their physical limits, fighting over extraordinary distances, often at night and in miserable weather, American and British soldiers nevertheless outfought their Iraqi opponents in one firefight after another.

Jayhawk! does illustrate the importance of investing in both education and training. The Army's intellectual preparation for war, with a clear understanding of tactical doctrine and operational art, guaranteed the best possible use of manpower and equipment. Similarly, the rigorously trained men operating that superlative equipment guaranteed that units would perform as designed. Lessons learned from this last great twentieth century conflict will resonate through the twenty-first century and beyond.

Washington, D.C.
28 May 2002

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The Author

Dr. Stephen A. Bourque served as an armor officer until his retirement from the U.S. Army in 1992. A graduate of Florida State University, Bourque holds an M.A. from Ball State University, an M.M.A.S. from the Command and General Staff College, and a Ph.D. from Georgia State University. He teaches history at California State University, Northridge.

Preface

In 1990 the U.S. military was at the highest state of readiness and training in its history. Critical to the success of the post-Vietnam Army were changes in how it fought (AirLand Battle Doctrine) and trained (Performance Oriented Training) and a manpower procurement system that accepted only the most motivated and trainable young recruits. Officers and noncommissioned officers, many veterans of the Vietnam War, initiated changes in training and equipment that led to the revitalized Army of the 1990s.[1]

These reforms culminated at virtually the same time the Soviet Union began to dissolve into almost a dozen independent republics, and Germany, separated into halves for fifty years, began the process of unification. Public opinion in both the United States and Germany no longer supported the stationing of so many American troops in Europe. In the spirit of all these changes, therefore, the U.S. government started to reduce its military presence there.

However, the fighting ability of the U.S. Army in Europe received a major test before the troops came home. Iraq invaded Kuwait in the summer of 1990. A hastily formed coalition rushed forces into Southwest Asia. Soon they were strong enough to prevent any additional Iraqi attacks southward into Saudi Arabia. These forces were not, however, robust enough to evict Saddam Hussein's troops from the small kingdom of Kuwait. In November 1990 the president of the United States ordered the U.S. VII Corps to leave its garrisons in Germany and deploy to Saudi Arabia. The arrival of its armor-heavy forces would finally give the coalition "an offensive option."

This is the story of the VII Corps from its deployment to Saudi Arabia, through its phases of preparation, its offensive against the Iraqi Army, and finally its return to Europe and the United States. Several important themes frame this narrative. First is the complexity of the VII Corps' activities. The entire operation, from its alert in November 1990 through its return in May 1991, consisted of thousands of separate activities and incidents. This work documents only a small percentage of these events and must leave the rest of the story to other historians.[2] The combat itself was complex: commanders now had an unheralded array of diverse and sophisticated units to employ in pursuit of their military objectives.

This complexity leads to a second theme of technology. The Persian Gulf War of 1991 appeared as a push-button war to the worldwide audience that watched it on television. The conflict seemed to consist only of smart bombs, precision-guided weapons, and efficient electronics. Such perceptions were illusory; air-delivered smart bombs did not destroy the Iraqi Army—coalition ground forces did. Even with the technology available, there were problems. Vehicles and equipment routinely broke down and had to be repaired; ground commanders used old-fashioned

maps, grease pencils, and radios to control their units; and tank commanders, riding the most modern of combat systems, still used World War II–era compasses to confirm their headings. In addition, tank gunners, in blinding rain and sandstorms, fought close-in tank battles that veterans of World War II would understand. The technological gadgets helped, but did not win the war. Soldiers won their battles on the ground in the confusion of close battle as they had for centuries.

A third theme concerns initiative. Throughout the entire period of this conflict, the Iraqi Army allowed the VII Corps to dictate the pace of operations. Saddam Hussein obviously made a political decision not to interfere with the American deployment to Saudi Arabia, thereafter ordering his army to adopt a defensive posture. Had the Iraqi Army been allowed other options, the ultimate military outcome of the war probably would have been the same, although the cost and political effects could have been much different. The Iraqi government's failure to respond to the VII Corps activities helped set the conditions for its ultimate defeat.

Command and control is another major theme. This short conflict exposed some rather rough edges in American large-unit organization and command procedures. Despite the Army's huge investments in staff training, decision-making aids, and communications equipment, by the end of the war senior commanders had only a slightly better perception of conditions at the front than their World War II counterparts had. In retrospect, the personalities of the senior commanders, rather than standardized procedures, dictated the context of VII Corps' command environment.

The attention paid to planning, training, and execution is the last but most important theme of this book. Western news reports portrayed the Iraqi Army as simply running away from the coalition's massive ground onslaught—nothing could be further from the truth. The Iraqi soldiers, especially those in the *Republican Guard Forces Command*, fought with singular bravery against the VII Corps. The massive air campaign did not destroy the Iraqi Army's will to fight. When faced with VII Corps' overwhelming combat power, Iraqi soldiers stood their ground and often counterattacked. However, while the Iraqi Army had enough good equipment, its soldiers simply did not know how to use it as well as did their American and British opponents. It was an absence of skill, not bravery, which doomed the Iraqi Army to defeat.

On the VII Corps side, the soldiers were extremely well trained and competent. At all levels, from senior officers to the lowest private, VII Corps soldiers knew their jobs. Intensive field and classroom training had prepared them for combat and, while not veterans of actual battle, they behaved as though they had been in combat for years. Before the offensive, VII Corps units maintained their equipment and continued to train with an intensity rarely noticed until nearly the day of the attack. In the face of the enemy, these soldiers performed a myriad of duties with professionalism and speed. Postwar statistics on battlefield performance, equipment maintenance, and even refugee assistance fully document this proficiency.

This story of VII Corps during the Gulf War looks at two different aspects of the conflict: First is a story of competence at the tactical level of war. Brigades, battalions, companies, platoons, crews, and individual soldiers demonstrated technical ability and personal initiative that marked this force as one of the finest organizations ever assembled by the United States, or any nation, on the battlefield. Their

performance reflects the years of dedicated education and training that the Army invested in individuals and small units in the years following the Vietnam War.

The second aspect of the story concerns large-unit command and control. Problems in organizational design, communications, and staff work remain hidden from most observers of the conflict. Yet these problems, which did not begin to surface until the latter hours of the conflict, had a profound effect on the campaign. In the end commanders did not employ their extensive staffs and, like nineteenth-century commanders, gave orders based on their own perceptions of the battle. Often, these perceptions were wrong.

I have received the help of a great number of people in both the government and academia in the preparation of this book. To each of them I owe a profound debt and offer my thanks in partial payment. Within the Army, my mentor and friend, Col. Greg Fontenot, urged me to take on this project and provided generous advice and assistance throughout the entire process. Lt. Col. Peter S. Kindsvatter, the VII Corps historian during the war, prepared superb notes, articles, and interviews that provided the firm foundation on which I built. General (Ret.) Frederick M. Franks, Jr., the VII Corps commander, was most gracious in his interviews and a great help in sorting through the complexities of his corps operations. Other officers generously took time to read all or parts of this manuscript. They include Col. Montgomery C. Meigs IV; Lt. Gen. Thomas G. Rhame; Brig. Gens. Stanley F. Cherrie, William G. Mullen III, and Robert Wilson; Cols. Mike Kendall and David Gross; and Lt. Col. John Burdan. Lt. Gen. Rupert Smith and Lt. Cols. Tom Camp and Melvin Mungo helped me to better understand the British contributions to the VII Corps campaign. Dr. (Col., Ret.) Richard Swain has been most gracious in trying to explain to me the intricacies and nuances of the theater's command relationships and in commenting on major portions of this book.[3]

At the U.S. Army Center of Military History, Brig. Gens. John S. Brown and John W. Mountcastle provided the command and financial support needed to complete this project. Dr. Jeffrey J. Clarke, the chief historian, reviewed the entire manuscript several times and made recommendations to correct my own often-incoherent prose. During the final phases of preparation, Dr. Robert K. Wright, Bill Epley, Frank Shirer, and Stephen E. Everett were essential in locating the information I needed to fill in the historical record. Special thanks to Diane Donovan, Sherry Dowdy, and Beth MacKenzie of Production Services, who worked miracles in transforming my ragged manuscript into a quality product.

Dr. Susan Canedy at the U.S. Army Training and Doctrine Command (TRADOC) labored through every chapter and provided me both moral and practical support to complete my initial manuscript and the dissertation that is the foundation for this book. John Romjue, also from TRADOC, served on the review panel and made numerous scholarly and structural suggestions to improve the quality of the text. This work could not have been completed without the help of Bill Stacy, Tammy Howle, and Warner Starke from the U.S. Army Forces Command History Office. Not only did they provide office space, classified storage, mail support, and research materials, they also gave the support and encouragement that helped get the job done.

I conducted most of the original research for this manuscript at the U.S. Army's Combined Arms Center at Fort Leavenworth, Kansas. Harlan Crouse declassified most of the documents I used. Without his ability to cut through the red tape, I would never have finished. Harlan personifies what is best about the Army's civil servants. His colleague, Dr. Dale Steinhauer, remains the master of the DESERT STORM archives. His help was essential in finding many of the documents I needed. At the National Archives at College Park, Maryland, Dr. Timothy Nenninger was instrumental in identifying and obtaining records from the U.S. Army Central Command and a constant supporter of my scholarly efforts. The XVIII Airborne Corps historian, Cynthia Hayden, graciously answered innumerable questions about corps documents and operations.

The original manuscript began as a dissertation for Georgia State University. My good friend and mentor, Dr. Bob Sellen, encouraged me to take on this project and stick with it. Before his untimely death, he read and commented on most of the manuscript's chapters. His enthusiasm and advice are greatly appreciated and sorely missed. Drs. Gerry Davis and Don Reid stepped in right after Bob's death and worked to keep me on track. Their friendship, advice, and support have been essential ingredients of this book. I finished the manuscript at California State University–Northridge, where my chair, Dr. Charles Macune, gave this wandering scholar the moral support and guidance he needed to complete this complex task. University staff members Dan Wakelee, Maria Tauber, Sue Mueller, and Kelly Winkelblack were essential in providing me the administrative support I needed to operate within the university's structure. My students have been a major source of my motivation and inspiration. I appreciate them more than they will ever know.

I owe a special debt to my wife, Debra Anderson. Also a DESERT STORM veteran, she has had to relive that experience by reading and rereading this manuscript several times over the last few years. This work would never have been completed without her involvement and enthusiastic support.

Finally, in spite of my best efforts, I know I have not covered every action and event with the accuracy or detail I should have. I hope other scholars will be able to build on my narrative and satisfactorily explore the details of this complex operation. Of course, for any errors of omission or fact, I assume full responsibility. The views expressed in this book are those of the author and do not reflect the official policy or position of the Department of the Army, the Department of Defense, or the U.S. Government.

Camarillo, California
28 May 2002

STEPHEN A. BOURQUE

[1]Rick Atkinson, *The Long Gray Line* (Boston: Houghton Mifflin Co., 1989), and James Kitfield, *The Prodigal Soldiers* (New York: Simon & Schuster, 1995), are good sources for the Army's changes in the 1970s and 1980s.

[2]For example, Stephen P. Gehring, *From the Fulda Gap to Kuwait: U.S. Army, Europe, and the Gulf War* (Washington, D.C.: Government Printing Office, 1998).

[3]I've listed ranks according to the period during which the officers provided assistance to me. Many went on, of course, to achieve higher rank. Colonel Meigs, for example, rose to four-star general and commander of U.S. forces in Europe.

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Illustrations courtesy of the following sources: cover, 6, 10 (*bottom*), 22, 23, 25 (*left/right*), 37, 40 (*top/bottom*), 41, 87 (*left*), 94, 105, 106, 107, 120 (*top*), 123, 130 (*top/bottom*), 138, 139, 140, 153, 176, 187, 200, 211 (*bottom*), 245, 246, 247, 254, 256 (*top*), 261 (*top/bottom*), 272, 281, 290 (*top/bottom*), 304, 312, 353, 359, 365 (*top/bottom*), 394 (*top*), 415, 423 (*top*), 444 (*top/bottom*), 445 (*top/bottom*), 447, Defense Visual Information Center, Moreno Valley, Calif.; 11 (*right*), 43, 120 (*bottom*), 163, 329, 334, Public Affairs Office, Military District of Washington, Washington, D.C.; 7, 387, Museum Division, U.S. Army Center of Military History; 355, Command Historian, U.S. Army, Europe, and Seventh Army; 36, 195, George Bush Presidential Library, College Station, Tex.; 79, 82, 93 (*top*), 97, Maj. (Ret.) Stephen A. Bourque; 60, 156, 157, 389, 450 (*top/bottom*), Capt. (Ret.) Kenneth Pope. All other illustrations from Department of the Army files.

JAYHAWK!

The VII Corps in the Persian Gulf War

1

Background: VII Corps in Europe

The Army Corps

The U.S. VII Corps that campaigned during Operation DESERT STORM was the product of almost two hundred years of military theory, evolution, and practice. Historians often credit Napoleon Bonaparte for developing the original army corps as a means of controlling the multiple divisions of his *Grand Armée*. Each corps, with its own infantry, cavalry, and artillery, was in itself a small army. A corps could march and fight in support of a concentrated effort or be detached for a special mission. Napoleon's ability to march his corps along multiple routes and then concentrate them in time for a decisive battle gave him an early advantage over his opponents in the European wars of the early nineteenth century.[1]

In the United States, President Abraham Lincoln directed the first organization of the U.S. Army's fighting divisions into corps on 8 March 1862. His order directed Maj. Gen. George B. McClellan to organize the Army of the Potomac into five corps of three divisions each.[2] These corps were essentially tactical organizations designed to execute the directions of the army commander. There was no staff to assist the corps commander, and normally he had no cavalry or artillery of his own to influence the battle. The corps commander was simply an executor of the army commander's plan.[3]

That focus and structure continued through the Spanish-American War and World War I. By World War II, the corps commander had a staff, a small contingent of corps troops, his own corps artillery, and the control of three to five divisions. During the war tank-destroyer battalions, mechanized cavalry groups, engineer units, and additional artillery appeared in the order of battle as the need arose. Above the corps echelon, the controlling field army headquarters routinely assigned or reassigned these divisions and independent units depending on the corps' mission and tactical situation.[4] The mission of the corps commander was primarily tactical: employing his elements in the right combination to defeat the enemy on the battlefield.[5]

The corps remained a tactical unit during the Korean War, but in addition to the maneuver divisions the Army routinely assigned other units. Now the typical corps had an engineer brigade, a signal battalion, an armored cavalry regiment, a tank regiment, and corps artillery in addition to the three or more divisions it

directed. The corps remained a tactical unit with no responsibility beyond the immediate tactical area.[6]

By the 1980s, following the great debate that resulted in the development of AirLand Battle Doctrine, the corps took on a greater degree of importance. Its tactical role on the battlefield was much larger. In addition to directing the close combat of ground divisions, the corps commander was also responsible for "deep operations" with his long-range aviation, artillery, and signal intelligence capabilities. The corps also replaced the World War II field army as the primary agent of operational maneuver.[7] With more logistics units and responsibilities, the corps commander now performed a critical combat service support role in the theater of operations.[8]

As a result of those mission changes, the U.S. Army corps of the 1990s was a large organization, with most of its combat and combat support elements organized into division and brigade commands. In addition, now the corps often had personnel, finance, and civil affairs units as well as a large corps support command.[9] In size it was comparable to the largest World War II field armies.

VII Corps, 1862–1945

The first U.S. VII Corps was Maj. Gen. John A. Dix's command, formed on 1 June 1862 at Fort Monroe, Virginia.[10] This unit never took to the field and was little more than a fortress command. In January 1864 the War Department transferred the "VII" designation to Maj. Gen. Frederick Steele's command in Arkansas.[11] Two-thirds of his "Frontier Division" were Kansas troops, bringing with them the appellation "Jayhawkers," the name for pre–Civil War free-soil guerrillas in Kansas and Missouri.[12] Although the Army disbanded this particular organization in August 1865, the nickname would follow corps commands having the number seven into the twentieth century.

When the war with Spain began, the Army again found it necessary to reestablish the corps structure. General orders in May 1898 established seven of these commands, each with a major general in charge. Each corps had three infantry divisions of three brigades each, for a total of 30,000 soldiers. The Army planned to attach cavalry and artillery to these corps according to the needs of the campaign. The VII Corps' first assignment, with the old Confederate cavalryman Maj. Gen. Fitzhugh Lee in command, was to Tampa, Florida, to prepare for the invasion of Cuba. Departing troops made Tampa much too crowded, so Lee assembled his command at Camp Cuba Libre outside of Jacksonville instead. Lee quickly got down to business and organized one of the most efficient commands in the Army. He was soon preparing for his mission of attacking Havana. Rather than attacking, the VII Corps administratively moved from Jacksonville to Savannah during the autumn of 1898. Lee's command moved to Havana in 1899 to enforce the provisions of the armistice following the quick capitulation of the Spanish Army after the Battle of San Juan Hill. However, without a conflict, the War Department once again disbanded the VII Corps.[13]

The Army officially traces the lineage of its armies, corps, and divisions as far back as the First World War.[14] The VII Corps again joined the rolls of the active

Army in August 1918 in the Vosges Mountain town of Remiremont, France. Its first commander, Maj. Gen. William M. Wright, began with the administrative (but not operational) control of four divisions attached to the French Seventh Army. On 8 November the U.S. Army Expeditionary Forces general headquarters assigned the VII Corps headquarters to First Army, where it took control of five different divisions and began preparing for combat operations. The collapse of the German front and the Armistice on 11 November again led to a change of assignments as the VII Corps came under the command of the U.S. Third Army on 22 November. A week later it moved into an occupation zone in the German Rhineland, centered on the towns of Trier, Saarburg, and Bitburg. In July 1919 the corps returned home to its formal demobilization at Camp Upton, New York.[15]

On 25 November 1940, the VII Corps, again reactivated, became the general headquarters for three National Guard divisions at Fort McClellan, Alabama.[16] In September 1941 the corps fought as part of the "Red Army" during the Louisiana Maneuvers, the Army's first large-scale exercises since World War I.[17] From December 1941 until September 1943, it directed the training of units, first in San Jose, California, and later in Jacksonville, Florida. Finally, in September 1943 the VII Corps headquarters moved to England and began preparing for the liberation of France. Maj. Gen. J. Lawton Collins took command in February 1944 as the training for the upcoming invasion intensified.[18]

"Lighting Joe" Collins led VII Corps in its first combat action of the twentieth century. Ultimately controlling six divisions, Collins secured the right flank of the Allied landing on the Cotentin Peninsula during the invasion of France in June 1944. By the end of the first day of combat, one of its divisions had stormed ashore on UTAH Beach to link up with the airborne divisions that had dropped farther inland the night before. By 27 June Collins' troops had cleared the entire peninsula and seized the heavily defended port of Cherbourg.[19]

With the peninsula cleared of German soldiers, VII Corps moved south to join the breakout from the Normandy beachhead. With three infantry divisions, the corps threw itself into the *bocage*, or hedgerow, country of western Normandy. For two weeks the corps' divisions were unable to penetrate the tenacious German defenses. Finally, in mid-July Lt. Gen. Omar Bradley, the First Army commander, reduced the width of the corps' sector to only four and a half miles and added two armored divisions and an infantry division to Collins' force. Following a massive air bombardment on 25 July that mistakenly killed or wounded 550 Americans as well as hundreds of German soldiers, VII Corps attacked. By the evening of the twenty-seventh, its armored divisions had passed through the forward infantry and ruptured the German *Seventh Army*'s defenses southwest of the town of St. Lô.[20] By 3 August the VII Corps was at the village of Mortain, just as the Germans launched a desperate counterattack to restore the integrity of their Normandy defenses. By 7 August Collins had defeated the attack of the four panzer divisions in what had constituted the most important German offensive operation against the Americans before the Ardennes offensive in December.[21]

By 13 August VII Corps was back on the offensive, attacking into the Argentan-Falaise Pocket. In five days of combat VII Corps captured over three

thousand Germans and destroyed a large amount of enemy equipment.[22] Then the corps, as the rest of the American First and Third Armies, moved from the attack to the pursuit. By 25 August the VII Corps, now controlling one armored and two infantry divisions, was along the Seine River south of Paris. From there, it was a race to the German border, slowed only by a lack of fuel. By 10 September VII Corps had liberated the Belgian city of Liege and secured a sector just west of the German border.[23]



General Collins, Shown Here in July 1952

Collins continued to push the VII Corps against the German defenses along the border in September and October with little success. In November the corps became the First Army's main effort, an attack through the Hürtgen Forest to seize the German city of Köln.[24] For this unenviable task Lt. Gen. Courtney H. Hodges, the First Army commander, gave VII Corps three infantry divisions, a regimental combat team, an armored combat command, and a mechanized cavalry group. The Germans defended the forest with tenacity, and by 16 December VII Corps and the rest of First Army had little to show other than a few miles of forest and over thirty thousand soldiers killed, wounded, or missing.[25]

The VII Corps' attacks finally came to a halt with the German offensive in the Ardennes Forest on 16 December. On 21 December First Army ordered VII Corps to turn over its sector to Ninth Army in the north, move west, and counterattack against the German penetration. With two infantry and two armored divisions, the corps moved into the line along the Ourth River, blocking the German assault toward the Meuse River. By 24 December Collins' entire corps was heavily engaged with a German panzer corps and by the twenty-sixth had permanently halted its westward advance.[26]

The VII Corps joined the Allied counterattack that began in early January 1945. At the beginning of the counteroffensive, Collins' command contained almost one hundred thousand soldiers and included 2 armored and 3 infantry divisions, as well as 12 battalions of corps artillery. Collins, attacking from the north of the German bulge, linked up with Lt. Gen. George S. Patton's Third Army, attacking from the south, on 17 January 1945. After a few more days of battle, First Army pulled VII Corps out of the line for rest and refitting.[27]

On 22 February the VII Corps, now with three infantry divisions, an armored division, and a mechanized cavalry group, returned to battle. Collins, as part of



"Sherman Tanks Passing Streams of German Prisoners," St. Lo, France, WWII, by Ogden Pleissner

Operations GRENADE and LUMBERJACK, crossed the Rur River, captured the city of Düren, and cleared the western portion of Köln by 7 March. Shifting its combat power south across the Rhine and into the Remagen bridgehead, VII Corps broke into the open on 24 March. With an armored division in the lead, VII Corps attacked to the west and north to encircle the Ruhr Pocket and its 350,000 German defenders. From there, the corps continued across Germany, arriving at the Mulde River on 17 April. A week later the corps was in contact with the Russian Army, which occupied the other side of the river.[28]

Cold War, 1945–1990

Without the need for ground combat against Japan, the VII Corps headquarters returned to the United States and was disbanded at San Francisco in March 1946.[29] The deactivation would not last long, as the North Korean attack on South Korea in June 1950 caused a stir in war-weary Europe. Many Europeans, seeing the potential for a Communist assault across the new Iron Curtain, believed it was time to coordinate the West's defenses. They accepted President Harry S. Truman's offer to deploy American troops to help defend Europe, and VII Corps returned to active duty in 1951, moving back to Europe as one of Seventh Army's two corps commands.



MAP 1

For the next thirty-five years the VII Corps headquarters directed the planning and training activities of a mixture of combat units defending a sector of the East German–Czechoslovakian border. From the beginning the headquarters was in the Baden-Württemberg city of Stuttgart. Budget and political considerations affected the composition of the VII Corps, as divisions and brigades returned to the United States or deployed to Europe to improve the corps' combat capability. By 1990 the

1st Armored Division in Ansbach, the 3d Infantry Division in Würzburg, the 2d Cavalry in Nürnberg, the 1st Infantry Division (Forward) in Göppingen, and the 11th Combat Aviation Brigade in Illesheim were the major combat forces at the VII Corps commander's disposal.[30] In addition, three brigades of corps artillery, an engineer brigade, and numerous other combat support and combat service support organizations rounded out the command.[31]

Year after year corps units planned and practiced for defensive operations in the Coburg Gap, the Hof Corridor, and the Cheb Approach, the logical Warsaw Pact attack avenues into the southern portion of the Federal Republic of Germany. In most cases these defensive plans were focused only on stopping an attack within their zones. Proposals for dramatic corps maneuvers or offensive operations to the east were rare.[32] The corps' primary role was to coordinate the divisional plans and feed reinforcements from the United States into the fight. In 1969 this defensive planning took on a higher degree of sophistication with the introduction of the REFORGER (Return of Forces to Germany) exercises. Now units such as the 1st Infantry Division from Fort Riley, Kansas, practiced deploying to Europe, picking up combat equipment stored in bunkers in southwest Germany, and joining the corps' fight.[33]

During this period VII Corps units rotated through an annual series of exercises and training events. The exact nature of these activities changed as the corps changed in composition. In the 1950s it was primarily an infantry force with a handful of armored battalions. By the mid-1970s, the corps' combat power had changed to a balanced mix of tank and mechanized infantry battalions.[34] The 1990 version of the VII Corps possessed some of the latest technological weaponry, with most ground combat units mounted on new M1 series tanks or M2/3 series fighting vehicles. All of the corps artillery was self-propelled. Furthermore, the introduction of aviation brigades into the corps and division force structure created an additional combat dimension.

Increasing sophistication meant commensurate needs to increase training and maintenance. Firing ranges at Grafenwöhr and maneuver courses at Hohenfels were the primary training facilities for VII Corps troops. Careers and reputations were made and broken on Tank Table VIII, small-unit drills, and exercises such as the Platoon ARTEP.[35] Units also conducted cross-country maneuvers on the German countryside in the fall and winter. The annual REFORGER exercises were the largest of many similar events.[36]

In the VII Corps area, most of the 2d Armored Cavalry patrolled the East German–Czechoslovakian border from an area west of Coburg south to Passau. Twenty-four hours a day, seven days a week, ground and air patrols observed the border zone and watched for any indication of a Warsaw Pact attack. That situation changed in 1989 as the borders between East and West Germany opened, allowing free travel between the two states. With the end of the division between the two sectors, there was no further need for border patrols. The commander of the U.S. Army, Europe (USAREUR), General Crosbie E. Saint, directed his corps commanders to halt all border surveillance operations in March 1990.[37]

Lt. Gen. Frederick M. Franks, Jr., had taken command of the VII Corps in August 1989. Few active officers in the Army could match Franks' record as a



Abrams Main Battle Tank; below, *Bradley Fighting Vehicle*





General Franks



General Saint

commander of armored units. He had spent most of his career as a cavalryman, leading units from platoon through regiment. In Vietnam, Franks had served as operations officer of the 2d Squadron, 11th Cavalry, and later professed that ten months' combat was equal to three or four years of peacetime operational experience. But the experience had also impressed on him the value of combat basics: marksmanship, equipment maintenance, and tactics.[38] In 1982 Franks returned to the 11th Cavalry, now V Corps' first line of defense in Germany's Fulda Gap, where he served as its commander until 1984. After an assignment at Fort Leavenworth, Kansas, he returned to Germany in 1987 as the commander of the 1st Armored Division, the position he held until he took command of the VII Corps.[39]

Several important threads made up the core of General Franks' career. Most important was his service in the cavalry. Cavalrymen, whether ground or air, develop a unique character. In mobile warfare they are the first to come to blows with the enemy. They pride themselves on their flexibility and aggressiveness and are often called upon to serve on independent missions. Service in these self-contained, combined-arms units places a premium on leadership and initiative. Cavalry troopers consider themselves the elite of the mounted force: "The cavalry is not a branch, it's a state of mind."[40]

Another thread that ran through Franks' career was military education, which received great emphasis in the post-Vietnam Army. Franks applied his master's degree in English from Columbia University to teaching cadets at West Point. He worked at the U.S. Army Training and Doctrine Command in the late 1970s and

early 1980s, developing AirLand Battle Doctrine and its matching force structure. He ran the Army's Command and General Staff College at Fort Leavenworth (1987) and was instrumental in implementing small-group instructional techniques in the Regular Course and a staff procedures course for senior captains.[41] In addition, Franks oversaw the expansion and refinement of the School of Advanced Military Studies (SAMS) into one of the most important educational institutions in the Army. Finally, he commanded one of the Army's premier training establishments, the 7th Army Training Command (ATC).[42] The 7th ATC supervised all the major training activities in Europe and, until the advent of the National Training Center (NTC) at Fort Irwin, California, ran the most sophisticated training facilities in the Army at Grafenwöhr and Hohenfels.

Franks' wartime experiences became part of his character. A North Vietnamese hand grenade had ripped off part of his left foot during the 11th Cavalry's attack into Cambodia in 1970. Follow-up surgery removed the rest of his damaged appendage. Rather than accept a disability discharge, however, Franks fought to stay on active duty.[43] Twenty-one months in Valley Forge Hospital, living with his own pain and the physical and emotional traumas of his comrades, forged a determination to "get it right" the next time.[44] He sometimes drove aggressive, but less experienced, subordinates mad with his attention to detail.[45] But as Franks, who bore on his shoulders the responsibility for the success of the corps, pointed out after the Gulf War:

> I think commanders need to be tactical problem solvers. They need to have their heads in the game. They need to be working all the time, ...constantly gathering information, probing for information, looking for information and synthesis. More than analysis and synthesis, grabbing bits and pieces of information, [is] making an inductive leap to a conclusion; and then deciding whether you need to act on that conclusion or not. Sometimes, the more senior you get, the less that answer is yes.[46]

The new VII Corps commander did not arrive in Germany alone, but brought many trusted professionals to help him. His chief of staff, Brig. Gen. John R. Landry; artillery commander, Brig. Gen. Creighton W. Abrams, Jr.; and operations officer, Col. Stanley F. Cherrie, had all worked for Franks at Fort Leavenworth. Cherrie had spent time with Franks at Valley Forge Hospital and had also served as his chief of staff in the 1st Armored Division.[47]

The collapse of the Warsaw Pact and the impending reunification of Germany changed much more than border operations. In 1989 the entire USAREUR war plan became irrelevant in the space of a few weeks as the Soviet Army fell into disarray and began pulling back to the east. During the 1980s VII Corps had prepared to fight a defensive battle along the main avenues of approach into southern Germany. Essentially, it planned to defend as close to the East German and Czechoslovakian borders as possible and await reinforcements from the United States.[48]

General Saint, in response to the new politico-military situation in Eastern Europe, developed a concept called Capable Corps, essentially anticipating a mobile and freewheeling European battlefield. In this new paradigm, Saint envisioned one or two armored cavalry regiments conducting advance guard opera-



Colonel Cherrie (With Glasses)



General Landry

tions toward the attacking enemy from the east. Behind the cavalry, two heavy divisions would follow and maneuver against the attacker. Saint required that this corps be 100 percent mobile and capable of rapid maneuver anywhere in the theater of operations, up to 250 kilometers a day. The scope of those changes encompassed all aspects of the command's operating systems, including command and control, maneuver, fire support, intelligence, and combat service support.[49]

Generals Saint and Franks, both cavalry officers, worked hard in 1989 to transform a relatively stationary headquarters and support structure into a mobile, maneuver-oriented force. The problems in creating this transformation were immense. Standard operating procedures, load plans, deployment plans, and command-post configurations all had to be developed from scratch. In many instances the required equipment was either missing or unserviceable. As late as November 1990 many observers doubted if VII Corps was capable of commanding, controlling, and supporting a rapidly moving force in either Europe or the deserts of Southwest Asia.[50]

Saint built on his operational experiences at Fort Hood. While III Corps commander, he had conducted long-distance maneuvers across Texas to develop his unit's ability to move. He applied the same maneuver techniques when he brought III Corps to Europe for REFORGER 87.[51] After he became Commander in Chief, U.S. Army, Europe, General Saint intended to shake his two army corps out of their bunker mentality and force them to adapt to maneuver warfare.[52] General Franks enthusiastically embraced General Saint's Capable Corps proposals and began work-



General Abrams

ing through the problems of maneuvering the force in meeting engagements, making hasty attacks, moving long distances, and rapidly changing from offense to defense operations.[53] For VII Corps, Col. Leonard D. (Don) Holder, the former III Corps plans officer, who now commanded Franks' 2d Cavalry, eased the transition.[54]

Franks' first opportunity to transform the corps' war-fighting philosophy took place in the fall of 1989. He and his staff acted as the senior headquarters for the Battle Command Training Program exercise with the 1st Infantry Division (Mechanized) at Fort Riley, Kansas. [55] The original scenario had the division defending in the Coburg Gap as part of a traditional European war defense. Franks and Maj. Gen. Thomas G. Rhame, the 1st Infantry Division commander, changed the entire scenario. The corps and division staffs now had to plan for and execute long-distance maneuvers, hasty attacks, and meeting engagements. It was a radical departure from previous exercises.[56] Franks then repeated and revised the maneuver program for the 3d Infantry Division (Mechanized) exercise in May and a VII Corps commanders' seminar in September 1990. While these training events did not require large numbers of troops, they were essential for changing the defensive outlook of the corps' leadership.[57]

In REFORGER 90, General Franks had the chance to practice corps-level maneuver against V Corps. He had the 2d Cavalry conduct advance covering-force operations trailed by the 1st Armored Division in a movement to contact. It was a major demonstration of how far VII Corps had come in a relatively short period to reverse the decades of inertia and adopt the mobile principles espoused in the Army's AirLand Battle Doctrine.[58] Indeed, most of these changes took place before there was any indication that VII Corps would be called upon to practice such skills in Southwest Asia.[59]

While Franks and Saint were working to develop VII Corps' mobility, they had to contend with another result of the end of the Cold War. By early 1990 the Army had decided to begin pulling American troops out of Europe. On the day Iraq invaded Kuwait, 2 August 1990, representatives from General Saint's headquarters were in Washington, working out the details of the proposed troop withdrawal.[60] The Department of Defense announced on 18 September 1990 the closing of almost one hundred U.S. military installations on the Continent during the sub-

sequent fiscal year. Many were in the VII Corps area of operations.[61] On 26 September the Army followed by announcing a schedule of major troop withdrawals from Germany in 1991, to include all of the 1st Infantry Division (Forward), several battalions from each of VII Corps' combat divisions, and many support troops. The drawdown notification came at the same time USAREUR was becoming involved in the buildup in Southwest Asia. Over the next year it would be a consideration in determining which units would be deployed to support VII Corps.[62]



General Rhame

The Iraqi invasion of Kuwait in August 1990 found VII Corps in its best possible state of combat readiness. Fred Franks was now an experienced corps commander with over a year in command. In conjunction with General Saint, General Franks was well on the way to revising the VII Corps' warfighting philosophy. He and his command had practiced mobile corps operations over the past year in a variety of exercises and seminars. The corps' combat units possessed the finest equipment in the Army's inventory, from M1A2 tanks to M2/3 infantry fighting vehicles, Apache helicopters, and Multiple Launch Rocket Systems (MLRS). The officers and soldiers were the finest the Army had trained in a generation, the product of an elaborate recruiting, education, and training system.

On the other hand, opportunities to exercise their new tactics and techniques in the field had been few and confined to units below division level. Nor could any training exercise hope to duplicate the stresses and demands of actual combat. Fortunately, at least, the changes in the international situation had not yet eliminated the VII Corps from Europe. Within two years of the Iraqi invasion, the reunification of Germany and domestic budgetary considerations would call home the entire VII Corps and all its combat units. Most of its installations would close, and the Army in Europe would be but a shadow of its former self.[63] Thus, a year later the VII Corps would not have been available to deploy to Southwest Asia. Saddam Hussein could not have selected a worse time to challenge American military power.

Generals Saint and Franks and their commanders and staffs had transformed the VII Corps from a defense-oriented command into a much more mobile and responsive combat headquarters. As news broke about the coming reductions in force, many officers wondered if the revitalized training program had any practical goal. In August 1990 Saddam Hussein provided the corps with that purpose.

Notes

[1] See Martin van Creveld, *Command in War* (Cambridge, Mass.: Harvard University Press, 1985), pp. 60–61; David G. Chandler, *The Campaigns of Napoleon* (New York: Macmillian Publishing Co., 1966), pp. 185–88.

[2] Abraham Lincoln, "President's General War Order No. 2, 8 March 1862," *The War of the Rebellion—Official Records of the Union and Confederate Armies*, ser. 1, pt. 1, vol. 5 (Washington, D.C.: Government Printing Office, 1881), p. 18.

[3] Stephen A. Bourque, "Operational Command and Control: The Maryland Campaign of 1862," Unpubl Ms, Ball State University, Muncie, Ind., 1987, pp. 91–95.

[4] War Department, Field Manual (FM) 100–15, *Field Service Regulations for Larger Units* (Washington, D.C.: Government Printing Office, 1942), pp. 56–57.

[5] Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Organization of Ground Combat Troops*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1947), pp. 351–71.

[6] Department of the Army (DA), FM 100–15, *Field Service Regulations for Larger Units* (Washington, D.C.: Government Printing Office, 1950), pp. 60–62.

[7] *Operational Maneuver* is the movement of forces *before the battle* to gain positional advantage over the enemy and to exploit tactical success. See DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 12.

[8] DA, FM 100–5, p. 185, and FM 100–15, *Corps Operations* (Washington, D.C.: Department of the Army, 1989), p. 1–1.

[9] DA, FM 100–15, p. 2–3.

[10] Army of the Potomac, "General Order No. 2, 3 June 1862," in *War of the Rebellion*, ser. 1, pt. 2, vol. 11, pp. 212–13.

[11] Department of Arkansas, "General Order No. 1, 30 January 1864," in *War of the Rebellion*, ser. 1, pt. 1, vol. 34, p. 187.

[12] "Strength and Organization of the Expeditionary Forces Commanded by Maj. Gen. Frederick Steele, U.S. Army, March 31, 1864," in *War of the Rebellion*, ser. 1, pt. 1, vol. 34, pp. 657–59.

[13] Graham A. Cosmas, *An Army for Empire: The United States Army in the Spanish-American War* (Shippensburg, Pa.: White Mane Publishing Co., 1994), pp. 132–33, 137, 173–74, 180, 267; Graham A. Cosmas, note to author, 27 Apr 99. Dr. Cosmas had not noticed "Jayhawk" used in relation to the VII Corps in the Spanish-American War.

[14] John B. Wilson, *Armies, Corps, Divisions, and Separate Brigades*, Army Lineage Series (Washington, D.C.: U.S. Army Center of Military History, 1987), pp. 71–74.

[15] U.S. Army Center of Military History, *Order of Battle of the United States Land Forces in the World War, Volume 1: American Expeditionary Forces: General Headquarters, Armies, Army Corps, Service of Supply, Separate Forces* (Washington, D.C.: Government Printing Office, 1988), pp. 329–35; Wilson, *Armies, Corps, Divisions, and Separate Brigades*, p. 72.

[16] When the Army deactivates a unit, all its equipment and personnel are transferred to other organizations. The Army stores the unit's flags and special items until the next time it is called to active duty. Other than the name and lineage, there was no continuity between the VII Corps of 1919 and 1940.

[17] Christopher R. Gabel, *The U.S. Army GHQ Maneuvers of 1941* (Washington, D.C.: U.S. Army Center of Military History, 1991), pp. 66, 104.

[18] John B. Wilson, "Armies and Corps," *Army* 36 (October 1986):341.

[19] DA, *Utah Beach to Cherbourg (6 June–27 June 1944)*, American Forces in Action Series (Washington, D.C.: U.S. Army Center of Military History, 1984); Gordon A. Harrison, *Cross-Channel Attack*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1993), pp. 269–335, 386–438.

[20] Martin Blumenson, *Breakout and Pursuit*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1993), pp. 78–101, 215, 236–63.

[21] Headquarters (HQ), First U.S. Army, *Report of Operations, 1 August 1944–22 February 1945* (n.p. [1946]), pp. 3–13; Blumenson, *Breakout and Pursuit*, pp. 457–75.

[22] Blumenson, *Breakout and Pursuit*, pp. 511–13.

[23] First U.S. Army, *Report of Operations*, pp. 39–41.

[24] One principle of military operations is to identify a "main effort." The force charged with accomplishing this most important mission usually receives the priority of combat support and combat service support resources.

[25] Charles B. MacDonald, *The Siegfried Line Campaign*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1993), pp. 377–493; First Army, *Report of Operations*, pp. 71–98.

[26] First Army, *Report of Operations*, pp. 115–22; Hugh M. Cole, *The Ardennes: Battle of the Bulge*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1965), pp. 423–44.

[27] Charles B. MacDonald, *The Last Offensive*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1973), pp. 26–54.

[28] Ibid., pp. 156–62, 344–72, 401–06.

[29] Wilson, "Armies and Corps," p. 341.

[30] During the Cold War and the Persian Gulf War, the 2d Cavalry was organized as an armored cavalry regiment. By 1990 it was organized with three ground squadrons, an aviation squadron, and a support squadron. Its equipment included the M1A1 tank, M3 cavalry fighting vehicle, M109 self-propelled howitzer, and the AH–1G attack helicopter. Although the 2d Cavalry is routinely referred to as the 2d Armored Cavalry Regiment (ACR), this book will use its historically accurate designation.

[31] "Command and Staff Directory," *Army* 40 (October 1990):224–25.

[32] Glenn K. Otis and Dewy A. Browder, "Tailoring Deterrent to Threat," *Army* 34 (October 1984):132–41; William W. Mendel, *Campaign Planning* (Carlisle Barracks, Pa.: Strategic Studies Institute, 1988), pp. 35–56. Note: Because ranks are transient and many authors went on to higher grades after the war, I have deleted their ranks from citations and bibliography. Throughout the text I used their ranks as of the Persian Gulf War.

[33] Michael S. Davidson, "U.S. Army, Europe: Fulcrum for the Balance of Power," *Army* 23 (October 1973):43.

[34] Ibid., p. 42.

[35] Tank Table VIII was the final training event in a progressive series of individual tank crew exercises. The successful completion of Table VIII indicated that the crew was considered qualified and ready for combat. The ARTEP (Army Training and Evaluation Program) replaced the ATT (Army Training Test) in the mid-1970s. Both programs were designed to evaluate units from platoon through battalion in combat tasks. Failure in either the ARTEP or on Table VIII could often spell the end of a promising officer's career.

[36] Frederick J. Kroesen, "U.S. Army, Europe: Deterrent Power Real," *Army* 32 (October 1982):70–78.

[37] Bruce E. Siemon, *Historical Review: 1 January 1990–31 December 1991* (Heidelberg, Germany: U.S. Army, Europe, and Seventh Army, 1993), p. 185.

[38] Interv, author with Frederick M. Franks, Jr., 12 Sep 94, U.S. Army Training and Doctrine Command, Fort Monroe, Va. (hereafter cited as TRADOC).

[39] Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 2 Apr 91, TRADOC.

[40] Author's recollections from the Armor School and assignments in the 2d and 3d Cavalries. DA, FM 17–95, *Cavalry* (Washington, D.C.: Government Printing Office, 1977), spelled out basic cavalry doctrine.

[41] Combined Arms and Services Staff School, or CAS[3].

[42] Interv, Kindsvatter with Franks, 2 Apr 91.

[43] Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), p. 255.

[44] Interv, author with Franks, 12 Sep 94.

[45] Atkinson, *Crusade*, p. 255.

[46] Interv, author with Franks, 12 Sep 94.

[47] Ibid.

[48] Stephen P. Gehring, *From the Fulda Gap to Kuwait: U.S. Army, Europe, and the Gulf War* (Washington, D.C.: U.S. Army Center of Military History, 1998), p. 18.

[49] Siemon, *Historical Review*, pp. 2–4; Gehring, *Fulda Gap to Kuwait*, pp. 33–34.

[50] Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), p. 302.

[51] Leonard D. Holder, "Educating and Training for Theater Warfare," in *On Operational Art*, ed. Clayton R. Newell and Michael D. Krause (Washington, D.C.: U.S. Army Center of Military History, 1994), p. 187; Gehring, *Fulda Gap to Kuwait*, pp. 34–35.

[52] Leonard D. Holder, *III Corps Maneuver Booklet* (Fort Hood, Tex.: III Corps, 1987), pp. 4–14; Siemon, *Historical Review*, p. 110.

[53] Interv, author with Franks, 12 Sep 94.

[54] Gehring, *Fulda Gap to Kuwait*, p. 36.

[55] The Training and Doctrine Command developed the Battle Command Training Program, or BCTP, in 1987 to train division and corps commanders, their staffs, and major subordinate commanders. Each exercise had a controller team from Fort Leavenworth, Kansas. They developed, in conjunction with the senior controller, the scenarios, adjudicated the combat, forced logistic and tactical realism, and provided the final evaluation report. The senior controller and his headquarters, in this case General Franks, provided a staff for planning and command and control. While not exercising, they performed a significant amount of planning, directing, and other staff activities to ensure a realistic exercise. The exercising unit, in this case the 1st Infantry Division, deployed its staffs and commanders to the field and acted just as if they were controlling their battalions and brigades in combat. Brigade and battalion commanders and staffs also deployed and were fed combat information from tactical cells made up of their own officers and noncommissioned officers. Although not employing tanks and aircraft, the BCTP was an extremely stressful and realistic exercise for the participants.

[56] Interv, author with Franks, 12 Sep 94; Siemon, *Historical Review*, p. 3; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), pp. 168–69.

[57] Interv, author with Franks, 12 Sep 94; Siemon, *Historical Review*, p. 3; Clancy and Franks, *Into the Storm*, pp. 168–69. A commander's exercise, or Warfighter Seminar, had a scenario similar to a full-fledged BCTP exercise but was conducted only by commanders and principal staff officers. Usually it took place in a large room with minimal outside support other than the BCTP team. The Warfighter Seminar was essentially a decision-making exercise.

[58] Siemon, *Historical Review*, pp. 3–4.

[59] Author's notes. During DESERT STORM the author served as night operations officer for the 1st Infantry Division and maintained notes (hereafter cited as author's notes) on many of the events of this period. As part of a liaison team to Europe, the author received a briefing on CAPABLE CORPS and REFORGER 90 scenarios several days *before* the Iraqi invasion of Kuwait.

[60] Gehring, *Fulda Gap to Kuwait*, p. 48.

[61] Siemon, *Historical Review*, pp. 111–15.

[62] Ibid., p. 118; Gehring, *Fulda Gap to Kuwait*, pp. 48–49.

[63] Siemon, *Historical Review*, pp. 119–27.

2

Notification, Deployment, and Planning

On 2 August 1990, Iraq's *Republican Guard Forces Command* (*RGFC*) crossed the border into Kuwait. The spearhead of this force encompassed Iraq's most powerful combat units: the *Tawakalna Mechanized Division* and the *Hammurabi* and *Medina Armored Divisions*. The small Kuwaiti Army could do little against this assault of over 800 tanks, 650 infantry fighting vehicles, and hundreds of artillery pieces. By the evening of 3 August the Iraqi Army had secured Kuwait City and had moved armored units to the border with Saudi Arabia. By 6 August Iraq had another eight divisions in or on their way to Kuwait.[1]

The Iraqi Army that poured across the border into Kuwait was the product of the rough world of Middle Eastern politics. As in the case of several armies in this part of the world, British troops had provided the Iraqi Army its initial training, equipment, and organization. Although nominally independent in 1932, Iraq had remained under British military occupation until 1958. In the 1950s Iraq became a player in Cold War politics during the rule of King Faysal II, joining the British-sponsored, American-supported Baghdad Pact in 1955. The period of anti-Soviet orientation and British supervision ended in 1958 with a bloody coup that brought Abd al Karim Qasim to power. With a government now receptive to support from the Warsaw Pact, equipment and training teams arrived in Iraq. The Soviets bolstered the Iraqi Army with their standard variety of small arms, T–55 main battle tanks, and large amounts of field and air-defense artillery.[2]

The Iraqi Army had already joined the Arab war against Israel. In 1948 Iraq had committed about ten thousand troops organized into four infantry brigades, an armored battalion, and two air squadrons into the sector north of Jerusalem. They fought the Israeli forces to a standstill and defended the town of Nablus at the end of the campaign. In 1967 several Iraqi divisions arrived in northern Jordan too late to halt the Israeli capture of the West Bank of the Jordan River.[3] In the 1973 campaign, Iraq's *3d Armored Division* attacked Israeli forces in support of the Syrian Army's attempt to regain the Golan Heights. It was Iraq's first opportunity to employ its new Soviet armor in a large combined arms operation. Unfortunately, the Iraqi soldiers' training was not the equal of their equipment. Israeli gunners, using American and British tanks, destroyed almost an entire Iraqi armored brigade, including 130 tanks, in less than an hour.[4] Although Iraqi soldiers attacked with determination, bravery alone could not make up for their lack of technical combat skills, such as tank gunnery and the coordination of artillery, infantry, and armor.

With Soviet help, the Iraqi regime rebuilt this force. Although its overt enemy was relatively distant Israel, Iraq's major security threat was from its powerful, American-supported neighbor Iran. Only Iran had the military power to separate Iraqi oil from the Persian Gulf. The relatively small Iraqi Army was no match for the massive quantity of American armor, personnel carriers, attack helicopters, and jet aircraft that had swelled the Shah of Iran's arsenal. This situation changed in 1979, when Ayatollah Ruhollah Khomeini's revolutionary Shi'ite followers destroyed the American-backed government and crippled its regular armed forces. In 1980 President Saddam Hussein saw an opportunity to alter the balance of power in the Gulf and gain prestige at the expense of Iraq's neighbor. On 22 September the Iraqi air force and army attacked southwestern Iran in an attempt to capture the strategic lowlands at the head of the Persian Gulf and destroy Iranian military power while Iran was relatively weak.[5]

Iran, however, refused to bow before the Iraqi aggression. For eight years these two Middle Eastern powers continued an age-old conflict between the people of the Mesopotamian lowlands and the Iranian plateau. Although the war was generally a stalemate during most of this period, the Iraqi Army continued to improve, adapting its tactics to defeat the military operations of its much larger neighbor. Iranian human-wave attacks, led by religious fanatics, routinely disintegrated into blood baths on the banks of the Shatt al Arab and other sectors of the common border. Iraqi armored and mechanized forces became adept at containing the Iranian offensives and then maneuvering from the flanks to cut off and destroy the remaining attack force. Its artillery and attack helicopters often rained havoc on retreating Iranians. By 1987 Hussein's forces were routinely inflicting three to six times as many casualties on Iranian troops as they suffered themselves, killing over six hundred thousand young Iranian men and wounding more than twice that many. Politically, the Iranian religious leadership was hard pressed to justify continuing the war.[6]

Iraq, meanwhile, had continued to improve its combat capabilities. The *Republican Guard Forces Command* developed from Saddam Hussein's personal bodyguard to a corps-size force that provided the Iraqi Army its major offensive capability.[7] Armed with the best equipment available, such as the Soviet-made T–72 tank, the *RGFC* also received, as did selected other Iraqi units, extensive training in combined arms operations. This training covered corps-size maneuver, massing of artillery fire, collection of intelligence, and attack-helicopter operations. The Iraqi Army also improved the ability of its chemical corps to deliver an array of chemical weapons, from mustard agents to nerve gas, against its opponents. In addition, the army improved its logistics capability and increased the number of tank transporters, essential in mobile desert warfare, to over fifteen hundred.[8]

On 17 April 1988, the Iraqi armed forces demonstrated a new capability. Under command of Maj. Gen. Maher Rashid, the *RGFC* and the *III* and *VII Army Corps* attacked the strategic, Iranian-held Al Faw Peninsula. Within thirty-five hours, Iraqi armored and mechanized forces ejected the remaining Iranian forces from Iraqi soil and forced the Khomeini government to the negotiating table.[9] This

offensive was a dramatic demonstration of Iraq's ability to conduct combined arms operations. With the largest, most experienced, and apparently best-trained armored and mechanized force in the Middle East, Iraq in 1990 was a military power that the world could not ignore.[10]

Then, on 2 August 1990, came the invasion of Kuwait. From the American and Saudi Arabian perspective, the Iraqi Army that now occupied the small Arab sheikdom appeared to be preparing for a further strike toward the northern Saudi oil fields around the eastern port of Ad Dammam. Without significant outside support, the Saudi government had little hope of stopping this huge force from obtaining whatever political or military objectives it desired. However, if Saddam Hussein had a master plan that included the invasion of Saudi Arabia, few of his subordinates knew anything about it.[11] The Iraqi leader certainly had the combat capability to continue south, if not confronted, down the coast to the oil fields at Ad Dammam. As a minimum, he could intimidate the Saudi government and the Gulf sheikdoms. Such possibilities were immediately evident to Washington and Riyadh.[12]

The Response

Within days of the Iraqi invasion, American forces were on their way to the Persian Gulf. Command responsibility for these forces rested with Headquarters, U.S. Central Command (CENTCOM). Essentially a planning headquarters for coordinating the operations of all the armed services, the Central Command had no permanently assigned units. Since 1988, 53-year-old General H. Norman Schwarzkopf, Jr., had commanded this small headquarters based at MacDill Air Force Base near Tampa, Florida.

The son of a major general who had also served in the Middle East, Schwarzkopf was coming to the end of a long and distinguished career. Having graduated from West Point in 1956, he entered the infantry. During two tours in Vietnam (1965–1966 and 1969–1970) he served as an adviser to a South Vietnamese airborne brigade and a battalion commander in the Americal Division. He was wounded in each of his year-long tours and won three silver stars for his bravery under fire. Besides a number of staff and school assignments, Schwarzkopf commanded an infantry brigade at Fort Lewis, Washington, and the 24th Infantry Division (Mechanized) at Fort Stewart, Georgia. While commanding his division in 1983, he served as deputy to the commander in chief of the American invasion of Grenada (Operation URGENT FURY). He then went on to command I Corps at Fort Lewis in 1986, but had little opportunity to direct his three infantry divisions in a tactical environment. Immediately before his assignment with Central Command, Schwarzkopf served at the Pentagon as deputy chief of staff for operations, working for his mentor, Army Chief of Staff General Carl Vuono. Although an extremely brave and dedicated officer, Schwarzkopf had only limited experience with large-scale mechanized operations.[13]

Schwarzkopf now directed the largest buildup of American forces since the Vietnam War. On 6 August Saudi Arabia agreed to station forces from a coalition



General Schwarzkopf

on its soil, and by 7 August American forces were on the way. By 9 August U.S. Air Force F–15C fighters from the 1st Tactical Fighter Wing at Langley Air Force Base, Virginia, were patrolling along the Saudi-Kuwaiti border. That same day the 82d Airborne Division from Fort Bragg, North Carolina, also began arriving. By 12 September the 1st Marine Division was in the Persian Gulf with many of its combat elements ashore. In early October the 101st Air Assault Division and the 24th Infantry Division (Mechanized) were also in Saudi Arabia. By the end of the month the 1st Cavalry Division had joined the DESERT SHIELD force, precluding the possibility of an Iraqi invasion of eastern Saudi Arabia.[14]

In addition to U.S. forces, a powerful international coalition sent troops to assist in the defense of the Arabian Peninsula. Following an emergency meeting of the Arab League in Cairo on 10 August, other Arab states agreed to send forces to Saudi Arabia. Before the end of October Egypt and Syria had sent three heavy combat divisions and numerous other combat and combat support units.[15] Many other Islamic states, such as Morocco, Pakistan, and Bangladesh, also contributed troops to support the growing forces arrayed against Iraq.[16] France and Great Britain both deployed major combat forces to Saudi Arabia. The French ground force was built around the 6th Light Armored Division, which grew to six armor/cavalry/mechanized battalions and other combat forces. Lt. Gen. Gary E. Luck's XVIII Airborne Corps took tactical control of this force on 17 January.[17] British troops, primarily the 7th Armoured Brigade, began moving from Europe on 28 September and arrived throughout October. They based out of the industrial complex at Al Jubayl, on the northeast coast, and worked alongside the U.S. I Marine Expeditionary Force.[18]

General Schwarzkopf and Saudi Arabian Lt. Gen. Prince Khalid ibn Sultan jointly wielded command of the coalition. As the host country and guardian of the holy Islamic cities of Mecca and Medina, the Saudi government insisted on this command arrangement. In practice Schwarzkopf directed American and British ground forces, the naval forces, special operations units, and the U.S. Marines. Khalid coordinated the operations of most Islamic ground troops. In addition, Khalid was instrumental in coordinating Saudi Arabian commercial and political support.[19] By the end of October General Schwarzkopf and Prince Khalid had a force that could defeat the Iraqi Army should it choose to invade Saudi Arabia.

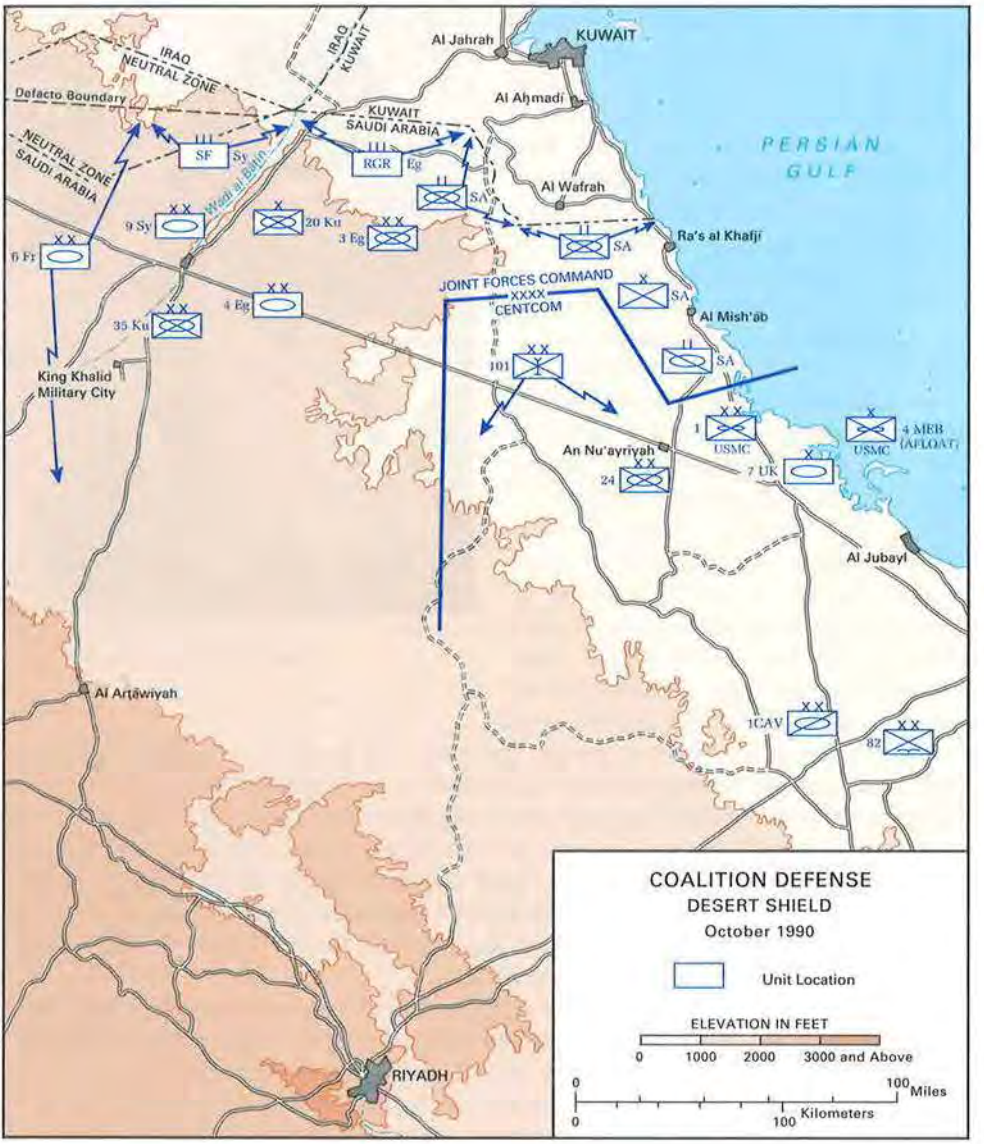


General Khalid

Central Command was not as organized as it appeared on paper. For example, there was no overall ground force commander. The American air and sea components each had their individual, specialized headquarters, but the ground force planning and control depended on Schwarzkopf and his staff. His deputy commander, Lt. Gen. Calvin A. H. Waller, who would arrive on 14 November, coordinated the U.S. Marines and Arab corps ground operation the best he could. However, he had no staff to do so and wielded only limited command authority when dealing with corps and army commanders.[20]

Lt. Gen. John J. Yeosock's Third Army directed the buildup of army ground forces. A 1959 graduate of Pennsylvania State University, Yeosock had commanded armor-cavalry units from platoon through division. During the Vietnam War, he had served as an adviser to South Vietnamese forces. Furthermore, he had extensive experience with Saudi Arabia, having served as an adviser to its National Guard from 1981 to 1983. From 1984 to 1987, he had commanded the 1st Cavalry Division as part of Lt. Gen. Crosbie E. Saint's III Corps at Fort Hood, Texas. He then served under General Schwarzkopf on the Army Staff at the Pentagon from 1988 to 1989. However, with all of his desert and tactical experience, Yeosock had never commanded an army corps. Now, without that important experience, he found himself commander of a rapidly growing army.[21]

General Yeosock directed a very complex organization, as his army had three separate functions. First, Third Army functioned as the Army component headquarters in Southwest Asia. In that role, it coordinated with other major Army organizations, such as Forces Command, the Army Materiel Command, and U.S. Army, Europe (USAREUR), to get ground troops and supplies into the theater of operations. It was the principal organization to resolve problems between Army forces and foreign army organizations and the Navy, Air Force, and Marines. In this capacity, Third Army was often referred to as Army Forces Central Command, or ARCENT. Secondly, Third Army functioned as a theater army. This kind of organization supervises units not assigned to the individual corps and provides the logistics support the ground forces require to operate. Finally, Third Army operated as a field army, such as General George S. Patton's Third Army did in World War II. A field army essentially directs ground operations, allocates combat units to the corps, coordinates supporting elements from other services, and plans for



MAP 2

subsequent operations. Could it perform these three roles with one commander and one staff?[22]

After the beginning of Operation DESERT SHIELD, the code name the U.S. Joint Chiefs of Staff gave to the buildup in and defense of Saudi Arabia, General Saint also began planning for possible commitment to Southwest Asia. From the beginning USAREUR was an important participant in forwarding units, equipment, and ammunition to the CENTCOM area of operations. On 21 August the 45th Medical



General Luck



General Yeosock

Company, consisting of ambulance helicopters, became the first Europe-based troops to deploy to Southwest Asia. Other medical personnel would follow over the coming months, as would intelligence, communications, and chemical reconnaissance units. Saint also sent combat units to the Gulf, with the 12th Aviation Brigade arriving during the middle of August. The brigade's two attack helicopter battalions gave Yeosock badly needed mobile firepower in the early days of the buildup.[23]

Between August and October USAREUR also sent Central Command equipment from its war reserve stocks and items that were available only in Europe. Ammunition, chemical protective suits, chemical masks, combat rations, tents, and medical supplies began flowing toward ports in Saudi Arabia. In September alone Saint's logisticians sent over 1.6 million meals, ready to eat, or MREs; 2.2 million "T," or Tray, rations designed to feed several soldiers; 244,000 sets of chemical protective overgarments; 36,000 mine fuses; 6,663 army cots; 2,912 large tents; and hundreds of thousands of other items of ammunition and equipment.[24]

Unit deployments remained one of General Saint's most important concerns. Beginning on 4 September, a planning staff began examining the steps needed to send personnel replacements to Saudi Arabia. Most troops would go as part of a small unit; the memory of problems associated with individual replacements during the Vietnam conflict was still strong in the minds of most senior commanders. On 20 September, following high-level discussions at the Pentagon, Saint directed his planners to develop schedules for battalions, brigades, and divisions to rotate with those in Southwest Asia. While the Army had not directed Saint to start

such planning, it was the prudent step. Saint planned to maintain seven battalions at full strength available for six-month tours in Saudi Arabia. Meanwhile, the remainder of his command would continue to close European military bases and send units back to the United States for reassignment or inactivation.[25]

Following a telephone call from Army Vice Chief of Staff General Gordon R. Sullivan on 5 October, General Saint ordered an increase in the scope and tempo of the USAREUR planning effort. While the initial concept was for the Europe-based army to send a division and an armored cavalry regiment to the Gulf, Saint quickly expanded the planning guidance. He believed that as a minimum he would have to send an entire corps to replace the units already in the theater. He also anticipated sending a corps headquarters to replace the XVIII Airborne Corps. In the background of this planning effort, his staff had to keep in mind the other imperative of moving selected units entirely out of Europe and back to the United States.[26]

Early in the process Saint decided that of his two corps, General Franks' VII Corps would be the better one to send to the Gulf. He based his decision on several factors. First, the V Corps commander, Lt. Gen. George Joulwan, was in the process of leaving his corps and taking over the U.S. Southern Command. Franks, on the other hand, had a year's worth of command experience and still had at least a year left with VII Corps.[27] Second, based on the training exercises of the previous year, Saint was confident that Franks and his staff understood how to maneuver a heavy corps. As mentioned earlier, the Army had not attempted such large armored operations since the end of the Second World War. General Saint, who had practiced such operations with III Corps, knew of the difficulty of such maneuvers.[28] Finally, there was a strong mutual bond between Franks and Saint. Franks had followed Saint through many of the same assignments, and they enjoyed a close working relationship.[29]

From his headquarters in Stuttgart, Franks had been watching the situation in Southwest Asia since the Iraqi invasion. Once Iraq was in Kuwait, he organized a small planning team to monitor the situation and develop options in the event the Army asked VII Corps to participate. The cell, called a crisis action team (CAT), contained one member from each staff section and representatives from all of the corps' specialized functions, including signal, aviation, chemical, and logistics, and worked closely with the similar USAREUR planning cell. The CAT received information copies of the current Third Army situation reports to track the coalition's deployment and the Iraqi buildup in Kuwait. Twice each day, at 0700 and 1900, the cell briefed Franks on the events of the previous twelve hours. Included in these briefings were discussions on weather conditions, Iraqi equipment characteristics, and analysis of the weather and terrain. Soon the cell was operating twenty-four hours a day.[30]

Almost immediately this group began to work through a series of problems that the G–3 (operations officer), Col. Stanley F. Cherrie, called "what if?" drills.[31] These informal exercises examined a variety of possible missions and worked through all the operational, personnel, and logistic steps needed to accomplish each task. Possible missions included sending an attack helicopter brigade to

Saudi Arabia or moving an armored cavalry regiment by rail to eastern Turkey. They also planned and controlled the deployment of several small units from Europe to Southwest Asia, a process that required extensive logistic and diplomatic coordination. As the summer turned to fall, the number of these small support missions began to increase rapidly.[32]

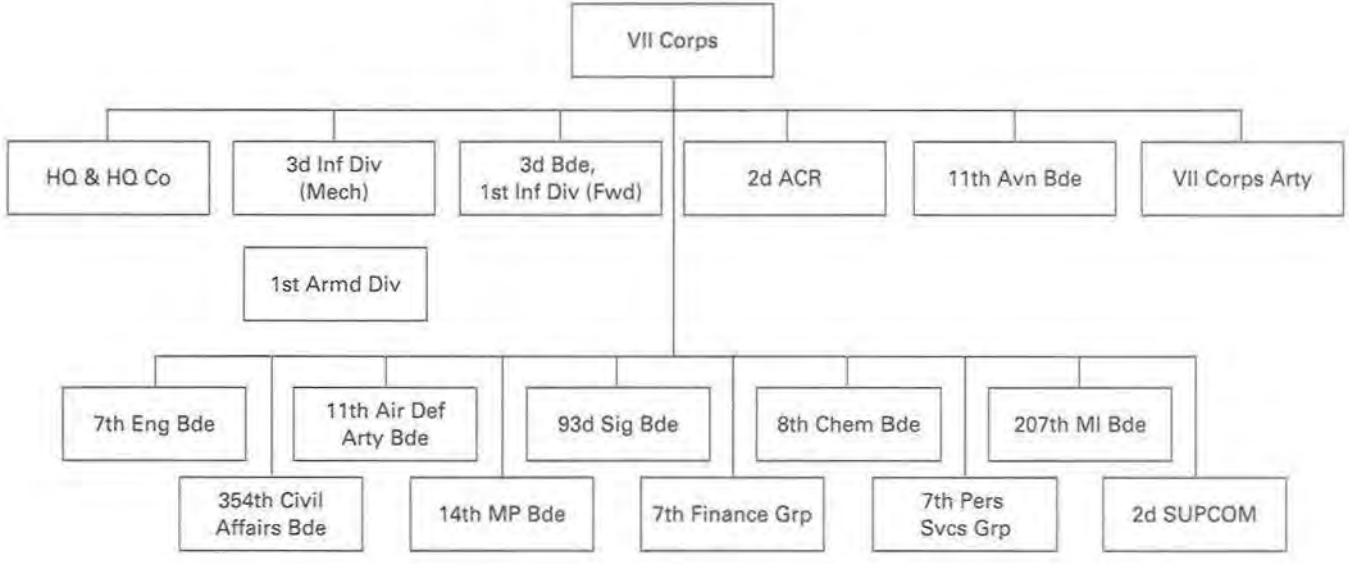
Immediately after General Saint's return from an Army commanders' conference in Washington on 27 October, the Army Staff directed him to prepare to deploy a two-division corps to Saudi Arabia by 15 January 1991. Saint learned that he would also receive a division from the United States to round out the corps' combat strength. Only a few in Washington knew about this requirement, and Saint could share it only with his essential staff and planners. On 28 October Saint; his deputy commander in chief, Lt. Gen. John M. Shalikashvili; his chief of staff, Maj. Gen. Willard M. Burleson, Jr.; General Franks; and selected others began planning the deployment of the VII Corps. Saint and Franks agreed that VII Corps would be armor heavy, as Southern Iraq had some of the best terrain in the world for tank operations. The two combat divisions, the 1st and 3d Armored, would each control a powerful mixture of six armored and four mechanized battalions. The generals insisted that all units from Europe would deploy with the latest combat equipment available, be at full strength in equipment and personnel, and have been through a recent training cycle.[33]

Saint's decision to send the 3d Armored Division rather than VII Corps' own 3d Infantry Division created some concern in Washington and Europe—from Saint's and Franks' perspective, it was the logical choice. The 3d Armored Division had the latest M1A1 tanks and new radio equipment, making it one of the most technologically advanced combat organizations in the world. Saint also wanted to leave at least one division from each corps in Europe to continue to deter a changing and unpredictable Soviet Union.[34] Finally, it was easier to move one full division from each corps out of Europe than it was to try to move an entire corps. The divisions that remained behind could help their deploying counterparts during the entire deployment process.[35]

On 30 October the Department of the Army told USAREUR to include some additional units in its deployment plans. The 2d Armored Division (Forward), a brigade-size unit located in north Germany, would become the 3d Brigade of the 1st Infantry Division, deploying from the United States. The 1st Infantry Division's Europe-stationed brigade was already in the process of turning in equipment and deactivating units and was not available for combat deployment.[36]

Generals Saint and Franks made a number of decisions to determine which units would actually deploy as part of the 1st and 3d Armored Divisions. For example, the 3d Brigade, 3d Infantry Division, replaced the 1st Brigade, 1st Armored Division. The 3d Brigade was totally modernized, unlike the 1st Brigade. In addition, the 3d Brigade was better trained, having just returned from exercises at Grafenwöhr and Hohenfels. Finally, the 3d Brigade was scheduled to inactivate in 1991, while the 1st Brigade would remain in Europe following the conflict. The 3d Brigade personnel thus could leave their equipment in Southwest Asia, return to Europe to pick up their families, and move on to other assignments with

CHART 1—VII CORPS, JANUARY 1990



Source: Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), p. 176.

no further loss in European readiness. The generals directed several other units, such as 6th Battalion, 6th Infantry, and 1st Battalion, 37th Armor, to join deploying brigades because of similar considerations.[37] Saint and Franks, both former cavalry regiment commanders, drew the line on unit exchanges when it came to choosing the armored cavalry regiment. Col. Don Holder's entire 2d Cavalry would deploy intact without any cross-attachment with the V Corps' 11th Cavalry.[38]

On Thursday, 1 November, the Army chief of staff's office told Saint's staff to stop all planning efforts. The president did not wish to complicate the upcoming congressional elections with rumors of increased combat deployments to a potential war zone.[39] This political pause did not last long. General John R. Galvin, the Supreme Allied Commander, Europe, called General Saint during the evening of 7 November to warn him that the deployment plans were again under consideration. The next day Saint and his major commanders and staffs met to discuss the deployment options and to review each organization's progress. That night, 8 November, USAREUR received the deployment order from the Department of the Army. Two hours later President George H. W. Bush and Secretary of Defense Richard B. Cheney announced on American television that VII Corps was deploying to Saudi Arabia.[40]

Franks and many of his important staff members were in the basement of the corps headquarters in Stuttgart when the Cable News Network broadcast Bush's and Cheney's announcement. As he listened to the end of the presentation, Franks began scheduling his activities for the next few days, especially assembling his commanders and focusing their attention on the upcoming mission. He also began planning for a leaders' reconnaissance to Southwest Asia.[41]

The next morning Franks received a call from Maj. Gen. William G. ("Gus") Pagonis, commander of the logistics effort in Saudi Arabia. Pagonis warned Franks about some of the important problems that faced troops on the ground in the theater of operations that was so unlike Europe. They talked about weather and the cold desert nights, with Pagonis describing the lack of tents and cots for the troops in the field and the severe shortage of prepackaged unit meals. He explained to Franks that power-generating and other critical engineer equipment was often breaking down and advised him to develop a maintenance and training plan to keep his equipment running. Finally, Pagonis gave Franks some suggestions on how to sequence the deployment of his units. He urged Franks to get as many of his logistics assets, especially his truck fleet, into the theater as early as possible.[42]

A short time later General Yeosock, the Third Army commander in the Gulf, called and reinforced Pagonis' suggestions. He also identified for Franks the general location of the VII Corps tactical assembly area (TAA), an area in northeast Saudi Arabia into which his corps would initially move from the port.[43]

Franks convened a meeting of his commanders the following morning. He set the tone for the upcoming mission by laying out the specific logistics and training they had to accomplish before their departure. At the individual level, these included improving the soldiers' weapons proficiency, sharpening nuclear-chemical-biological warfare defense skills, and learning how to live in a hostile



General Pagonis

desert environment. At the collective, or unit, training level, Franks wanted each element to focus on improving command and control, especially while maneuvering over a great distance. He wanted crews frozen in their positions, keeping internal unit personnel changes to a minimum. He reminded his leaders to carefully manage the use of their time and focus on training fundamentals, teamwork, and discipline. They should also be agile and anticipate the many changes and unforeseen circumstances they would face in the months ahead. Finally, he told his commanders to prepare to depart for a leaders' reconnaissance to Saudi Arabia on Sunday.[44]

The corps staff prepared the deployment order, OPORD 1990–1 (Operation CAPABLE COMPELLER) on the ninth and tenth. Based on the final USAREUR deployment plan issued on 10 November, OPORD 1990–1 outlined the parameters for moving the newly configured VII Corps out of Europe. Franks personally wrote the execution paragraph: "The corps will execute tasks as professional soldiers—focus on the mission, the troops, and the families we leave behind. I want an attitude of disciplined professional competence."[45]

Developing DESERT SABER

On Sunday, 11 November, the VII Corps commanders and principal staff officers headed for Saudi Arabia. General Franks' aircraft stopped at Cairo West Airport in Egypt, refueled, and then flew on to Dhahran.[46] The other principal Europe-based commanders, including Maj. Gen. Ronald H. Griffith, commanding the 1st Armored Division; Maj. Gen. Paul E. Funk, leading the 3d Armored Division; General Abrams; and Colonel Holder flew to Dhahran on a separate aircraft. Meanwhile, Maj. Gen. Thomas G. Rhame, the 1st Infantry Division commander, and his planners flew in from Fort Riley, Kansas. Now the nucleus of the new VII Corps leadership was together for the first time.[47]

The leaders spent their first night and the next day in Saudi Arabia becoming familiar with the terrain and the tasks ahead of them. They met with commanders and staffs from the XVIII Airborne Corps, the 24th Infantry Division (Mechanized), and the 1st Cavalry Division to discuss the problems these units had experienced.[48] The VII Corps officers also began to explore some of the details of theater planning.

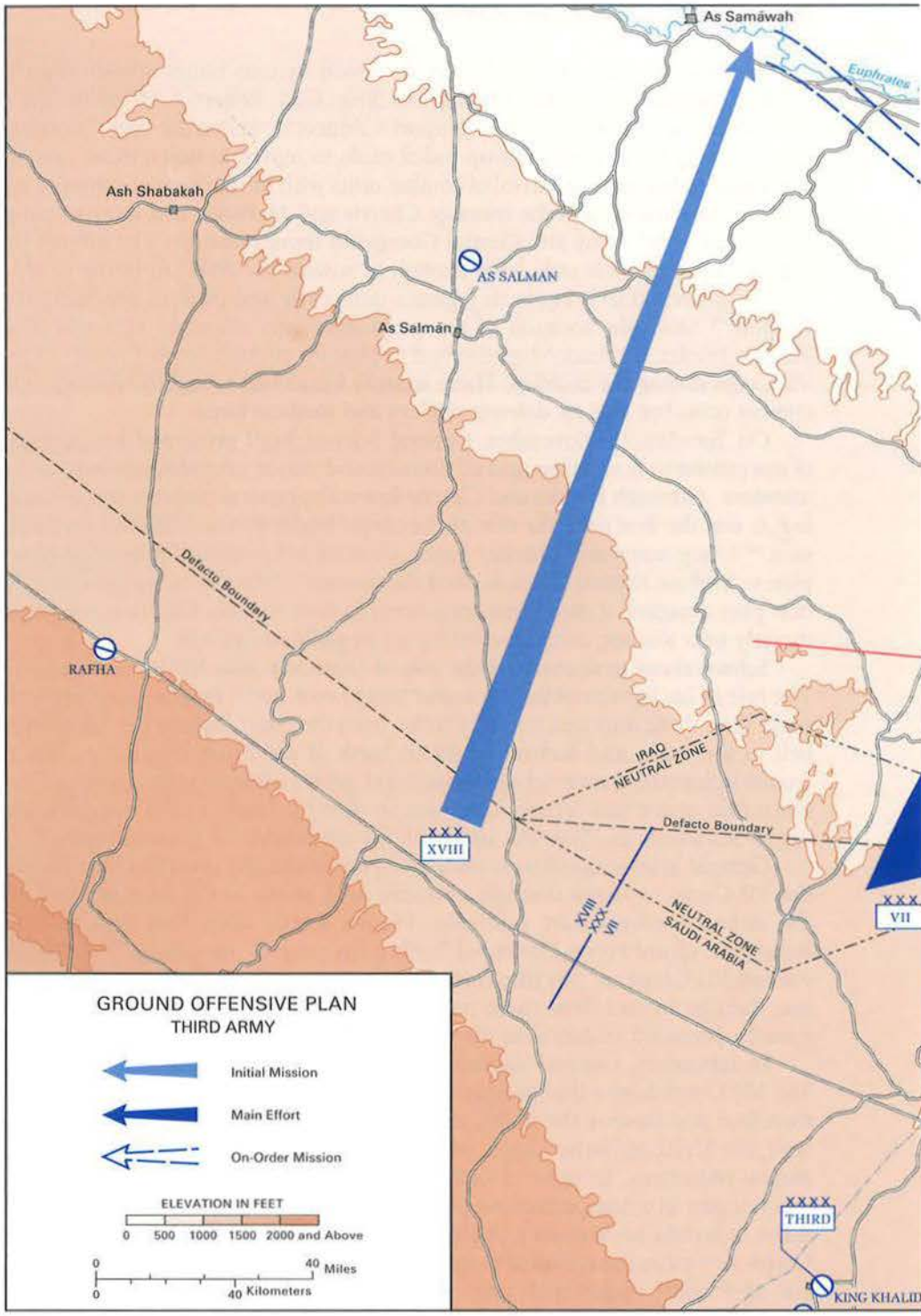
As Generals Yeosock and Franks discussed various issues concerning the VII Corps deployment, Colonel Cherrie and Brig. Gen. Robert P. McFarlin, the commander of the corps' 2d Corps Support Command, spent the night working out details. Using hundreds of cut-up index cards to represent units, these two officers attempted to balance the arrival of combat units with the appropriate amount of support. In their minds was the message Cherrie and McFarlin had received time and again from Third Army and Central Command representatives: The present theater logistics structure was only large enough to sustain the XVIII Airborne Corps. The VII Corps needed to bring in its logistics units early and plan for providing its own support.[49] Since the location of the proposed corps assembly area was near the Kuwaiti border, the leadership also had to plan for enough combat power to protect VII Corps during the buildup. These security forces had to include not only ground combat units but also air defense artillery and medical forces.

On Tuesday, 13 November, General Schwarzkopf presented his general plan of operations to both corps and all division and major subordinate command commanders. Although Franks and Cherrie knew the general outlines before the meeting, it was the first time the rest of the corps' leadership was briefed on their mission.[50] Using maps and butcher paper, General Schwarzkopf presented his entire plan to liberate Kuwait. He described the essence of the air campaign and a deception plan designed to make the Iraqi Army believe that the coalition was attacking directly into Kuwait, accompanied by an amphibious assault.

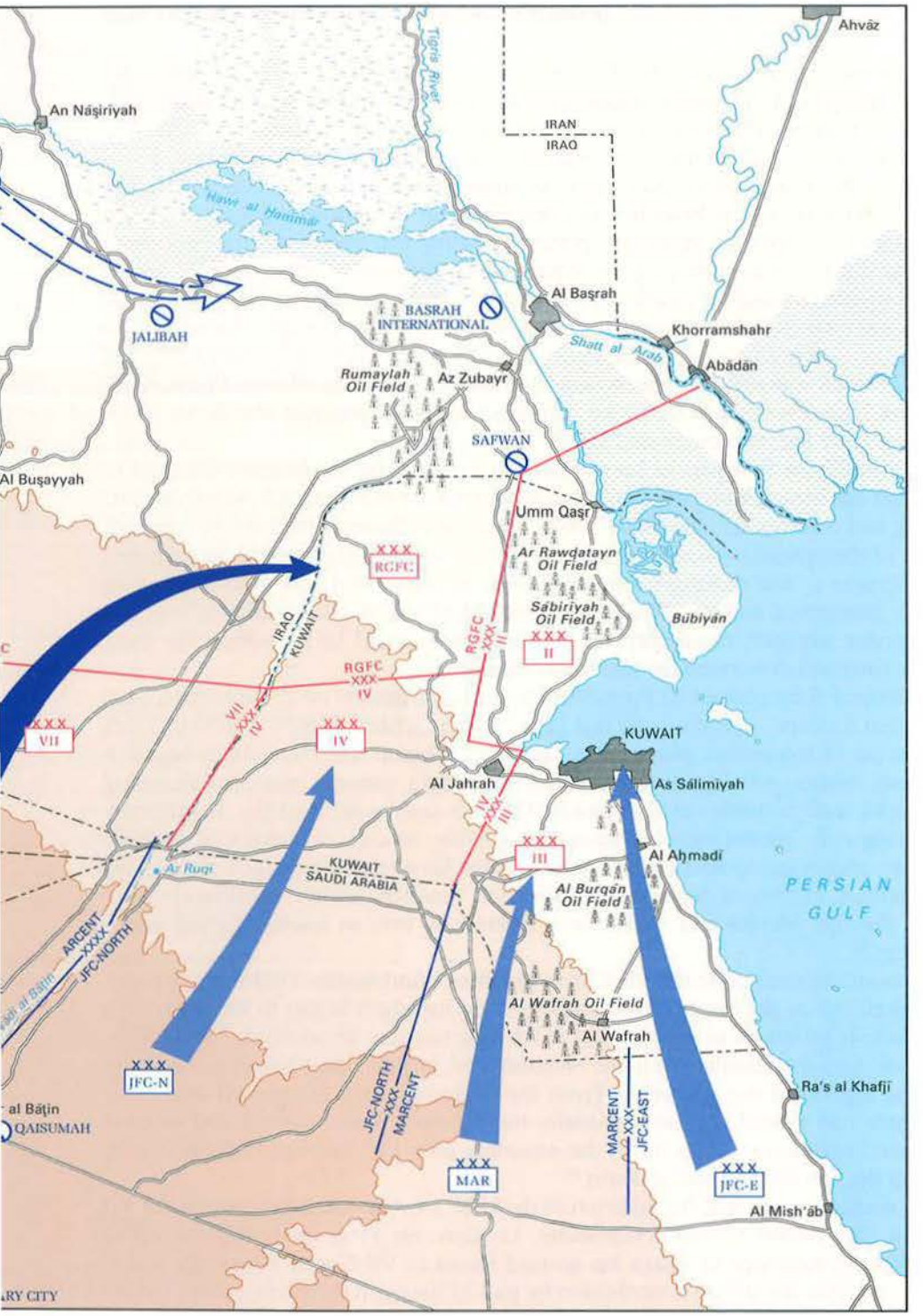
Schwarzkopf next outlined the role of General Luck's XVIII Airborne Corps.[51] The role of his light, mobile command was to race north from its starting positions more than three hundred and fifty miles from the coast, bypass the Iraqi defensive belt in the west, and secure the south bank of the Euphrates River. This move would isolate the theater of operations and prevent Iraqi reinforcement or escape. Once that sector was secure, Luck was to turn his forces to the east and, according to Schwarzkopf, "join the attack on the main body of the Iraqi Army."[52]

General Schwarzkopf now turned to Franks and the commanders. He wanted the VII Corps to attack through a weakly held sector in the Iraqi line just east of the airborne corps' start positions. Franks would then find and destroy the *Republican Guard Forces Command* "within his zone of operations."[53] Schwarzkopf wanted VII Corps to "pin [the Iraqi *Republican Guard*] with their backs against the sea, then go in and wipe them out." For good measure he added, "Once they're gone be prepared to continue the attack to Baghdad."[54]

In retrospect, General Yeosock's two corps had extremely different missions. The VII Corps forces had to fight their way through the initial Iraqi defenses and then find and destroy the *RGFC* within the VII Corps zone of operations. In contrast, the XVIII Airborne Corps, with only a few Iraqi units in front, had fixed territorial objectives. In spite of mobility and firepower, the XVIII Airborne Corps was not part of a comprehensive plan to destroy the *Republican Guard*'s heavy divisions. It would be Yeosock's challenge to direct both the VII and XVIII Airborne Corps, as well as the coalition's tactical air power, against these units if they moved out of Franks' operational zone. It was a task for which neither Yeosock nor Central Command had yet planned.[55]


As Samāwah
Euphrates
Ash Shabakah
AS SALMAN
As Salmān
Defacto Boundary
RAFHA
IRAQ
NEUTRAL ZONE
Defacto Boundary
XXX
XVIII
XVIII
XXX
VII
NEUTRAL ZONE
SAUDI ARABIA
XXX
VII
XXXX
THIRD
KING KHALID
GROUND OFFENSIVE PLAN
THIRD ARMY
Initial Mission
Main Effort
On-Order Mission
ELEVATION IN FEET
0 500 1000 1500 2000 and Above
0 40 Miles
0 40 Kilometers

MAP 3


Ahvāz
An Nāṣiriyah
Tigris River
IRAN
IRAQ
Hawr al Hammār
Al Baṣrah
BASRAH INTERNATIONAL
JALIBAH
Khorramshahr
Shatt al Arab
Abādān
Rumaylah Oil Field
Az Zubayr
SAFWAN
Al Buşayyah
Umm Qaşr
Ar Rawḍatayn Oil Field
Sābiriyah Oil Field
Būbiyān
XXX RGFC
IRAQ KUWAIT
RGFC XXX II
XXX II
RGFC XXX IV
VII XXX IV
XXX VII
XXX IV
KUWAIT
Al Jahrah
As Sālimīyah
IV XXX III
XXX III
Al Aḥmadī
Ar Ruqi
KUWAIT SAUDI ARABIA
Al Burqān Oil Field
PERSIAN GULF
ARCENT XXXX JFC-NORTH
Al Wafrah Oil Field
Al Wafrah
XXX JFC-N
JFC-NORTH XXX MARCENT
MARCENT XXX JFC-EAST
Ra's al Khafjī
al Bāṭin
QAISUMAH
XXX MAR
XXX JFC-E
Al Mish'āb
RY CITY

For the first two weeks after his return from Saudi Arabia, General Franks carried Schwarzkopf's planning guidance in his notebook. While the rest of the U.S. Army in Europe was working on the practical matters of training and overseas deployment, the commander wrestled with the outlines of the plan he was developing in his mind. Hour after hour, as subordinates watched from a distance, Franks worked out the branches and sequels of an operational concept.[56] On 26 November he formed a small, ten-person planning cell and began the process of writing the plan for destroying the *Republican Guard Forces Command*.[57]

"I intend to conduct a swift violent series of attacks to destroy RGFC and minimize our own casualties," Franks began as he laid out his concept. "Speed, tempo and a concentrated air-land campaign are key [to our success]." Considering the *RGFC*, which was still very much respected by the VII Corps officers, Franks said, "I want Iraqi forces to move so we can attack them throughout the depth of his formation by fire, maneuver and air."[58]

To fulfill the first part of his mission, he wanted the 1st Infantry Division to conduct the breach with "precision and synchronization resulting from precise targeting and continuous rehearsals." Once forces were through the breach, the main effort of the operation would shift to the 2d Cavalry and the 1st and 3d Armored Divisions in a "fast moving battle with zones of action and agile forces attacking by fire, maneuver, and air." Finally, he admonished his logisticians that "CSS [combat service support] must keep up because there would be no pause. We must strike hard and continuously, and finish rapidly."[59]

General Schwarzkopf had presented to his commanders on 13 November only a general concept—there was no real plan.[60] With General Waller's arrival in Saudi Arabia on 14 November, planning at Central Command and Third Army began in earnest. Waller turned the commander in chief's concept into reality, using Yeosock's staff to work out the details. He took over control of the Third Army planning cell, consisting of graduates from the School of Advanced Military Studies, and began to develop an operation plan for units from the U.S. Army. This cell did not, in spite of doctrine that called for "synchronization" of all assets, integrate the U.S. Marine and Arab Corps' operations into an overall ground attack concept.[61]

About the same time the VII Corps' planning effort began. First there was just the small cell at the Stuttgart headquarters. Its members began to work through the various problems in anticipation of briefing General Yeosock on 7 December. As they became familiar with the mission and terrain, they began to consider diverse aspects of the operation. From the beginning they recognized that Army planners had placed the corps initially too far east. Waller agreed and secured Schwarzkopf's approval to move the assembly area 110 kilometers farther west, just to the east of the Wadi al Batin.[62]

Another change was the addition of the U.K. 1st Armoured Division to the VII Corps. The British overall commander, Lt. Gen. Sir Peter de la Billière, asked General Schwarzkopf to assign his ground forces to VII Corps. Politically, it was important that the British contribution be part of the main thrust, not part of a secondary effort along the coast.[63] The Marines, of course, wanted an armored force

to replace the British. After a series of discussions between Franks and Waller, Central Command assigned the 1st ("Tiger") Brigade, an armored brigade from the theater reserve, the 1st Cavalry Division, to support the 2d Marine Division. If the 1st Cavalry Division became committed to any unit in the theater, Franks promised to send a brigade from his late-arriving 3d Armored Division to return it to full strength.[64]

On 7 December Franks and Cherrie returned to Saudi Arabia to brief Yeosock on the corps' progress and present several planning alternatives. The army commander had made few changes in the concept to date, and he directed the VII Corps, along with the XVIII Airborne Corps, which had briefed earlier, to continue their operational planning. It was at this meeting that Franks received confirmation that the British division was coming to VII Corps.[65]

General Franks and his staff organized the corps plan into six distinct phases: (1) the movement from ports to tactical assembly areas; (2) the movement from tactical assembly areas to attack positions; (3) the breach of the forward Iraqi defensive positions; (4) the defeat of the Iraqi *VII Corps*' tactical reserves behind the front lines; (5) the destruction of the *Republican Guard Forces Command* that served as the theater reserve; and (6) the defense of northern Kuwait after the cessation of hostilities.[66]

After moving into their tactical assembly areas and attack positions during the first two phases, the corps' forces would attack in Phase 3. Here, the 1st Infantry Division would create a breach in the Iraqi defensive line through which the U.K. 1st Armoured Division would pass. The British would then attack to the east to protect the corps' right flank and destroy the mobile forces of the front-line Iraqi corps. Once the British were through, the 2d Cavalry, the 1st and 3d Armored Divisions, and, if released by General Schwarzkopf, the 1st Cavalry Division would pass through the breach in search of the *Republican Guard*. The fourth phase anticipated the 2d Cavalry's finding the *Republican Guard* moving to counter the coalition offensive and then forcing the Iraqis to deploy. Then the VII Corps would slam its three heavy-division "fist" against its target, accompanied by deep artillery and air strikes.[67]

Almost three weeks later, on 20 December, Franks returned to Riyadh for one of the most important meetings of the campaign. He and General Luck briefed their respective corps battle plans to Secretary Cheney and the Chairman of the Joint Chiefs of Staff, General Colin Powell. Franks' presentation reflected the habitual detail found in the Army in Europe's defense plans. It was also, as he pointed out later, his effort to show his commanders that "we had done our homework and that we knew what we were doing."[68]

As in any good European briefing, Franks presented over thirty slides with titles such as *VII Corps Mission*, *Correlation of Forces*, *Logistics Estimate*, and *Issues*. The oral presentation focused on the corps' breakthrough, or breach operation, and the various options for destroying the *Republican Guard*. Franks later related that he consciously tried to avoid a Vietnam-era "can do" briefing. While he was confident of success, he presented the risks as he, Cherrie, and other members of the corps staff saw them. Major concerns revolved around the availability of trans-



The JCS also held briefings at the Pentagon with President Bush.

portation equipment to move his corps units to their assembly areas and the lack of dismounted infantry. He was also unhappy with the available intelligence information. Finally, he argued that he needed three full combat divisions to destroy the *RGFC*, believing that the U.K. 1st Armoured Division would be totally occupied securing his flank while the 1st Infantry Division was mired in the breach. From Franks' perspective, it had been a good briefing with the secretary of defense and the chairman listening attentively and asking sharp, focused questions.[69]

The basic outline of the plan would remain unchanged to the end, but its refinement was continuous. After the corps deployed to Saudi Arabia, it was obvious that the Iraqi defensive line no longer extended across the corps' entire sector. Just west of the 1st Infantry Division's breach zone, the line stopped, leaving a gap of about forty kilometers between the 1st Infantry Division sector and some extremely rough terrain farther west. Lacking detailed information, Franks ordered Colonel Holder to send out a small area-reconnaissance party. Its mission was to determine if the corps' armored vehicles could traverse that rough ground and if there was enough room to place the two huge armored divisions side-by-side. Holder's scouts discovered there was no problem with cross-country movement, and although it would be a tight squeeze, both armored divisions would fit. While the corps' commanders and staffs were engaged at a command post exercise at King Khalid Military City (KKMC), Franks modified his concept. The 2d Cavalry would now lead the 1st and 3d Armored Divisions, each starting their

attack on an extremely narrow front west of the breach. Franks' mass of maneuver would thus bypass the breach and its potential for confusion to envelop the Iraqi defenses completely.[70] The corps still had to execute the breach operation. The Iraqi defenses controlled the routes into the Iraqi desert that Franks' logisticians would need to move supplies forward to his attacking divisions.



General Starry

DESERT SABER and the divisional plans that supported it placed a great deal of stress on the concept of synchronization. One of the imperatives of AirLand Battle Doctrine, synchronization implied more than standard combined-arms tactics. It was based in part on ideas, labeled "deep attack" or "deep battle," which General Donn Starry and others had developed in the 1980s. Starry had been instrumental in the Army's post-Vietnam doctrinal reassessment that led to the development of AirLand Battle. As commander of the U.S. Armor Center (1973–1976) and V Corps in Europe (1976–1977), he led a group of officers who were convinced they had to extend the traditional battlefield. In their view the way to counter the multiple echelons of attacking Soviet forces that would face American units in Europe was to strike them before they arrived at the forward line of troops. As commander of the U.S. Army Training and Doctrine Command from 1977 to 1981, Starry had turned these ideas into doctrine with the publication of FM 100–5, *Operations,* in 1982.[71]

As a result, corps and divisions now organized their operation into deep, close, and rear battle zones. Within each zone, all available combat and intelligence units would work together to achieve tactical success. In the deep battle, for example, corps commanders were to utilize Army attack helicopters, long-range missiles such as the new ATACMS (Army Tactical Missile System), electronic warfare units, and Air Force aircraft to disrupt and destroy enemy forces behind the front lines before the ground battalions ever made contact. Effective synchronization required detailed target analysis, called intelligence preparation of the battlefield. The obvious problem was that synchronization detracted from other battlefield imperatives, such as agility and initiative.[72]

On 13 January, from its headquarters in Saudi Arabia, VII Corps issued OPLAN (Operations Plan) 1990–2, Operation DESERT SABER. In the basic document and twenty-one separate annexes, the plan spelled out the details of the operation, such as the western offensive incorporating Franks' decision to attack

with the 2d Armored Cavalry and two armored divisions west of the breach. While the details changed, and would continue to change as Franks' planners worked to anticipate the Iraqi actions and adjust to changing conditions on the ground, the basic premise remained constant.[73]

Secretary Cheney and General Powell returned to Saudi Arabia on 9 February for a final briefing by General Schwarzkopf and his commanders. Generals Yeosock, Franks, Griffith, and Maj. Gen. Barry McCaffrey (commander of the 24th Mechanized Division and the XVIII Airborne Corps representative) presented the plans that their forces had completed and rehearsed over the previous three months.[74] From the beginning the meeting was controversial. General Schwarzkopf had established a command climate, stemming possibly from his own impatience, which allowed little debate or professional give-and-take. Commanders and staff officers, in a variety of forums, later testified that his legendary mercurial temper did little to foster honest debate.[75] By now General Franks had concluded that there was no need to discuss issues of substance directly with Schwarzkopf. If he had problems or suggestions, he brought them to Generals Yeosock or Waller, or to Schwarzkopf's planners working for Col. Joe Purvis.[76] Had Franks known Schwarzkopf better, he might have been more wary.

Prior to the briefing, Schwarzkopf had apparently formed an unfavorable opinion of the VII Corps commander and expressed to General Yeosock his disapproval of Franks' plan of attack. According to his memoirs, he wanted Franks to move faster and dispense with the detailed, synchronized operations upon which Franks had based the entire VII Corps plan.[77] However, the commander in chief did not convey his concerns directly to Fred Franks.

The stage was set for a personal conflict between the two leaders. To some officers, Schwarzkopf appeared disinterested in the finer points of large-scale armored operations.[78] General Franks in contrast believed himself the theater's expert on mechanized tactics, considering himself the only one at the 9 February meeting who fully understood the complexity of the tasks ahead.[79]

Franks voiced his concerns as he had in December. He explained how he expected the fight to develop and identified the major problems ahead. Another division, he argued, would provide him a three-division fist to attack the *Republican Guard*. When pressed by Secretary Cheney, General Franks saw the 1st Cavalry Division, then serving as the theater reserve, as providing the combat power he needed. The request, according to some accounts, made Schwarzkopf furious.[80] Franks' presentation, deliberate and comprehensive, took longer than anticipated.[81] Franks' and Griffith's briefings seemed pessimistic and plodding when compared with the dynamic and positive presentation of General McCaffrey from the 24th Infantry Division (Mechanized).[82] McCaffrey, however, was commanding only one division, not five. All of his forces were in theater; Franks' were not. Moreover, in contrast to the VII Corps situation, McCaffrey had no substantial enemy force in front of him.

After the war General Schwarzkopf wrote that Franks' plan was simply "too deliberate and lacked flexibility."[83] Yet, in spite of such concerns, neither he nor Yeosock ever directed Franks to modify the plan.[84] Schwarzkopf could have

ordered Franks to cancel the breach operation and send his entire corps around the exposed Iraqi flank. With such an order, the VII Corps staff, paying attention to their logistic concerns, would have been hard-pressed to develop a more aggressive concept of operations. When Franks left that meeting on 9 February, he believed that his operation plan had the support of both Yeosock and Schwarzkopf.[85]

Some aspects of the briefing bothered the VII Corps commander. From Franks' perspective, the ground plan was not synchronized between the two corps. The XVIII Airborne Corps' deep terrain objectives had little to do with the destruction of the *RGFC*. There was no plan or concept for a possible coordinated two-corps attack to encircle and destroy the *Guard's* heavy divisions.[86] As army commander, Yeosock had the responsibility to coordinate such an attack if the *RGFC* attempted to withdraw or maneuver out of the VII Corps' zone of attack. Although Franks believed Yeosock had agreed to coordinate the two corps in such an attack on 1 February, the Third Army commander never developed or published a coordinated *army* plan before the war for accomplishing General Schwarzkopf's most important priority.[87] The VII Corps had planned for operations only within its boundaries, while the XVIII Airborne Corps, realizing that the *RGFC* was the main objective, had developed independent contingency plans cooperating directly with VII Corps.[88]

At the end of Franks' briefing, the secretary of defense asked the VII Corps commander, "How will it all end?" With Powell, Schwarzkopf, Yeosock, Waller, and General Charles A. Horner present, Franks believed that was a question for Schwarzkopf, not for him. After waiting a few moments, Franks gave Cheney an answer from his perspective, initially outlining how the VII and XVIII Airborne Corps would ultimately trap and destroy the *RGFC*. Ironically, however, there was no public comment from either Schwarzkopf or Yeosock. Franks believed Cheney had asked the right question but had gotten the answer from the wrong leader.[89]

VII Corps' Deployment

While General Franks and his planning group developed the operations order, the rest of his staff and most of VII Corps' commanders focused on the difficult business of moving their soldiers and equipment to Southwest Asia. On 9 November, the day after the president's announcement, General Saint's headquarters issued USAREUR Operations Order No. 22. That document outlined logistics policies and procedures that all units that deployed and supported the deployment would follow. It froze all soldiers in the theater in place; no further rotations back to the United States or discharges from the service would be allowed until the end of the conflict. The order further pointed out that General Saint would retain command of all deploying USAREUR units until they arrived in Southwest Asia and were attached to the U.S. Army Central Command.[90]

Saint and Franks both believed it was important to start moving units out of Europe immediately. Although Third Army and Central Command wanted logistics units first, Saint also wanted to shake out the deployment system, a task he knew

would be difficult. The only unit he had that could move on short notice was the cavalry regiment.[91] With Franks' telephonic approval, Holder's cavalrymen began immediately. Operating from five railheads and working twenty-four hours a day, the regiment began sending its equipment to North Sea ports. By Thanksgiving Day, 22 November, almost all its equipment had been loaded on ships and was en route to Saudi Arabia.[92]



General Shalikashvili

All of USAREUR participated in the deployment from Europe. General Shalikashvili, the deputy commander in chief, and Maj. Gen. Joseph S. Laposta, the deputy chief of staff for logistics, performed much of the coordination needed to push VII Corps out of Europe. Shalikashvili visited most major NATO commanders and important German business leaders, such as the director of the German railway system, to explain the huge task facing all of USAREUR and to ask for their support. Laposta set up a theater movement control center, collocated with the VII Corps movement control center, to bring together all the military and civilian logistics experts from throughout Europe in order to keep equipment moving to the port. Franks placed his deployment operation under the direction of Brig. Gen. Eugene L. Daniel, who, as a former brigade commander in the 24th Infantry Division (Mechanized), had experience with contingency and deployment operations.[93]

A number of issues made the deployment difficult. The German rail system was unprepared to support the massive exodus of almost half of America's combat forces from Europe. To augment rail transport the corps used, for the first time in memory, barges on the Main and Rhine Rivers to move large numbers of vehicles down to the ports of Bremerhaven, Antwerp, and Rotterdam.[94] The scale of the deployment was impressive: The 3d Armored Division alone used 57 trains and 200 barges to move its equipment.[95] But a constant shortage of metal containers to ship unit supplies and equipment made the task difficult.[96]

Maj. Gen. Wilson A. Shoffner's 3d Infantry Division ran the corps' Port Support Activity cells at Bremerhaven, Antwerp, and Rotterdam. These organizations assumed control of the corps' equipment, taking responsibility for ensuring that it was loaded on ships so the soldiers could return to their home station and finish training, packing, and deploying to Southwest Asia by commercial and military aircraft.[97] In spite of their best efforts, major problems developed in loading vehicles and equipment on the ships. Army doctrine specifies that units ship all



Loading M1A1 Tanks by Crane into the Well Deck of a Chartered Freighter; below, *Crates Filled with Artillery Projectiles To Be Deployed to Saudi Arabia from North Carolina*



their vehicles and equipment together. But, once the units' equipment was assigned to the port support activity, other factors dictated how ships were loaded and when they departed. When there was space remaining on a ship, the civilian and military personnel at the port filled it from the next equipment in line. In other cases, there was not enough room for the whole unit, so some of the equipment went on a later ship.

The ultimate result was that VII Corps units arrived in Saudi Arabia in a disorganized manner. Colonel Cherrie offered an analogy for the entire deployment planning process: "We were trying to do laser brain surgery [with our planning], while there were people out there [at the ports] doing it with sledge hammers."[98] It was, according to one critic, "the logistical equivalent of taking the drawers out of the dresser, throwing the clothes into a suitcase, slamming it shut, and then sorting it out on the other end."[99] The Army and USAREUR representatives at the ports were unable to enforce the unit loading plans that the deploying corps required.

Although individual units were sometimes disorganized during the deployment, the major subordinate commands generally deployed according to plan. Along with the 2d Armored Cavalry, the Corps Tactical Command Post (TAC) and essential combat service support units also moved to the ports. Those were followed by more combat support and service support units, including the 7th Engineer Brigade. After the remainder of the corps' logistics units departed, the combat units began heading for the ports. The 1st Armored Division led the way, followed by the 11th Aviation Brigade, VII Corps headquarters, VII Corps Artillery, the 2d Armored Division's Europe-based brigade, and the 3d Armored Division.[100] The last of the forty-eight ships arrived at Ad Dammam, Saudi Arabia, on 7 February 1991, carrying the equipment of the 3d Armored Division.[101]

The 1st Infantry Division from Fort Riley, Kansas, and the 142d Field Artillery Brigade (National Guard) from Fayetteville, Arkansas, as well as numerous smaller units joined the VII Corps in Saudi Arabia. Fort Riley deployed dozens of Regular Army, National Guard, and Army Reserve units to Southwest Asia before its own division was alerted. After 8 November all members of the post strained to move the "Big Red One" to the port.[102]

The 1st Infantry Division's deployment was different from that of the other major VII Corps units in many ways. Because of its location in the heart of Kansas, far from its expected Warsaw Pact adversary, the 1st Infantry Division's equipment was not as modern as that of the Europe-based divisions. Because of its location in the central United States, however, it was relatively easy to conduct a major force modernization effort. In only a few weeks, almost 600 new M939A2 five-ton trucks, over 500 M998 high mobility multipurpose wheeled vehicles (HMMWVs), over 100 10-ton heavy expanded mobility tactical trucks (HEMTTs), and 28 M9 armored combat earth movers (ACEs) were turned over to the division's troops. Soldiers turned in their old M1911 .45s for new Beretta M9 9-mm. pistols. In addition, the division received various new radars, chemical defense systems, global positioning systems, and other equipment.[103]

The division's G–3 section, Fort Riley's director of logistics, and individual unit commanders managed to have all of the 1st Infantry Division's 6,800 tracked vehi-

cles, wheeled vehicles, and engineer equipment painted in the desert sand motif. Working around the clock in three post locations and several unit bays, the entire repainting process took only ten days, using 22,079 gallons of paint. To match their equipment, the soldiers received an initial issue of two complete desert camouflage uniforms.[104] The tremendous amount of work involved in this and thousands of other seemingly minor tasks was accomplished with little or no fanfare.



General DePuy

On 27 November retired General William E. DePuy came to speak to the 1st Infantry Division's officers. DePuy's career had begun during the Normandy Campaign of World War II, went through command of the 1st Infantry Division in Vietnam, and concluded as the founder of the U.S. Army's Training and Doctrine Command. As one of the primary driving forces in the Army's reform movement of the 1970s and 1980s, DePuy made some sobering points to the officers, few of whom were veterans of other conflicts. He reminded them that in World War II, his "division lost 40 percent of its platoon leaders each week for seven weeks." He asked the 1st Infantry Division's leaders: "Why fight the battle the way the enemy wants?" He advised them instead to "fight the battle on our terms." Emphasizing that "synchronization is important," he urged them to "try to fight the battle as smart as we can and use all of the tools that are available."[105] It was a fitting send-off and the last time for many months all the division's officers would gather.

That same day the first of thirty-seven trains pulled out of Fort Riley headed for Houston, Texas. There, the equipment was loaded on the eighteen ships that carried it to Ad Dammam. Soldiers began moving to Topeka, Kansas, the closest large airfield to Fort Riley, on 3 December. Ultimately, 115 aircraft of all sizes and types moved the division's personnel to the Persian Gulf.[106]

The U.K. 7th Armoured Brigade was already serving alongside the U.S. marines on the coast of Saudi Arabia when President Bush announced the decision to send the VII Corps. On 22 November the British government announced it was sending the 1st Armoured Division headquarters, under Maj. Gen. Rupert A. Smith, to Saudi Arabia. To the 7th Armoured Brigade already there, the British added the 4th Armoured Brigade. By the end of December more than half of the 4th Armoured Brigade was at Al Jubayl, drawing their equipment. When these troops arrived in January, the British Army would have over 33,000 soldiers serving alongside VII Corps.[107]



General Smith

Before 1990 VII Corps had never envisioned its deployment to another theater of war. Unlike a contingency-oriented corps, it had neither the equipment nor the training to conduct such an operation. Yet, by a combination of will, planning, and general professionalism, the Jayhawks began to leave their home stations and head for Southwest Asia with high hopes. By the middle of December, General Franks would assemble his new corps of four heavy divisions and an armored cavalry regiment in the desert of Northern Arabia. It constituted the most powerful American corps ever under the command of a single commander, with more combat power than General George S. Patton's World War II Third Army. Franks also had a battle plan. For better or worse, DESERT SABER focused the efforts of the corps' leaders on the tasks of breaching the Iraqi defenses and finding and destroying the *Republican Guard Forces Command*. With their mission clear, division and subordinate commanders began issuing their own guidance and developing their own plans. But before they could devote their time to training and preparing for their attacks, they had to accomplish one of the most difficult tasks of the entire operation: moving their soldiers and equipment out of the ports of Al Jubayl and Ad Dammam. The task proved far more difficult than anyone had anticipated.

Notes

[1]Department of Defense (DOD), *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), pp. 2–4, 31–32; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 44–45.

[2]Helen Chapin Metz, ed., *Iraq: A Country Study*, 4th ed., Department of the Army Area Handbook Series (Washington, D.C.: Government Printing Office, 1990), pp. 228–30.

[3]R. Ernest Dupuy and Trevor N. Dupuy, *The Harper Encyclopedia of Military History*, 4th ed. (New York: HarperCollins, 1993), pp. 1335–37, 1344.

[4]Dupuy and Dupuy, *Encyclopedia of Military History*, pp. 1350–51; Chaim Herzog, *The War of Atonement* (Toronto: Little, Brown and Co., 1975), pp. 137–43.

[5]Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. II: The Iran-Iraq War* (Boulder, Colo.: Westview Press, 1990), pp. 31–32.

[6]Ibid., pp. 260–62.

[7]Stephen C. Pelletire, Douglas V. Johnson II, and Leif R. Rosenberger, *Iraqi Power and U.S. Security in the Middle East* (Carlisle Barracks, Pa.: U.S. Army War College, 1990), p. 81.

[8]Cordesman and Wagner, *Iran-Iraq War*, pp. 354–57.

[9]Ibid., pp. 373–75.

[10]Pelletire, et al., *Iraqi Power and U.S. Security*, pp. 41–49.

[11]513th Military Intelligence Brigade, "The Gulf War: An Iraqi General Officer's Perspective," Joint Debriefing Center, Saudi Arabia, 11 Mar 91. This document summarizes the observations of nine Iraqi generals and colonels captured by coalition forces during the war. Although extremely useful in presenting the picture of front-line units, the document provides little detailed information on units in the *Republican Guard Forces Command*. Its bleak picture of the Iraqi Army's *VII Corps* should not be applied to Iraqi forces as a whole, especially the *RGFC*.

[12]George Bush and Brent Scowcroft, *A World Transformed* (New York: Alfred A. Knopf, 1998), pp. 302–26; Colin Powell and Joseph E. Persico, *My American Journey* (New York: Ballantine Books, 1995), pp. 446–52; James W. Pardew, Jr., "The Iraqi Army's Defeat in Kuwait," *Parameters* (Winter 1991–1992):19.

[13]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 306–08; "The Army Commanders," *Army* 41, no. 3 (March 1991):49; Richard M. Swain, *"Lucky War": Third Army in Desert Storm* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 17–18.

[14]American unit designations often bore no resemblance to their actual configuration. The 1st Infantry Division was essentially an armored division, as was the 1st Cavalry Division. Armored cavalry regiments were in effect heavy armored brigades. DOD, *Conduct of the Persian Gulf War*, pp. 36–40; Scales, *Certain Victory*, p. 95.

[15]"Heavy" implies armored or mechanized. The Egyptians sent the 3d Mechanized Division and the 4th Armored Division. The Syrians sent the 9th Armored Division.

[16]Lt. Gen. Prince Khalid ibn Sultan, *Desert Warrior* (New York: HarperCollins, 1995), p. 244; Lawrence Freedman and Efraim Karsh, *The Gulf Conflict, 1990–91* (Princeton: Princeton University Press, 1993), pp. 95–98.

[17]XVIII Abn Corps, Fragmentary Order (FRAGO) no. 3, 17 Jan 91; U.S. Army Central Command (ARCENT), Morning Briefing, 24 Feb 91, Briefing Slides, Swain Collection, Combined Arms Center Historian, Fort Leavenworth, Kans. (hereafter cited as Swain Collection).

[18]Ministry of Defense, *Operation GRANBY: An Account of the Gulf Crisis, 1990–91 and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1991), p. 3–2.

[19]Sultan, *Desert Warrior*, pp. 189–99.

[20]Interv, Joe Huddleston with Calvin A. H. Waller, 16 May 91, U.S. Army Center of Military History, Washington, D.C. (hereafter cited as CMH).

[21]"The Army Commanders," pp. 49–50; Swain, *"Lucky War,"* pp. 18–19.

[22]John J. Yeosock, "H+100: An Army Comes of Age in the Persian Gulf," *Army* 42 (October 1991):45–48, and "Army Operations in the Gulf Theater," *Military Review* 71, no. 9 (September 1991):2–5.

[23]Stephen P. Gehring, *From the Fulda Gap to Kuwait: U.S. Army, Europe, and the Gulf War* (Washington, D.C.: U.S. Army Center of Military History, 1998), pp. 54–67.

[24]Ibid., p. 76.

[25]Ibid., pp. 86–90; Bruce E. Siemon, *Historical Review: 1 January 1990–31 December 1991* (Heidelberg, Germany: U.S. Army, Europe, and Seventh Army, 1993), pp. 15, 17.

[26]Siemon, *Historical Review*, p. 18; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 2 Apr 91; Interv, Richard Swain with Stanley F. Cherrie, 19 Aug 91; Gehring, *Fulda Gap to Kuwait*, p. 88.

[27]Gehring, *Fulda Gap to Kuwait*, pp. 94–95.

[28]Siemon, *Historical Review*, p. 18.

[29]Ibid.; Interv, author with Frederick M. Franks, Jr., 8 Sep 95, TRADOC.

[30]Paul E. Christopher, "VII Corps Main Command Posts During Operation DESERT SHIELD and DESERT STORM: A Personal Experience Monograph," Unpubl Ms, U.S. Army War College, Carlisle Barracks, Pa. (hereafter cited as AWC), 1992, pp. 1–3; Interv, Kindsvatter with Franks, 2 Apr 91.

[31]Interv, Swain with Cherrie, 19 Aug 91.

[32]Ibid. Moving out of Germany requires coordination with other nations whose boundaries the deploying unit must cross. Ultimate coordination in this regard was conducted by HQ, U.S. Army, Europe (USAREUR).

[33]Siemon, *Historical Review*, pp. 21–22; Interv, Kindsvatter with Franks, 2 Apr 91; Interv, Swain with Cherrie, 19 Aug 91.

[34]Siemon, *Historical Review*, pp. 22–23; Gehring, *Fulda Gap to Kuwait*, pp. 100–101. The 3d Armored Division had the latest mobile subscriber equipment, or MSE, the most advanced and secure radio system available.

[35]Interv, Kindsvatter with Franks, 2 Apr 91.

[36]Siemon, *Historical Review*, p. 23.

[37]Ibid., p. 24; Interv, Kindsvatter with Franks, 2 Apr 91.

[38]Interv, Kindsvatter with Franks, 2 Apr 91.

[39]Bush and Scowcroft, *A World Transformed*, pp. 395–96; Powell and Persico, *My American Journey*, p. 476.

[40]Siemon, *Historical Review*, p. 28.

[41]LT GEN Frederick M. Franks, Jr., note made following formal notification of deployment of VII Corps, 8 Nov 90, in General Franks papers, Fort Leavenworth, Kans.

[42]Franks, note made during telecon with Maj Gen William G. Pagonis, 9 Nov 90, in Franks papers.

[43]Interv, Kindsvatter with Franks, 2 Apr 91; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), pp. 183–84.

[44]Franks, note made following formal notification of deployment, 8 Nov 90; Interv, Kindsvatter with Franks, 2 Apr 91.

[45]HQ, VII Corps, Operations Plan (OPLAN) 1990–1, Opn CAPABLE COMPELLER, 11 Nov 90, p. 3.

[46]Members of Franks' flight included: Brig. Gen. Robert P. McFarlin, 2d Corps Support Command (COSCOM) commander; Col. Stanley F. Cherrie, VII Corps G–3; Col. Richard M. Walsh, 93d Signal Brigade commander; Col. Edwin W. Simpson, VII Corps deputy chief of staff; and Maj. Toby Martinez, Franks' aide de camp.

[47]Interv, Swain with Cherrie, 19 Aug 91; Peter S. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for DESERT STORM," *Military Review* 72, no. 1 (January 1992):5.

[48]Kindsvatter, "Deployment and Preparation," p. 6; Interv, Kindsvatter with Franks, 2 Apr 91.

[49]Interv, Swain with Cherrie, 19 Aug 91; Interv, Richard M. Swain with John J. Yeosock, 18 Jun 91, Swain Collection; William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard Business School Press, 1992), p. 127.

[50]Intervs, Swain with Cherrie, 19 Aug 91, Kindsvatter with Franks, 2 Apr 91.

[51]The XVIII Airborne Corps principal combat units included Maj. Gen. James H. Johnson's 82d Airborne Division, Maj. Gen. James H. B. Peay III's 101st Air Assault Division, Maj. Gen. Barry R.

McCaffrey's 24th Infantry Division (Mechanized), and Col. Douglas H. Starr's 3d Armored Cavalry. By G-day the corps also had tactical command of Brig. Gen. Bernard Janvier's French 6th Light Armored Division.

[52] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 445.

[53] Ibid.; James Kitfield, *Prodigal Soldiers* (New York: Simon & Schuster, 1995), pp. 365–70; Clancy and Franks, *Into the Storm*, pp. 191–93; Swain, *"Lucky War,"* pp. 90–91.

[54] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 383.

[55] Frederick M. Franks, Jr., note to author, 17 Jan 96, author's files; Swain, *"Lucky War,"* pp. 114–17; Interv, Timothy J. Groggin, et al., with Calvin A. H. Waller, 2 May 91, CMH.

[56] Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), p. 257.

[57] Kindsvatter, "Deployment and Preparation," p. 11.

[58] Frederick M. Franks, Jr., note made before planning briefing, 26 Nov 90, [Commander's Guidance], Franks papers. VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, pp. 5–6.

[59] Franks, Commander's Guidance; VII Corps, OPLAN 1990–2, p. 6.

[60] Interv, Cynthia Hayden with Gary Luck, 21 Apr 97, Fort Bragg, N.C.

[61] Interv, Huddleston with Waller, 2 May 91.

[62] Intervs, Swain with Cherrie, 19 Aug 91; Kindsvatter with Franks, 2 Apr 91; Huddleston with Waller, 2 May 91.

[63] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 449.

[64] Intervs, author with Franks, 8 Sep 95, Huddleston with Waller, 2 May 91.

[65] Interv, Kindsvatter with Franks, 5 Apr 91; Swain, *"Lucky War,"* pp. 93–95.

[66] VII Corps Comdr, "Concept of Operations," Briefing Slides [20 Dec 90].

[67] Ibid.; Interv, Kindsvatter with Franks, 5 Apr 91.

[68] Interv, Kindsvatter with Franks, 5 Apr 91.

[69] VII Corps Comdr, Briefing Slides [20 Dec 90]; Interv, Kindsvatter with Franks, 5 Apr 91.

[70] Interv, Kindsvatter with Franks, 5 Apr 91; Swain, *"Lucky War,"* p. 104.

[71] John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973–1982* (Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 1984), pp. 23–50.

[72] Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. IV: The Gulf War* (Boulder, Colo.: Westview Press, 1996), pp. 152–53; Romjue, *Active Defense to AirLand Battle*, pp. 43–50; DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), pp. 17–18.

[73] VII Corps, OPLAN 1990–2, pp. 5–6, 36.

[74] Swain, *"Lucky War,"* pp. 121–23.

[75] Ibid., p. 145; Bernard Trainor, "Schwarzkopf—The Man," *Proceedings* 120 (April 1994):100. Numerous comments concerning the commander in chief's temper may be found in Atkinson, *Crusade*, and Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994).

[76] Interv, author with Franks, 8 Sep 95.

[77] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 502.

[78] Swain, *"Lucky War,"* p. 18.

[79] Interv, author with Franks, 8 Sep 95.

[80] Gordon and Trainor, *The Generals' War*, p. 305; Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 503.

[81] Atkinson, *Crusade*, p. 268.

[82] Ibid., pp. 306–07; Kitfield, *Prodigal Soldiers*, pp. 394–95.

[83] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 503.

[84] Bernard Trainor, "Schwarzkopf and His Generals," *Proceedings* 120 (June 1994):46; Swain, *"Lucky War,"* p. 18.

[85] Swain, *"Lucky War,"* p. 18; Clancy and Franks, *Into the Storm*, p. 236.

[86] Barry R. McCaffrey, "Operation DESERT STORM Attack Overview," Briefing Charts, 9 Feb 91, in *24th Mechanized Infantry Division Combat Team Historical Reference Book* (Fort Stewart, Ga.: 24th Mechanized Infantry Division, 1991), slide 12.

[87] Franks, note to author, 17 Jan 96; Interv, author with Franks, 8 Sep 95. Memo, ARCENT G–3, sub: Historical Narrative of DESERT SHIELD, DESERT STORM, Defense and Restoration of Kuwait, and Redeployment, 6 Apr 91; Swain, *"Lucky War,"* pp. 137, 195. The Third Army G–3 did not finish its plan until 28 February, after the end of the ground war.

[88] Barry R. McCaffrey, "Discussion Paper, Subj: 24th ID(M) Attack Plan DESERT STORM," in *24th Mechanized Infantry Division Combat Team Historical Reference Book*, doc. 39, p.5.

[89] Interv, author with Franks, 8 Sep 95.

[90] Gehring, *Fulda Gap to Kuwait*, pp. 113–14.

[91] Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 10; Siemon, *Historical Review*, p. 29.

[92] Gehring, *Fulda Gap to Kuwait*, pp. 143–44; Interv, Kindsvatter with Franks, 2 Apr 91; Vogel, "A Swift Kick," p. 10.

[93] Siemon, *Historical Review*, pp. 30–31; Interv, Kindsvatter with Franks, 2 Apr 91; Gehring, *Fulda Gap to Kuwait*, pp. 146–47.

[94] Gehring, *Fulda Gap to Kuwait*, pp. 121–22.

[95] 3d Armd Div, "Historical Overview of the 3AD in the Persian Gulf War," n.d., in VII Corps After Action Report (AAR), Fort Leavenworth, Kans.

[96] Intervs, Swain with Cherrie, 19 Aug 91, Kindsvatter with Franks, 2 Apr 91.

[97] VII Corps, OPLAN 1990–1, p. 5; Interv, Kindsvatter with Franks, 2 Apr 91.

[98] Interv, Swain with Cherrie, 19 Aug 91.

[99] Gordon and Trainor, *The Generals' War*, p. 194.

[100] Siemon, *Historical Review*, p. 29.

[101] All ships were arranged by the U.S. Transportation Command and its Navy component, the Military Sealift Command. At the height of deployment, 217 ships were either en route to, unloading in, or returning from Saudi Arabia. See James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast* (Washington, D.C.: U.S. Transportation Command, 1995), pp. 115–61.

[102] HQ, Fort Riley, AAR, Phase I, *Mobilization and Deployment (Operation DESERT SHIELD/STORM)* (Fort Riley, Kans.: Deputy for Plans, Training, and Mobilization, 1991), pp. 3–4.

[103] Fort Riley, AARs, Phase III, pp. 30–31, and IV, pp. 37–38.

[104] Fort Riley, AAR, Phase III, p. 29; 1st Inf Div G–3, 1st Inf Div on DESERT STORM, Briefing presented to Command and General Staff College (CGSC) students, 7 Aug 91, author's notes.

[105] Gen (Ret) William E. DePuy, Presentation for the Ofcrs of the 1st Inf Div at Fort Riley, Kans., 27 Nov 90, author's notes.

[106] Fort Riley, AAR, Phase III, p. 33.

[107] Ministry of Defense, *Operation GRANBY*, pp. 3–3 to 3–4.

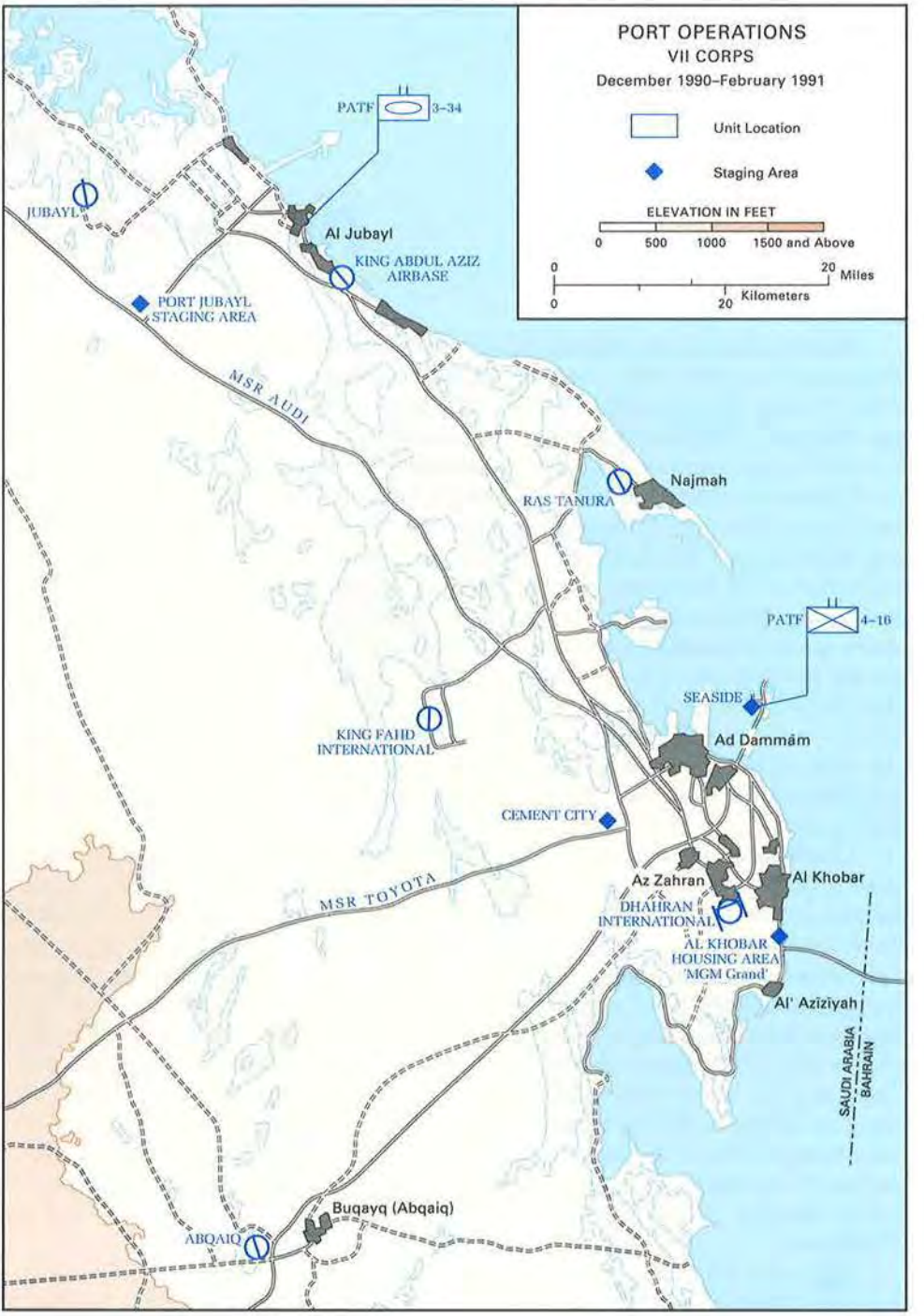
3

Port Operations

An eerie experience awaited those soldiers arriving at night in Saudi Arabia in the winter of 1990–1991. They could see very little as they began their descent after crossing Egypt and the Red Sea. The few towns and villages in the center of the kingdom gave off only dim light not visible to most of the airborne passengers. Continuing the descent, the soldiers suddenly found themselves over the Persian Gulf. Now the coast came alive with bright lights from the ports, coastal cities, oil wells, and refineries. As they dropped farther, they could see a long row, extending back toward the Strait of Hormuz, of dimly lit cargo ships waiting to be unloaded at Ad Dammam and Al Jubayl. As they turned and headed west, back toward the Saudi coast and King Fahd International Airport or Dhahran Air Base, many soldiers became aware of what a tempting target they made in the night sky. As the landing gear was lowered from the belly of the plane, many wondered if they would take fire from some Iraqi commando with a Soviet-made SA–7 antiaircraft missile. Suddenly, the light disappeared and they were over the desert darkness again. Then they were on the ground and rolling down the runway. Looking out the window, soldiers saw sandbagged bunkers, radars, and Hawk and Patriot antiaircraft missile launchers.[1]

Climbing off the aircraft, the arriving soldiers marched across the airfield's tarmac to a sandy area several hundred meters from the aircraft. While a detail helped unload their duffel bags from the airplane's cargo compartment, a soldier from the movement control center briefed them on what do in case of an Iraqi Scud attack and what their schedule would be for the next twelve hours. Soon the baggage detail had lined up the duffel bags behind the formation, and after locating their bags the soldiers trundled onto a waiting bus. A drive through the dark streets of a clean, deserted city brought them to a warehouse at the port of Ad Dammam. An officer, previously named flight commander, then coordinated with the duty officer at the 1st Infantry Division (Forward) (IDF) Port Support Activity headquarters. Once the latter determined at which port the unit's ships were to arrive, the newly arrived soldiers moved either to the port of Al Jubayl and its troop housing or most likely to one of the several billet areas around Ad Dammam.[2]

When the VII Corps arrived in Saudi Arabia, it began an operation its soldiers had not trained for or thought much about since the corps' original landing in France in 1944. The reception of a large combat unit in a new theater of opera-


PORT OPERATIONS
VII CORPS
December 1990–February 1991
Unit Location
Staging Area
ELEVATION IN FEET
0
500
1000
1500 and Above
0
20
Miles
0
20
Kilometers
PATF
3-34
JUBAYL
Al Jubayl
KING ABDUL AZIZ AIRBASE
PORT JUBAYL STAGING AREA
MSR AUDI
Najmah
RAS TANURA
PATF
4-16
SEASIDE
KING FAHD INTERNATIONAL
Ad Dammām
CEMENT CITY
Az Zahran
Al Khobar
MSR TOYOTA
DHAHRAN INTERNATIONAL
AL KHOBAR HOUSING AREA 'MGM Grand'
Al' Aziziyah
SAUDI ARABIA
BAHRAIN
Buqayq (Abqaiq)
ABQAIQ

MAP 4

tions is a complex task. Even without enemy interference, friction affects every aspect of the complex endeavor. Units can find themselves bogged down in the port area, looking for equipment and supplies, rather than in the sectors where they need to conduct combat operations. Such prospects faced General Franks and his corps in Saudi Arabia at the end of 1990.

Brig. Gen. William J. Mullen III and his 1st IDF, in conjunction with the 22d Support Command's 7th Transportation Group, supervised this massive undertaking. Before the deployment ended, over 51,000 VII Corps vehicles and aircraft had to be off-loaded from 152 ships. In addition, over 107,000 soldiers arriving at the various airports had to be met, billeted, protected, and organized for movement. As crews picked up their equipment, Mullen's team organized and dispatched over 900 unit convoys to the tactical assembly areas. In addition to normal maintenance operations for arriving vehicles, they also supervised the desert-painting of over 8,600 corps vehicles, modernizing of equipment, and replacing of several hundred other pieces of equipment.[3] Mullen's soldiers performed these massive tasks so the rest of the corps could move freely to the tactical assembly areas.

Like most American troops, the VII Corps' first stop in Southwest Asia was the Eastern Province of Saudi Arabia. The port and administrative center of Ad Dammam is the heart of the kingdom's petroleum-chemical industry and the administrative capital of the province. Almost all the oil found in Saudi Arabia is located within a 200-mile radius of this important port.[4]

Although few people, except for Bedouin tribes and small traders, lived in the Eastern Province at the beginning of the twentieth century, by 1990 the region around Ad Dammam had grown into a large urban center. The Arab-American Oil Company (Aramco) had built the commercial port of Ad Dammam for the Saudi government.[5] A large, modern facility with thirty-six berths for off-loading ships, Ad Dammam handled 10 percent of the kingdom's imports, over 15 million tons annually.[6] It also contained numerous warehouses that were ideal for billeting the troops who unloaded the arriving ships. A few miles south of the port was the small industrial city of Al Khobar, home to many Palestinian "guest" workers. Adjacent to Al Khobar, Dhahran International Airport became a major military base for the Saudi and coalition air forces.[7] Dhahran also contained the homes of Aramco's American employees, a western enclave in this Islamic world.[8] Across a narrow strait linked by a causeway was the former British colony of Bahrain, the Persian Gulf's preeminent banking, insurance, and ship-repair center. Thirty miles west of Ad Dammam in the open desert was the new King Fahd International Airport. This Eastern Province was therefore one of the most important locations in Southwest Asia.[9]

About fifty miles north of Ad Dammam was the new industrial port city of Al Jubayl. The Saudi Arabian government had built these port facilities in the late 1970s on barren wasteland. The government had wanted to develop an industrial center powered by the gasses that normally escaped during the oil-drilling process. Gathered at the oil wells and piped to Al Jubayl, in 1990 the gasses powered an array of developing industrial plants.[10] Early in the development process.



The Port at Ad Dammam; below, *Warehouse Billeting, Port of Ad Dammam, January 1991*



the Saudi government had also constructed a large, modern, deep-water port with both commercial and industrial sections.[11] Its commercial port was much smaller than Ad Dammam's, but the industrial port was one of the busiest in the kingdom, importing over 19 million tons of supplies in 1987.[12] By 1985 Al Jubayl was also home to a major Saudi naval base built under the supervision of the U.S. Army Corps of Engineers.[13]

Command and Control

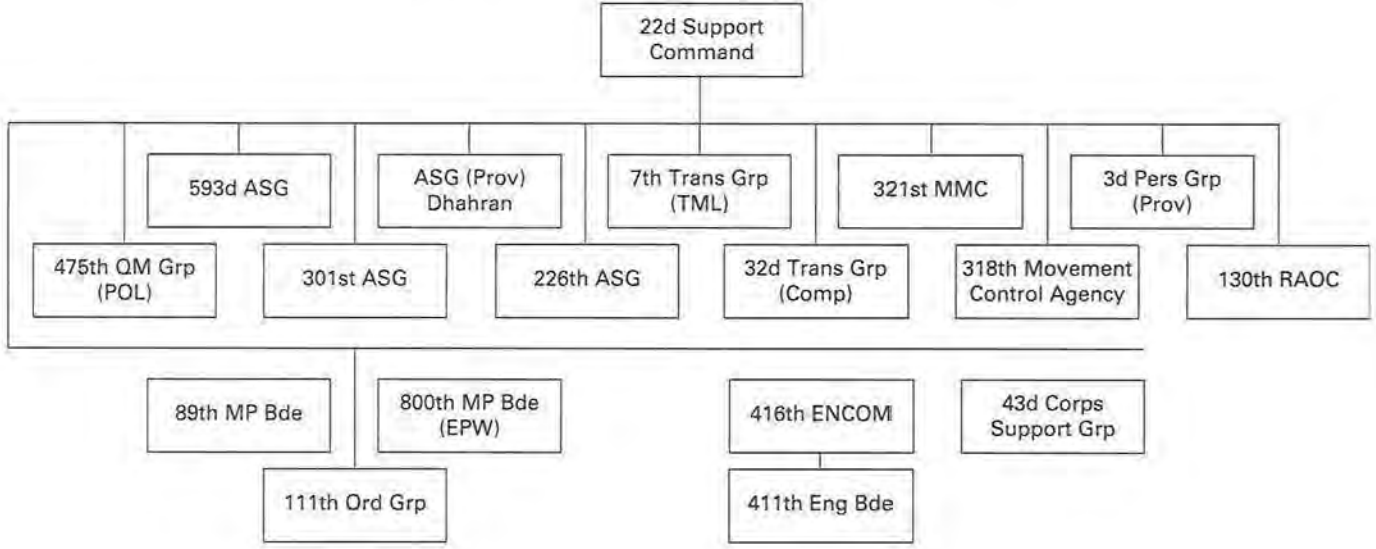
For forty-five years, VII Corps' organizational mission had been to defeat a Warsaw Pact invasion of the German Federal Republic. Working out of command posts and bunkers near its headquarters in Stuttgart, Germany, VII Corps had no need for the many headquarters, control elements, and transportation units needed to safely and quickly deploy its units from one theater of operations to another.[14] Units that arrived in Europe to reinforce the VII Corps had been controlled by the 21st Theater Army Area Command, based in Kaiserslautern, Germany. As rehearsed year after year on training exercises, that headquarters supervised the reception, linking soldiers with either their own or pre-positioned equipment, and sent them farther east, where VII Corps would be in battle against Eastern Bloc forces.

No such organization awaited VII Corps in Southwest Asia. Lt. Gen. William G. Pagonis reflected after the war that his 22d Support Command, the theater army support group in Saudi Arabia, had only three months' experience in receiving and processing XVIII Airborne Corps troops and equipment through the port area.[15] The command was grossly undermanned and lacked the capacity to receive the massive VII Corps' personnel and equipment at the port and send them forward.[16]

For several reasons Pagonis' unit charged with directing movement from the port, the 318th Theater Army Movements Control Agency (TAMCA), never gained control of the in-theater deployment. The 318th arrived after the XVIII Airborne Corps was already in motion and had to assist with the operation already in place. The unit, which actually required a battalion, was underequipped and, like the 22d Support Command, grossly undermanned. Moreover, the scale and energy of both XVIII Airborne and VII Corps deployment efforts essentially overwhelmed the 318th's ability to provide a theaterwide logic to the departure into the interior from the port. The 318th TAMCA was simply too late and too small to run the effort as its doctrine dictated.[17]

In addition to the 318th, which was supposed to be the brains of the deployment, this activity required personnel and equipment. In place of a full-fledged area support group that logistics doctrine required, Pagonis assigned the much smaller 7th Transportation Group the mission of running both terminal port operations and the movement of units out of the port. In addition, Pagonis was unable to provide the people or equipment that the 7th Transportation Group needed to accomplish its many missions.[18] Since this unit was unable to provide VII Corps' required support, Franks had to develop his own plan and infrastructure for running the port operation.[19] While he preferred to have detailed plans to guide his

CHART 2—22D SUPPORT COMMAND, 15 JANUARY 1991



ASG Area Support Group
ENCOM Engineering Command
MMC Mobile Management Command
POL Petroleum, Oils, and Lubricants
RAOC Rear Area Operations Center
TML Terminal

Source: 22d SUPCOM, AAR, vol. 1, 1991.

corps' activities, he had little choice but to improvise a way to get his divisions through the labyrinth of the port area.

Without an effective theater structure in place, Franks determined early to run the port operation, rather than wait for some senior headquarters to take responsibility. Therefore, it was an improvised operation from the beginning of the deployment until the last vehicle and unit headed for the desert on 18 February. Throughout this period, corps leaders continued to develop, improve, and refine solutions to respond to the myriad tasks and obstacles facing them.

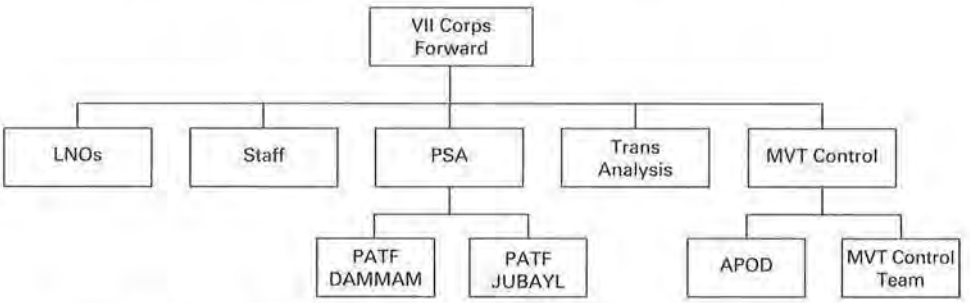
To minimize the distraction of his tactical unit commanders' trying to supervise their units' activities at the port, Franks formed an ad hoc "Forward HQ." His deputy corps chief of staff, Col. Edwin W. Simpson, used this headquarters to control all VII Corps operations at Al Jubayl and Ad Dammam. It served as the corps' headquarters in the port area until General Franks and his staff arrived. It also acted as the reception element for all the corps' units arriving from both Europe and the United States and coordinated with both the Third Army logisticians and Pagonis' 22d Support Command. Simpson's advance party arrived at Dhahran Air Base on 25 November to begin operations.[20]

Within a short time Simpson's headquarters developed four main sections. First was a small staff with representatives from each of the VII Corps staff's major functional areas, such as personnel, intelligence, logistics, and operations. The staff kept Simpson fully informed of the corps' tactical and logistical operations.[21] The corps' forward command post was responsible not only for port logistics, it also had to be capable of assuming emergency direction of the entire corps in combat if other VII Corps command posts were unable to do so.

The second element was a transportation operations cell. Its mission was to monitor, analyze, and coordinate the movement of soldiers and equipment into the various airfields, or aerial ports of debarkation, and ports, called seaports of debarkation. Franks wanted his units to spend no more than two to three days in the port. This would be just enough time for the soldiers to become accustomed to the weather, adjust to jet lag, and pick up their equipment at the port. Then the unit could deploy to its tactical assembly area. However, the sea movement became almost impossible to manage.[22] Lt. Col. William W. Spyker, detailed from the USAREUR's 21st Theater Army Area Command, directed operations of this section for the corps, and the 1st Infantry Division (Forward) provided most of the officers and noncommissioned officers to operate it.[23]

The VII Corps' own 229th Transportation Center, commanded by Lt. Col. John Pittman, ran the movement control center, the third element of Simpson's headquarters. Pittman had the task of coordinating all ground transportation with the arrival of soldiers at the airfields. Between one and five thousand soldiers arrived at King Fahd International Airport each day in December. All required bus transportation to the port where their equipment was arriving. Once the vehicles were ready to go, this cell coordinated with the 318th TAMCA at Dhahran to move the unit convoys out to the TAA. This coordination included scheduling HETs (Heavy Equipment Transporters) to carry the tanks and other trucks to move equipment. They obtained buses to move the troops. Finally, they initially

CHART 3—VII CORPS FORWARD HEADQUARTERS, NOVEMBER 1990



APOD Aerial Port of Departure
LNOs Liaison Officers from supporting and subordinate units
PATF Port Assistance Task Force
PSA Port Support Activity

Source: 1st Infantry Division (Forward), DESERT STORM/DESERT SHIELD AAR: VII Corps Debarkation and Onward Movement, 30 May 91, Chart B–1.

arranged for police escort to move the convoys inland. This ad hoc arrangement was only marginally successful and extremely inefficient.[24]

An important and often unrecognized element in the VII Corps' forward headquarters was the group of unit liaison officers that remained at the forward corps command post. Acting as the transient unit commander's agent, they kept the corps staff apprised of the specific needs and problems of the tactical units.[25] Because of their sense of urgency, they were usually able to solve communication and administrative problems before they required a senior commander's involvement. Commanders selected these officers because of their proven ability to make quick, on-the-spot decisions.[26]

The final elements in Simpson's ad hoc arrangement were the port assistance task forces: Lt. Col. Myron J. Griswold's 3d Battalion, 34th Armor, and Lt. Col. Russel L. Honore's 4th Battalion, 16th Infantry, from the 1st Infantry Division (Forward). Generals Franks and Mullen infiltrated these units to Saudi Arabia without written orders but with the guidance to receive the VII Corps and "do whatever is necessary" to get the corps to the desert ready to fight.[27] Each task force consisted of 750 soldiers from the 1st IDF and a 100-person company sent from the 3d Armored Division and 2d Armored Division (Forward) in Germany.[28] These units unloaded incoming ships, moved vehicles to holding areas, moved the soldiers from the airfield to their billet area, and operated the housing facilities. To accomplish these missions, task force commanders organized their command into companies and special platoons whose soldiers were able to operate all VII Corps vehicles.[29]

By Christmas Franks realized he needed to change his organization in the port area. His corps' command and control facilities had to be moved out of Dhahran and into the area of operations. The current system was not responsive and force-

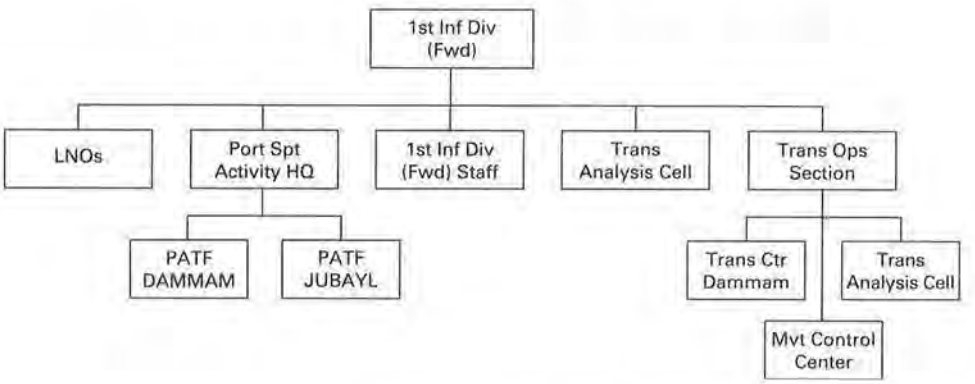
ful enough to keep the arriving units flowing out of the staging areas near the ports. The headquarters staff was undermanned and unable to keep up with the expanding workload. In addition, Colonel Simpson did not have the position and authority needed to negotiate successfully with Third Army and the 22d Support Command.[30] Finally, the scope of the mission, partially caused by the lack of an effective supporting terminal organization and problems with shipping, had expanded far beyond the corps' original projections. The combination of an efficient airflow and irregular ship flow forced thousands of troops to remain too long in the port areas waiting for their equipment. By the end of December both ports housed 30,000 soldiers, twice the anticipated number.[31]

Therefore, Franks reorganized his operation. On 28 December the corps main command post moved out to the tactical assembly area.[32] The same day Colonel Simpson's headquarters moved from Dhahran to King Khalid Military City and became part of the corps rear command post.[33] Now tactically deployed, the corps staff could concentrate on the various precombat tasks it needed to accomplish for the upcoming offensive. In the place of the VII Corps organization at the port, Franks directed General Mullen, commander of the 1st IDF, to deploy from Europe to Ad Dammam. There, Mullen joined his staff, already working under Col. Stephen D. Wesbrook, the brigade commander, and assumed control of the entire port support activity.[34]

The improvement in the port situation was immediate. Now Franks had a general officer and almost two battalions of soldiers dedicated to the tasks of managing the reception process and pushing troops and equipment to the TAA.[35] Mullen assumed all the tasks that had been the responsibility of Simpson's tiny headquarters. Providing general supervision for Wesbrook and his already functioning command, he merged his staff with the small VII Corps and Corps Support Command staffs that did not move out to the desert with the rest of the headquarters. He integrated the unit liaison officers into his planning and control process. Without teamwork, he knew he could never get the job done.[36]

Mullen's personal presence also made an immediate difference. As a general officer, Mullen had direct access, unlike his predecessor, to the Third Army and 22d Support Command commanders. This allowed him to present issues not resolved by normal staff-to-staff communications. At least twice a day Mullen contacted the corps commander or deputy commander to keep them informed of activity in the port and to ensure there was no confusion concerning Franks' priorities. His staff was also in constant contact with the VII Corps staff, resolving various personnel and equipment problems that were important from the perspective of those in the field.[37] Daily they provided a detailed breakdown of important statistics, such as how many tanks, infantry fighting vehicles, artillery, aircraft, and other equipment had arrived. They reported on the arrival of troops into the theater, their status in the port, and their departure to the tactical assembly area. In addition, they monitored the progress of the ships at sea and anticipated the arrival of critical corps units. The goal was to keep Franks informed as to the exact status of his command in motion.[38] In turn, this information helped General Pagonis' headquarters to better support the corps' move.

CHART 4—1ST INFANTRY DIVISION (FORWARD) DEBARKATION CONTROL HEADQUARTERS, 28 DECEMBER 1990–18 FEBRUARY 1991



Source: 1st Infantry Division (Forward), DESERT STORM/DESERT SHIELD AAR: VII Corps Debarkation and Onward Movement, 30 May 91, Chart A–13–1.

Mullen's presence at the port allowed him to work closely with the assistant division commanders as their units moved through the port areas and to resolve their problems as quickly as possible. He took command responsibility for supervising the development of postal and post exchange services, as well as the operation of dining facilities and equipment issue points. Most important, he supervised all elements of force protection and security in the port area.[39]

One of the brigade's principal tasks was to fix the transportation system. The control of thousands of buses, light and heavy trucks, and convoys on the crowded main supply routes was beginning to approach chaos, with each unit trying to scrounge its own vehicles. To fix the growing problem, Mullen brought Lt. Col. George A. Higgins, commander of the inactivating 1st Battalion, 16th Infantry, from Germany and placed him in charge of ground transportation management. He set up an operations center at Ad Dammam to coordinate, on a 24-hour-a-day basis, all corps elements involved in the transportation process. That center also acted as the main point of coordination between VII Corps and the 7th and 32d Transportation Groups. Having a central clearinghouse of information was a great way to start improving this complex process.[40]

Personnel and Equipment Reception

The original plan to mesh deploying soldiers with their equipment had not considered the differences between airflow and seaflow. While the Military Airlift Command continued to push troops into the Ad Dammam area with ruthless efficiency, the ships often took much longer than expected. In some cases, soldiers waited in the port anywhere from ten days to three weeks for their ships and equipment to arrive.[41] From fewer than 5,000 soldiers at both ports on 5

December, the population of the camps swelled to 10,000 on the eighth, 20,000 on the fifteenth, and over 25,000 by the end of the year. By the start of the air campaign a month later, almost 40,000 VII Corps soldiers were still living in the various camps around the two ports.[42] In addition to the crush of arriving VII Corps soldiers, marines and the U.K. 4th Armoured Brigade were also coming ashore at Al Jubayl.[43]

When Colonel Simpson and the VII Corps forward headquarters had arrived in November, they had found only a limited amount of troop billet space available. Moreover, these early forces lacked the equipment and gear needed to sustain themselves adequately. They usually carried only their sleeping bags and a near-worthless half of a two-person tent. Other than some packaged rations, they had no ability to sustain themselves. They required basic sanitation support, personal transportation, and a host of similar necessities.

Initially, only 8,000 living spaces for the corps' soldiers were available in warehouses at the port of Ad Dammam, sarcastically called Hotel California, and at Al Jubayl a tent camp called the Dew Drop Inn.[44] For the next few weeks Mullen and his staff scrambled to find and assemble tents before units arrived at the port area. First the VII Corps forward headquarters added a 6,000-person camp called Seaside in the port area of Ad Dammam. Next came Cement City, courtesy of the XVIII Airborne Corps, which gave General Mullen another 4,300 spaces, some eighteen miles away. As tentage and sanitation equipment became available, the Al Jubayl port support activity was able to establish a 10,000-person camp at the staging area eleven miles west of the port. About the same time Franks called Lt. Gen. Walter E. Boomer, the I Marine Corps Expeditionary Force commander, and arranged for several warehouses at the port of Al Jubayl to give him another 3,000 spaces.[45] With all of that, 20,000 arriving VII Corps soldiers still faced the prospect of no reasonable billet space in the port area.

In one of the most important moves of this phase, Third Army negotiated with the Saudi Arabian government to use a large, modern apartment complex to house the rising number of VII Corps troops. The Saudi government had constructed the complex, located sixteen miles away from the port of Ad Dammam in the suburb of Al Khobar, as public housing for foreign workers. For a number of economic and cultural reasons, it had not been occupied before 1990. The Saudi government turned it over to the 22d Support Command in late December. Because of its comparatively generous facilities, American soldiers named it the MGM Grand. Arriving troops slept four or five to a room, without cots, on carpeted floors. There was running water, but the toilets did not always work properly; Americans apparently flushed them much more than would the local inhabitants. At the height of the deployment, almost 19,000 VII Corps soldiers resided in Al Khobar.[46]

These camps developed an impromptu but massive infrastructure to support the transient troops. The 1st IDF established post exchange facilities, post offices, and finance and personal services offices. They set up clothing and equipment facilities to allow soldiers to exchange or replenish worn or damaged equipment and clothing.[47] They developed a medical support plan for basic sick call and



Khobar Towers

worked out the procedures to transport soldiers to the next level of medical care. Mullen's soldiers accomplished all this without requiring the transient units to use their combat equipment or supplies.[48] The Saudi Arabian government performed admirably in providing two hot meals a day to the over twenty-five thousand soldiers. Using local contractors, the government set up dining facilities in each of the transient camps. As soldiers adjusted to Arab cooking, the Saudi providers also worked to make the food more appealing to the American palate. Ultimately, the quality and quantity of rations satisfied most soldiers.[49] Once they had moved inland, the almost-home cooking of the Saudi contractors looked quite good.

The 1st IDF's commanders specifically addressed sanitation and personal hygiene. This was a continuing effort to get arriving units to supervise and check their soldiers much more deliberately than they would in their home stations. With soldiers living in close quarters, the potential for an epidemic was high. The penalty for ignoring such hygiene issues would have been severe, as casualties from illness have always greatly outnumbered those from combat in all major conflicts. In the port, unit sergeants checked the living areas daily and made sure they were not magnets for rats and other vermin. Soldiers at the piers and camps used portable showers and latrines. Local contractors regularly emptied and cleaned them, and VII Corps leaders checked such seemingly mundane measures continuously.[50]

To facilitate the local movement of unit commanders and their staffs, Third Army contracted for civilian four-wheel-drive vehicles. Initially, the VII Corps staff

received 110 Jeep Cherokee utility vehicles.[51] As units arrived, the staff assigned those vehicles to the individual divisions and subordinate commands. Initially, they served as command and staff transportation in the port area. Later, they accompanied the units forward and served as nontactical transportation between the division rear command posts and corps and theater installations.

Unit commanders worked to keep the waiting soldiers busy with appropriate training tasks as best they could. These included physical training, nuclear-biological-chemical (NBC) defense, driver safety, small-arms range firing, and some dismounted land navigation. The 1st Infantry Division (Forward) set up an abbreviated tank crew proficiency course to keep crew skills sharp. Most important were the four small-arms ranges that allowed many soldiers to practice with their personal weapons.[52] While most of this training was limited and depended on unit noncommissioned officers' motivating soldiers, it allowed soldiers in camp to continue to focus on their upcoming missions.[53] Commanders most feared that prolonged idleness would erode both the high morale and overall readiness of their soldiers.

Protecting the arriving units was a major concern for the 1st IDF's leadership, especially for Majs. Marvin K. Decker (G–3) and Richard E. Brown (G–2) and Capt. David Meadows (NBC), who developed and supervised the security plan. Combat units were extremely vulnerable while in the port area. They were separated from their major weapon, communication, and mobility systems. During the unloading and painting process, unit chains of command should have been more efficient. The thousands of soldiers living in the crowded camps made a lucrative target for terrorist bombs, commando attacks, or missile-delivered chemical attacks. In addition, well-armed but uncoordinated friendly units could overreact during an attack, inflicting unintended casualties among the densely packed troops.

The command's force protection plan contained several important features. It limited the ammunition issued to the passing units and based initial reaction forces to military police or scout platoons assigned to the port support activity (PSA) battalions. The plan established four rear-area operations centers to coordinate security operations among the six separate camps. To improve security and survivability, the command supervised physical improvements in the camps, such as the use of sandbags and barbed wire to reinforce important locations. Decker, Brown, and Meadows directed an active defense effort that included security patrols, checkpoints, and rapid-reaction forces. Finally, they developed and refined the NBC reporting and reaction procedures for the port area. Force protection was a continuous effort that required constant refining, coordinating, planning, and supplying throughout this period.[54]

General Mullen and his 1st Infantry Division (Forward) accomplished the critical task of receiving the corps' soldiers in Saudi Arabia and preparing them for their upcoming operations. Over 107,000 VII Corps soldiers passed through Mullen's various billet camps, which ranged in size from under 3,000 to over 19,000 soldiers.[55] The reception of troops was only part of their task. They also had to receive the equipment that was slowly arriving at the ports.

Sealift

Not since the Korean War had the United States attempted to rapidly reinforce a theater of war by ship. Probably no aspect of America's strategic capability was less prepared for the conflict than sealift. The Navy's fleet of eight fast sealift ships (FSS's) was first class and could move one combat division to the theater of war. Ultimately, FSS's carried 13 percent of all U.S. ocean cargo.[56] There were also 96 ships in the ready reserve fleet, organized into readiness categories of 5, 10, and 20 days. Unfortunately, the ships were between twenty and forty years old. The Navy had not put many of these vessels to sea or tested them in over thirteen years. The Navy used 72 ships, but few met their designated readiness dates.[57] Finally, the Department of Defense chartered 213 ships of various kinds and nationalities to carry equipment and supplies to Saudi Arabia.[58] The best of these were the roll on–roll off (RO-RO) container ships, which allowed combat vehicles to load and unload under their own power. Most ships required cranes to lift vehicles and cargo off the deck and onto the pier below, a much slower process.[59] The VII Corps used 11 FSS's, 63 RO-ROs, and 74 other ships in its voyage to Saudi Arabia.[60]

Ships began arriving at the ports of Ad Dammam and Al Jubayl on 5 December with the 2d Cavalry and continued through 17 February, when the 142d Field Artillery Brigade arrived from the United States. A variety of factors often delayed these vessels. In one instance, a ship's crew deserted at port in Crete, leaving a portion of the 3d Armored Division's combat equipment temporarily stranded in the Mediterranean.[61] Usually, the ships were simply moving slower than the corps planners had anticipated. As late as the eve of the air campaign, 15 January, only 68 percent of the corps' tracked and wheeled vehicles had arrived in Saudi Arabia.[62]

Once the ships arrived in port, the PSA supervised the discharge of cargo with unloading teams based on the specific type of ship and the kind of equipment it was carrying.[63] Between one and seven ships arrived in the two ports each day. The length of time a ship remained in port for off-loading depended on a number of factors: its size, method of unloading (drive-off or by crane), and the type of equipment it carried (containers, tanks, pallets, etc.). On a normal day, the teams removed between 300 and 1,000 items of unit equipment from the ships, but the exact tonnage varied considerably.[64]

If the ship was a RO-RO type, the driving team unchained each vehicle and drove it off the ship onto the pier. On other ships, the crews unhooked vehicles, while the team lifted them by crane off the ship and onto the dockside. Once the vehicles were on land, logistics inspectors checked shipping documents and maintenance teams from the 593d Area Support Group made safety checks, fueled them, and organized them by company. At the port of Ad Dammam, the team or unit drivers then drove the vehicles to a local staging area; at Al Jubayl, unit drivers drove the vehicle eighteen kilometers to the local staging area. The growth of these staging areas eventually required General Mullen to activate four staging companies to provide round-the-clock supervision.[65] Even with the best inten-



An M109 self-propelled howitzer disembarks from a RO-RO.

tions, drivers sometimes parked vehicles in the wrong part of the staging area or became lost en route. Units spent days, and in some cases weeks, combing the staging areas for their essential equipment.[66]

In addition, arriving units tended to remain in the staging areas only until they had sufficient equipment to move to the assembly area.[67] In their haste to depart, many left critical equipment behind, hoping it would arrive before the battle began. In at least one instance, an infantry battalion, which had packed the firing bolts for its M2 Bradley's Bushmaster cannon in its large metal containers, deployed to the assembly area before the bolts arrived in port. Fortunately, the bolts were unloaded within a few days and the battalion was capable of mounted combat.[68]

General Mullen found himself with yet another unanticipated requirement, painting the corps' green vehicles desert sand. The CARC (Chemical Agent Resistant Coating) paint provided a smooth coat that was supposed to prevent liquid chemical agents from sticking to the vehicle. In addition, the sand color was supposed to help them blend in with the brownish terrain, preventing enemy observation. However, the application of this paint was quite difficult. Problems included the CARC paint's extreme toxicity and the large amount required for the corps' combat vehicles. The Big Red One had found the time, facilities, and paint to accomplish this task back at Fort Riley. The Europe-based units, however, did not have the luxury of painting facilities and time. The vehicles had to be painted after they arrived at the port.



Painting a Tracked Vehicle in Desert Camouflage

The painting process was done by 1st IDF soldiers at a central location near the port to minimize damage to soldiers' health and the environment. Vehicles pulled into covered facilities, such as large maintenance tents, where trained crews sprayed them with large quantities of the toxic paint. Initially, Franks directed that just the close combat vehicles such as tanks, armored personnel carriers, and engineer breaching equipment, be painted. As more paint became available, other vehicles moved through the paint line. By the beginning of the ground war, Mullen's soldiers, with help from the deploying units, had painted over 10,000 tracked and wheeled vehicles, using over 30,000 gallons of paint.[69]

Transportation Management

Ultimately, combat crews met up with their vehicles. The last task that General Mullen and his command had to master was the movement of vehicles, equipment, and personnel from the ports to the TAA. Most of the transportation units in Saudi Arabia were under the control of the 22d Support Command. Col. David Whaley, Pagonis' deputy commander for transportation, coordinated their activities. The 318th TAMCA at Dhahran Air Base supervised the corps' move from the port staging area to the tactical assembly areas. The 318th, organized into two movement control battalions and thirty-three movement control teams, regulated all road traffic to and from the ports. It had the task of preventing confusion when

VII Corps, XVIII Airborne Corps, the U.K. 1st Armoured Division, 1st Cavalry Division, and logistics convoys were all trying to use the same routes at the same time. At Ad Dammam, the 93d Movement Control Battalion was the headquarters that also received the corps' transportation requests and arranged for vehicles to carry troops and equipment.[70]

To reduce the wear and tear on tracks and vehicle engines, it is important to move tanks and other tracked vehicles by wheeled transport. The 7th and 32d Transportation Groups provided the trucks to carry the VII Corps, as they did for all units in the theater. The 7th Transportation Group, led by Col. Daniel G. Brown, had a mixed mission of terminal (i.e., port or airfield) operations and theater operations. Under his control he ultimately had three motor transportation battalions. The battalions, however, often deployed with only 70 percent of their authorized strength and seldom received any replacements.[71] Col. Michael T. Gaw's 32d Transportation Group provided the heavy lift for the corps' combat vehicles. One of its four truck battalions, the 369th Truck Battalion, operated HETs that could carry the heavy U.S. M1 Abrams and British Challenger tanks.[72] That battalion, augmented by two companies from VII Corps, could provide only 141 of these systems, far too few for the needs of the army forces.[73]

With the 318th TAMCA coordinating, truck transportation was augmented by a variety of other sources. For example, the 318th used heavy trucks belonging to the Egyptians, the Italians, local contractors, and a variety of other units and organizations. By February over one thousand trucks capable of carrying main battle tanks were available to relocate the VII Corps to the TAA and the XVIII Airborne Corps to its attack positions.[74] However, that number was still far less than the two corps needed to move any appreciable distance.

When the VII Corps forward headquarters arrived in November, it brought the 229th Transportation Center (Movement Control) to coordinate the corps' movement to the assembly area. The 229th sent a movement control team to each of the staging area control cells at Al Jubayl and Ad Dammam. These teams coordinated between the 318th TAMCA and the deploying units to obtain the trucks to haul equipment and the buses to carry troops. In addition, they obtained clearance from the military police to move their convoys onto the main supply routes.[75]

In fact, there were never enough heavy trucks to adequately support the movement to the tactical assembly area. In January, the peak of the deployment, VII Corps units required an average of 137 HETs daily, but normally had only 54. They also needed 178 smaller trucks each day for carrying medium-size tracked vehicles but received only 61. They needed a daily allocation of 254 flatbed trucks for carrying light tracked vehicles and large metal containers but received only 62. The result was a huge backlog of combat equipment waiting in port.[76] On 10 January, for example, 15 company sets of equipment waited in the port for transportation.[77] By the seventeenth, the day the air campaign began, 13 tank companies, 7 Bradley companies, and 21 self-propelled howitzer batteries waited to move to the tactical assembly area.[78] Only at the end of the month did the backlog begin to subside.[79]

Once the vehicles left the port holding area, there was little way of knowing their exact location. Especially at the beginning of the process, neither the 318th TAMCA nor the 1st IDF could monitor the progress of this equipment as it moved to the assembly area. Once the convoy departed, it was out of communication and on its own.[80] In most cases, though, the vehicles arrived at or near their required desert locations. That helter-skelter approach to tactical road marches worked for several reasons. First, there were only a few routes to take, primarily the Tapline Road. If a vehicle took a wrong turn, toward the Kuwait border, for example, it quickly ran into the deployed troops, who ordered or guided it back to its appropriate route. Second, unit leaders took the initiative to look for their vehicles and to wait for them at their potential off-loading ramps. Finally, we must note that there was no enemy interference with any of these efforts, making them purely administrative affairs.

As mentioned earlier, in addition to the combat vehicles and equipment, Mullen's command had to move soldiers out of the port area. Most of them moved on buses contracted from the Saudi Arabian government. Ultimately, the corps accumulated a fleet of 290 of these vehicles, which were essentially designed for moving passengers on city streets. The 229th Transportation Center tried to manage these fragile assets. Problems in this regard included poor vehicle maintenance, long-distance travel on desert roads, and the paucity of trained bus drivers.[81]

More difficult was the movement of over 3,500 large shipping vans and commercial trailers off-loaded from ships. Problems included a shortage of rough terrain cargo handlers (RTCHs), or forklifts, to unload these heavy containers from truck beds and the already noted shortage of medium trucking.[82] Mullen helped to solve this second problem by requiring units to prioritize containers into three groups. He used theater and corps assets to move the most important first; deploying units then returned to Dhahran to pick up most of the second and third groups. In some cases Mullen was able to use a rail link to Riyadh, where containers were trans-loaded onto commercial contract trucks and moved forward to unit rear support areas.[83]

A daily average of over 800 wheeled vehicles, 175 tracked vehicles, and 2,050 soldiers flowed from the port to the assembly areas. A persistent container backlog hovered around 500, with an average of 48 per day flowing forward. After 29 January demand for heavy lift and buses diminished substantially, and the corps effort went to moving late-arriving units as fast as possible, expediting the flow of containers, improving Administrative and Logistics Operations Center (ALOC) operations, and clearing the ports of residual equipment. When the final RO-RO ships carrying most of the tanks and Bradleys for the 3d Brigade, 3d Armored Division, arrived on 6 February, the painfully refined movement system was able to off-load, safety-check, refuel, paint, trans-load, and move them to the assembly areas in but twenty-nine hours.[84]

The Port in Retrospect

The commanders in the field were never happy with the speed of the administrative movements. This became even more complicated when the VII Corps

units began moving even farther inland to the west. In frustration some unit commanders road-marched their units to the front, as did the 1st Armored Division, which moved over half of its infantry battalions without transportation support.[85] The shortage of heavy transport was never resolved.

While the slow movement of equipment to the TAA frustrated the unit commanders, they appreciated the work General Mullen had done. Army logisticians were supposed to supervise the entire process. With those specialists unavailable, combat arms officers and noncommissioned officers accomplished a mission for which they had not been trained. By trial and error, with proactive leaders and a strong organization, working in an unfamiliar logistics environment and with the Saudi Arabian bureaucracy, they maintained a clear focus on their mission: to get the VII Corps to the desert and ready to fight.

From the point of view of the 7th Transportation Group's after action-report, appointing General Mullen was the right way to run this kind of port operation. The report urged the Army to adopt this system during future contingency operations.[86] Other theater support units, such as the 318th TAMCA, were not as charitable, accusing VII Corps of ignoring "theater transportation policies unless it was in their self-interest."[87] Most likely the "make it happen" method of the 1st IDF troopers was moving much too fast for the theater's administrators. From their perspective, once they were unable to deploy adequate service units into the theater, they had lost control of the process.

Nevertheless, Mullen had an immense task. He ran essentially a small city in a relatively confined area. He supervised the dispatch of over forty thousand track and wheeled vehicles and pieces of equipment to the tactical assembly area. Without any hope of special support from Third Army, his people had to "grit [their] teeth and work through the issues because there was just no alternative."[88] The 1st Infantry Division (Forward) chain of command did just that. As one unit after action-report pointed out, however, the corps was also extremely lucky.[89] The Iraqi military forces did nothing to interfere with the American and British deployment. There were no air attacks, car bombings, suicide attacks, ambushes, sabotage, or other such endeavors. Soldiers, usually without ammunition, went about their business without incident or serious concern. The entire VII Corps was able to arrive without any interference. USAREUR's and VII Corps' inability to require the combat-loading of ships by unit, which seriously prolonged the soldiers' stay in the port area, could have contributed to a disaster in the face of any determined opposition. Iraq had missed its first opportunity to derail the American juggernaut. More opportunities would present themselves in the weeks ahead.

Notes

[1]Author's notes. The author arrived in Saudi Arabia during the early hours of 29 December 1990. Special thanks to Brig. Gen. (Ret.) William J. Mullen III, who reviewed this chapter and provided many useful corrections and observations.

[2]1st Infantry Division (Forward) (IDF), DESERT STORM/DESERT SHIELD AAR: VII Corps Debarkation and Onward Movement, 30 May 91, map A–1–1; Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), p. 99; author's notes.

[3]1st IDF, DESERT STORM/DESERT SHIELD AAR, 30 May 91, chart A–19–1.

[4]Richard F. Nyrop, ed., *Saudi Arabia: A Country Study*, 4th ed., DA Area Handbook Series (Washington, D.C.: Government Printing Office, 1984), pp. 144–45.

[5]Ibid., p. 149.

[6]Fouad Al-Farsy, *Modernity and Tradition: The Saudi Equation* (New York: Kegan Paul International, 1990), pp. 221–23; 22d Spt Cmd, Theater Logistics Concept, in 22d Spt Cmd AAR, vol. II, tab L.

[7]Nyrop, *Saudi Arabia*, p. 282.

[8]Daniel Yergin, *The Prize* (New York: Simon & Schuster, 1991), p. 301.

[9]Richard F. Nyrop, ed., *Persian Gulf States: Country Studies*, 2d ed., DA Area Handbook Series (Washington, D.C.: Government Printing Office, 1985), pp. 149–50.

[10]*The Middle East and North Africa, 1989* (London: Europa Publications, 1988), pp. 724–25.

[11]Nyrop, *Saudi Arabia*, p. 149.

[12]Al-Farsy, *Modernity and Tradition*, pp. 221–23.

[13]Nyrop, *Saudi Arabia*, p. 149.

[14]1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 2–3.

[15]William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard Business School Press, 1992), p. 126.

[16]7th Trans Grp, DESERT SHIELD/STORM Log AAR, 15 Apr 91, in 22d Spt Cmd AAR, vol. IVa, tab G, p. 1; William J. Mullen III, note to author, 24 Jun 99.

[17]Mullen, note to author, 24 Jun 99; 318th Theater Army Movements Control Agency (TAMCA) AAR, in 22d Spt Cmd AAR, vol. III, tab F.

[18]7th Trans Grp, DESERT SHIELD/STORM Log AAR, 15 Apr 91, vol. IVa, tab G, p. 1.

[19]1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 5–6.

[20]Ibid.; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 2 Apr 91, TRADOC.

[21]1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 14–18.

[22]Interv, Kindsvatter with Franks, 2 Apr 91.

[23]1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 15.

[24]Ibid., pp. 35–36.

[25]"Transient unit" means the unit had arrived at the airfields and the ports and was preparing to move to the border area.

[26]Author's notes.

[27]Mullen, note to author, 24 Jun 99; Interv, author with William J. Mullen III, 6 Nov 99.

[28]1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 5–7.

[29]Ibid., pp. 16–18.

[30]Ibid., pp. 18–19.

[31]Peter S. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for DESERT STORM," *Military Review* 7, no. 1 (January 1992):9–10; 22d Spt Cmd AAR: Opn DESERT STORM, vol. IVa, chart D–1–2; Interv, Kindsvatter with Franks, 2 Apr 91.

[32]An army corps has three command posts: the tactical command post (TAC) controls the battle in progress; the main command post (Main) supports the TAC and prepares for future operations; and the rear command post (Rear) supports both command posts and controls operations in the corps' rear area.

[33]Interv, Kindsvatter with Franks, 2 Apr 91; 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 7.

[34]Intervs, Kindsvatter with Franks, 2 Apr 91, author with Mullen, 6 Nov 99.

[35]Interv, Kindsvatter with Franks, 5 Apr 91.

[36] 1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 7, 21.
[37] VII Corps Main CP, G–3 (Opns), Staff Jnl, 31 Dec 90, entry 3, for example.
[38] 1st IDF, Daily Status Rpt, 14 Jan 91.
[39] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 21; Interv, author with Mullen, 6 Nov 99.
[40] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 36; Interv, author with Mullen, 6 Nov 99.
[41] Interv, Kindsvatter with Franks, 5 Apr 91.
[42] 1st IDF, DESERT STORM/DESERT SHIELD AAR, charts A–20–1, A–20–2, A–25–1.
[43] Interv, Kindsvatter with Franks, 2 Apr 91; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 26–37.
[44] 125th Spt Bn (Fwd), Opns DESERT SHIELD & STORM Hist Sum, 9 Nov 90–29 Apr 91, p. II–1.
[45] 1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 29–30; Intervs, Kindsvatter with Franks, 2 Apr 91, author with Mullen, 6 Nov 99.
[46] 1st IDF, DESERT STORM/DESERT SHIELD AAR, chart A–25–1; author's notes.
[47] VII Corps, FRAGO 3–91, Temporary Issue Facility Spt for Organizational Clothing and Individual Equipment (OCIE) Issue, 3 Jan 91.
[48] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 35.
[49] Interv, Kindsvatter with Franks, 2 Apr 91; Lt. Gen. Prince Khalid ibn Sultan, *Desert Warrior* (New York: HarperCollins, 1995), pp. 296–97.
[50] Interv, author with Mullen, 6 Nov 99; Mullen, annotations on draft manuscript.
[51] 22d Spt Cmd, AAR: Opn DESERT STORM, vol. III, tab H.
[52] 1st IDF, DESERT STORM/DESERT SHIELD AAR, chart A–34–1.
[53] Ibid., p. 53; Interv, Kindsvatter with Franks, 2 Apr 91.
[54] 1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 41–45, chart A–33–1; Interv, author with Mullen, 6 Nov 99.
[55] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 29.
[56] DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), p. 378.
[57] Ibid.; Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), pp. 58–59.
[58] DOD, *Conduct of the Persian Gulf War*, p. 379.
[59] Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War* (Washington, D.C.: U.S. Army Center of Military History, 1995), p. 80; Gordon and Trainor, *The Generals' War*, pp. 58–59.
[60] VII Corps Comdr, "Versatile, Expansible, Deployable, Lethal" (DESERT STORM Briefing), n.d.
[61] Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 92, p. 10.
[62] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 11.
[63] Ibid., pp. 24–26.
[64] 22d Spt Cmd AAR, vol. IVb, charts A–5–1, A–7–2.
[65] 1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 24–25.
[66] 125th Spt Cmd AAR, pp. II–2 to II–3.
[67] Interv, Kindsvatter with Franks, 2 Apr 91.
[68] Author's notes. The unit was from the 1st Infantry Division.
[69] 22d Spt Cmd AAR, vol. I, tab C; 22d Spt Cmd, Opn DESERT SHIELD and DESERT STORM Sum of Key Statistics, p. 3; Interv, Kindsvatter with Franks, 2 Apr 91.
[70] 318th TAMCA, AAR.
[71] 7th Trans Grp (TML) AAR, in 22d Spt Cmd AAR, vol. III, tab G.
[72] 32d Trans Grp (Composite) AAR, in 22d Spt Cmd AAR, vol. III, tab H, and vol. II, tab J (Org Charts).
[73] 22d Spt Cmd AAR, vol. III, tab I (Trans Charts): HETs as of 16 Feb 91.
[74] Ibid. This was almost 300 vehicles short of what was needed to avoid a backlog in port.
[75] 1st IDF, DESERT STORM/DESERT SHIELD AAR, pp. 38–39.
[76] Ibid., chart E4.
[77] Ibid., chart E5. A company set equaled 15 vehicles. In this instance, there were 199 tanks, 71 Bradley fighting vehicles, 85 artillery vehicles, and 132 other vehicles awaiting transportation.
[78] VII Corps, Sitrep 1, 17 Jan 91.

[79] 1st IDF, DESERT STORM/DESERT SHIELD AAR, chart A–29–1.
[80] Ibid., pp. 34–37.
[81] Ibid., pp. 37–38.
[82] VII Corps, Sitrep 20, 4 Jan 91, pp. 16–17; VII Corps Comdr, Briefing Slides, 20 Dec 90.
[83] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 42.
[84] Ibid., p. 37.
[85] Interv, Kindsvatter with Franks, 2 Apr 91.
[86] 7th Trans Grp AAR.
[87] 318th TAMCA AAR. It applied this claim to the XVIII Airborne Corps also. Since the 318th TAMCA did not arrive and become operational until mid-October, after most of the XVIII Airborne Corps was already in defensive positions, the irritation was mostly with VII Corps.
[88] Interv, Kindsvatter with Franks, 2 Apr 91.
[89] 1st Inf Div HQ, Lessons Learned (LL) During Opn DESERT STORM, [Mar 91] (hereafter cited as 1st Inf Div LL), p. 25.

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Tactical Assembly Area Juno

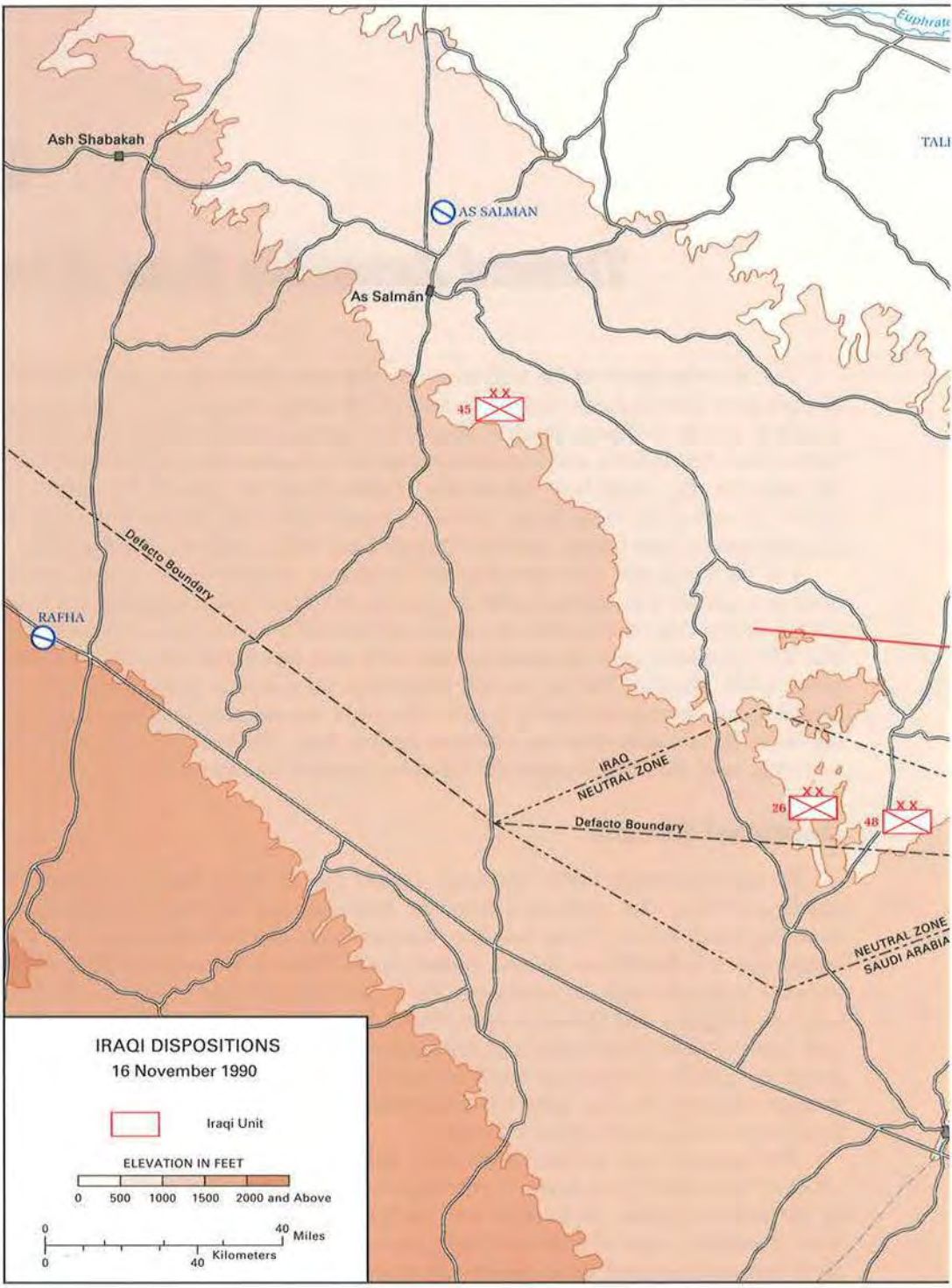
The whole purpose of the activity in the port area was to get to the first phase of Operation Desert Saber: the movement of VII Corps from the port to a tactical assembly area in northern Saudi Arabia. Once there, General Franks and his staff had to plan, implement, and supervise numerous complex tasks that helped to set the stage for the corps' later operations. Hidden from the view of the American public, as well as the Iraqi Army, VII Corps transformed itself from a collection of disparate units from Europe and the United States into a cohesive combat force.

For VII Corps the TAA served several functions. It allowed the corps combat units to organize and recover from the several-hundred-mile movement from the port. Soldiers had time to become acclimated to the hostile desert environment. The TAA provided space for units to train with new and improved combat equipment, while allowing for the tactical dispersion necessary to respond flexibly to Iraqi combat operations. Finally, it eased the rapid transition to the forward assembly areas (FAAs) and into the offensive against Iraq. Much more than a simple assembly area, the TAA became the focus for training and future operations.[1]

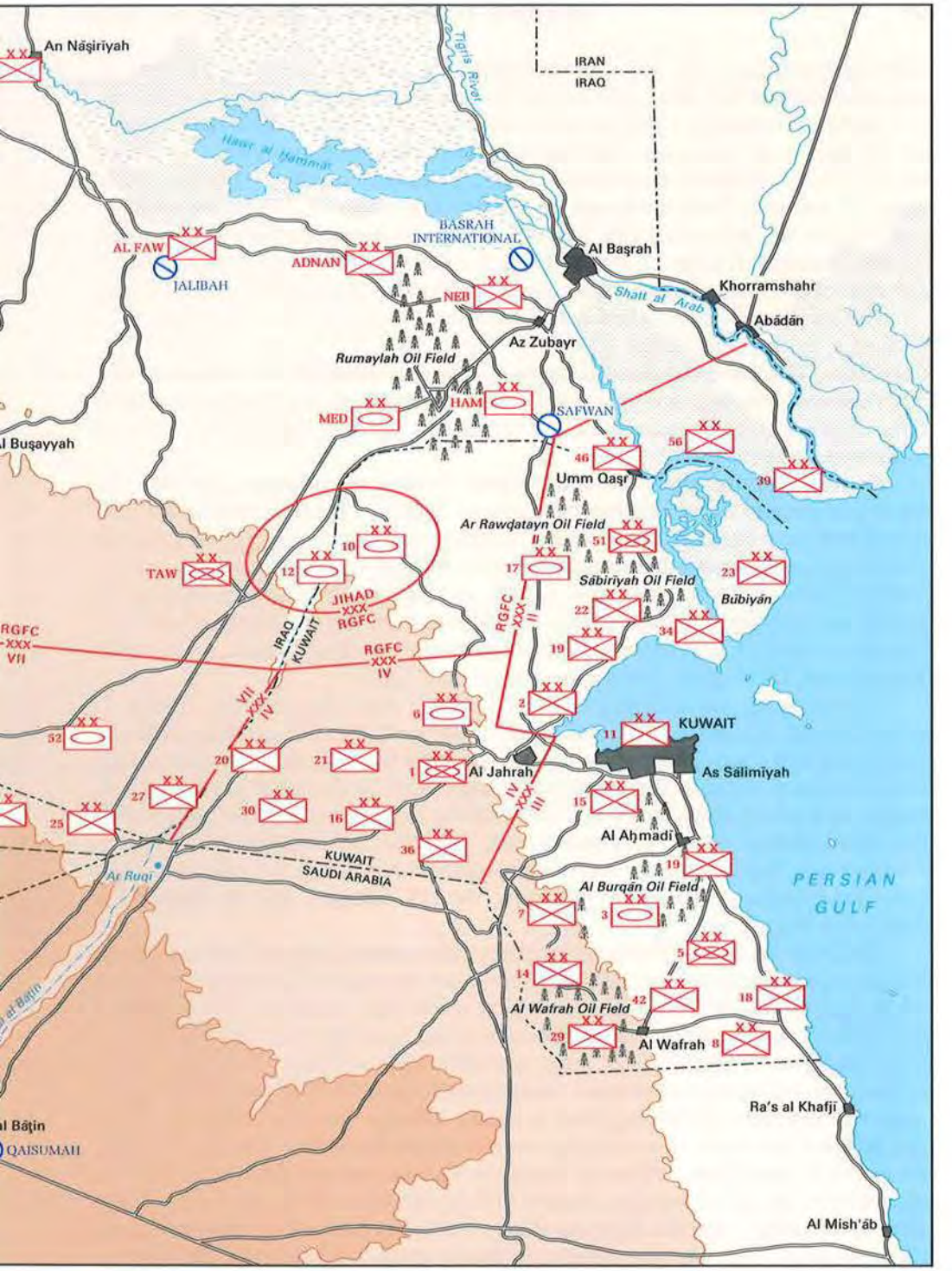
Operational Situation

By late November 1990 Operation Desert Shield had achieved its strategic objectives. First, the coalition's response had deterred Saddam Hussein from attacking Saudi Arabia, if that had been his intention. Second, there were now sufficient forces in Southwest Asia to defend Saudi Arabia if Hussein decided at this late date to attack south. In addition to the U.S. XVIII Airborne Corps and the U.S. Marines, brigades and divisions from France, Great Britain, Syria, Egypt, Kuwait, and Saudi Arabia all defended the approaches to the eastern ports of the oil-rich kingdom. Finally, General Schwarzkopf and Lt. Gen. Khalid ibn Sultan, his Saudi Arabian counterpart, had adopted procedures and operating measures to unify this diverse coalition of military forces.[2]

The original Iraqi invader of Kuwait, the *Republican Guard Forces Command* (*RGFC*), had pulled back to the northern portion of Kuwait and southeastern Iraq by the end of October. In its place was the less capable regular Iraqi Army. These units created a series of defensive belts that extended from the so-called neutral zone between Iraq and Saudi Arabia east to the Persian Gulf. The Iraqi high command organized these regular army forces into 4 army corps. The *II Corps*, with 8


Euphrate
TALI
Ash Shabakah
AS SALMAN
As Salmān
XX
45
Defacto Boundary
RAFHA
IRAQ
NEUTRAL ZONE
XX
26
Defacto Boundary
XX
48
NEUTRAL ZONE
SAUDI ARABIA
IRAQI DISPOSITIONS
16 November 1990
Iraqi Unit
ELEVATION IN FEET
0 500 1000 1500 2000 and Above
0 40 Miles
0 40 Kilometers

MAP 5


An Nāṣirīyah
IRAN
IRAQ
Tigris River
Hawr al Hammar
BASRAH INTERNATIONAL
AL FAW
JALIBAH
ADNAN
NEB
Al Başrah
Shatt al Arab
Khorramshahr
Abādān
Az Zubayr
Rumaylah Oil Field
HAM
MED
SAFWAN
Al Buşayyah
Umm Qaşr
Ar Rawḍatayn Oil Field
Sābirīyah Oil Field
Būbiyān
TAW
JIHAD
RGFC
IRAQ
KUWAIT
KUWAIT
As Sālimīyah
Al Jahrah
Al Aḥmadī
Al Burqān Oil Field
PERSIAN GULF
KUWAIT
SAUDI ARABIA
Ar Ruqi
Al Wafrah Oil Field
Al Wafrah
Ra's al Khafji
Al Bāṭin
QAISUMAH
Al Mish'āb

infantry, 1 armored, and 1 mechanized divisions, defended northeastern Kuwait and southeastern Iraq from airborne or sea invasion. Farther south was *III Corps*, consisting of 9 infantry, 1 mechanized, and 1 armored division. This corps guarded the most direct approach from Saudi Arabia to Kuwait City. Farther west were the *IV Corps*' 5 infantry, 1 mechanized, and 1 armored division, with the corps' right, or western, flank anchored on the Wadi al Batin, a 355-kilometer-long, north-south dry streambed that formed part of the boundary between Iraq and Kuwait. Finally, *VII Corps*' 1 armored and 5 infantry divisions protected the border west of the Wadi al Batin, thus completing the first Iraqi operational echelon.[3]

The Iraqi buildup continued as coalition forces moved into Saudi Arabia. They arrayed a second operational echelon in depth, 75–150 kilometers north of the front lines. This force consisted primarily of the new *Jihad Corps* (*10th*, *17th*, and *52d Armored Divisions*) and the three heavy divisions of the *Republican Guard*. Other *RGFC* infantry divisions also moved into the Kuwaiti Theater of Operations southwest of Basrah.[4]

By 16 November, therefore, the coalition faced a much larger force than the Iraqis had used to invade Kuwait the previous August. Coalition intelligence estimated that over 400,000 Iraqi soldiers manned over 3,600 tanks, 2,300 armored personnel carriers and infantry fighting vehicles, and over 1,300 artillery pieces. With this powerful force, the Iraqis had the capability to launch a spoiling attack toward the growing VII Corps tactical assembly area before the Americans were in position to defend it effectively. It was a possibility neither Franks nor General Yeosock, the Third Army commander, could take lightly.[5]

Defending against such an attack in November was a line of units commanded by General Khalid and his Joint Forces Command. West of the Wadi al Batin, the French 6th Light Division, Syrian 9th Armored Division, and a Syrian special forces regiment watched the Saudi-Iraqi border. East of the Wadi al Batin, a collection of Kuwaiti, Egyptian, and Saudi Arabian troops screened the border with the main combat power provided by the Egyptian 3d Mechanized Division.[6] Positioned in depth along the main approaches southward in the east were units from the American XVIII Airborne Corps, the U.S. Marines, and the British 7th Armoured Brigade.[7]

The locations of the Syrian and Egyptian units created a special problem for the VII Corps commanders and staffs. Ever since the training and doctrine revolution of the mid-1970s, American combat vehicle crews had trained to destroy exactly the kinds of equipment their Arab allies were using. Year after year tank crews practiced engagements against T–72 tanks and BMP infantry fighting vehicles. Young soldiers trained against silhouettes constructed to look like Russian-made equipment and practiced identifying them as enemy vehicles. An early indication of the potential for accidental encounters between coalition forces took place even before the arrival of these Arab soldiers in theater. In October two carrier-based American aircraft fired on ships carrying a brigade of Egyptian troops to Saudi Arabia. There were no casualties, and the Egyptian ships returned to port while the senior commanders considered why the potentially deadly error had happened and how to prevent it in the future.[8] This attack was against a large vessel on the sea lanes. The

problem of sorting out friend from foe would be much worse on the ground battlefield with hundreds of tanks and infantry fighting vehicles facing each other in the gloom of the winter desert.

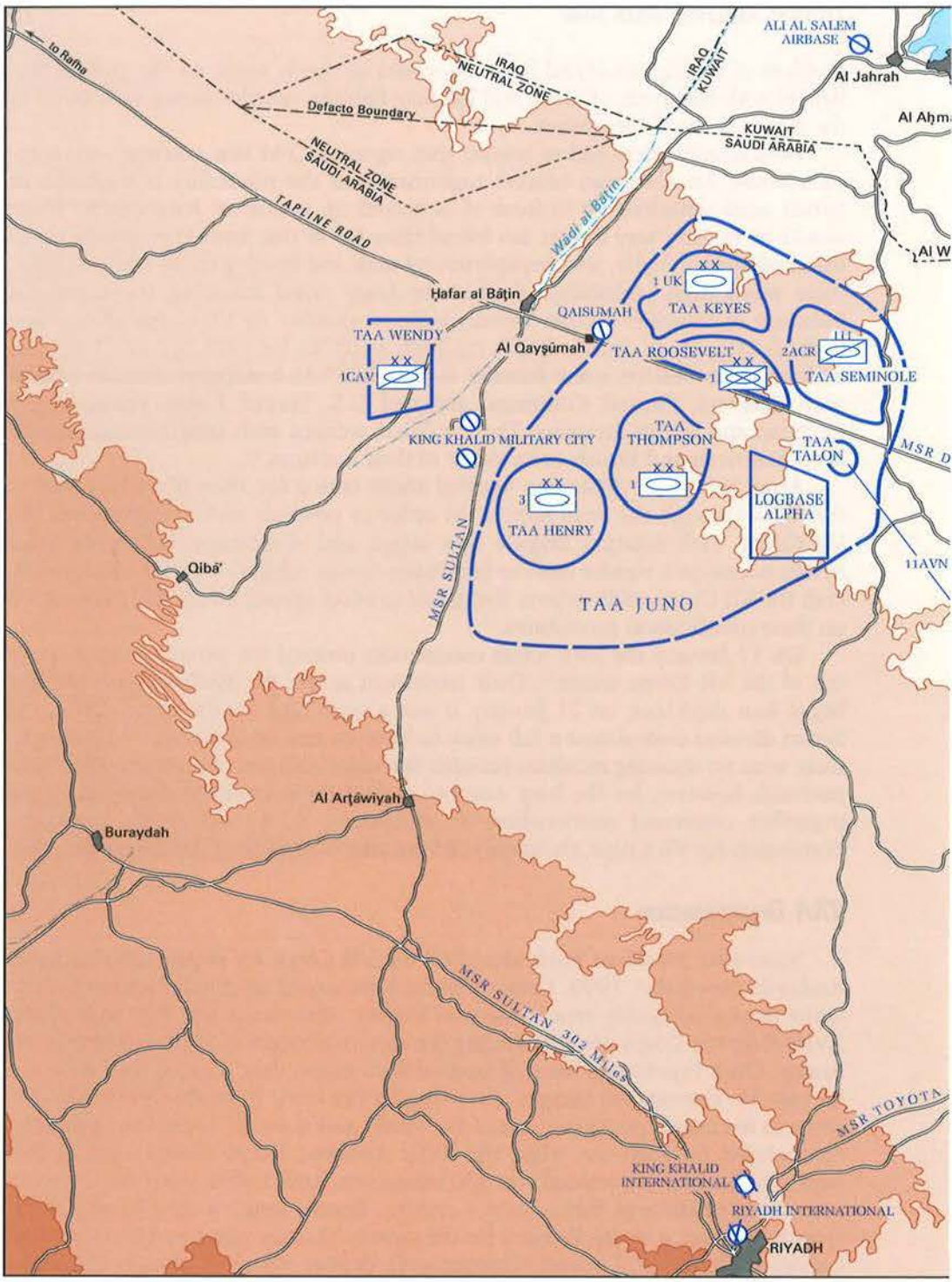
Now commanders had to temper that rigorous Cold War training with common sense. An American officer's nightmare was the possibility of Egyptian or Syrian units withdrawing in front of or mixed up within an Iraqi attack. There would be no easy way to sort out friend from foe in that kind of engagement. In the confusion of battle, with inexperienced tank and Bradley crews ready to fight, there was a high probability of what the Army called fratricide, the accidental infliction of casualties by one friendly force on another. As VII Corps officers saw it, the fastest way to end the fragile coalition would be for some nervous American tank crews to destroy a few friendly T–72 tanks.[9] As a stopgap measure against such disasters, Central Command assigned U.S. Special Forces teams to the Egyptian and Syrian divisions. These soldiers worked with their commanders to keep American and British units aware of their activities.[10]

Army helicopter pilots also worried about taking fire from friendly troops as they flew through the Arab sectors. In order to preclude such engagements, the VII Corps' 11th Aviation Brigade flew attack and observation helicopters over Syrian troops on a regular basis to familiarize Syrian soldiers with the kinds of aircraft the VII Corps soldiers were flying and to allow special forces soldiers to work on their coordination procedures.[11]

On 17 January the joint forces commander ordered the Syrian forces to move out of the VII Corps sector.[12] Their movement across the Wadi al Batin actually began four days later, on 21 January. It was a tense time for the corps staff as the Syrian division took almost a full week to leave its area of operations.[13] Ultimately, there were no shooting incidents between the units from the two armies. There was potential, however, for the Iraqi Army to exploit these awkward dispositions and imperfect command relationships to embarrass, if not derail, the coalition. Fortunately for VII Corps, the enemy did not take advantage of these opportunities.

TAA Organization

Soon after President Bush identified the VII Corps for deployment to Saudi Arabia in November 1990, General Yeosock proposed an initial location for the corps tactical assembly area to General Franks. This sector was just west of the XVIII Airborne Corps, then defending the eastern avenues of approach into Saudi Arabia. Once Franks and his staff studied their maps, they realized they were too far east. He saw two advantages to moving farther west: It would shorten the distance to his attack positions west of the Wadi, and it would reduce the potential competition for road use when the XVIII Airborne Corps moved even farther west. The location he wanted was 100 kilometers farther west, just east of the old oasis town of Hafar al Batin. From Germany, Franks sent his chief of staff, Brig. Gen. John Landry, to ask Yeosock for the switch. Yeosock consulted with Lt. Gen. Calvin A. H. Waller, General Schwarzkopf's deputy, who had already arrived at the same conclusion. They went to Schwarzkopf and convinced him that the


To Rafha
IRAQ
NEUTRAL ZONE
Defacto Boundary
NEUTRAL ZONE
SAUDI ARABIA
TAPLINE ROAD
IRAQ
KUWAIT
ALI AL SALEM
AIRBASE
Al Jahrah
KUWAIT
SAUDI ARABIA
Wadi al Batin
Hafar al Bāṭin
QAISUMAH
Al Qayṣūmah
1 UK
XX
TAA KEYES
TAA WENDY
1CAV
XX
TAA ROOSEVELT
1
XX
2ACR
III
TAA SEMINOLE
KING KHALID MILITARY CITY
TAA
THOMPSON
1
XX
TAA
TALON
MSR SULTAN
3
XX
TAA HENRY
LOGBASE
ALPHA
11AVN
TAA JUNO
Qibā'
Al Arṭāwīyah
Buraydah
MSR SULTAN 302 Miles
MSR TOYOTA
KING KHALID
INTERNATIONAL
RIYADH INTERNATIONAL
RIYADH

MAP 6


TACTICAL ASSEMBLY AREAS
VII CORPS
January 1991
Unit Location
MSR Main Supply Route
TAA Tactical Assembly Area
ELEVATION IN FEET
0 1000 2000 3000 and Above
0 100 Miles
0 100 Kilometers
UWAIT
WAIT INTERNATIONAL
Ra's al Khafjī
Al Mish'āb
RAS AL MISHAB
IRAN
200 Miles
n Nu'ayrīyah
LOGBASE BASTOGNE
MSR AUDL 75 Miles
Al Jubayl
KING ABDUL AZIZ AIRBASE
Ad Dammām
KING FAHD INTERNATIONAL
Az Zahran
BAHRAIN AL MANAMAH
MSR TOYOTA
DHAHRAN INTERNATIONAL
ABQAIQ
BAHRAIN
Gulf of Bahrain
QATAR
Al Hufūf
HOFUF
AD DAWḤAH
DOHA INTERNATIONAL

proposed corps location would not compromise the plan. The Army Staff named this new area TAA JUNO. The corps staff further subdivided the 17,000-square-kilometer JUNO into smaller assembly areas for each division and major subordinate unit. The army commander approved this change, and the corps began planning for occupation of the TAA.[14]

Two main supply routes (MSRs) supported the tactical assembly area. Best known to most VII Corps soldiers was the route that included the coastal highway and the Tapline Road. The latter took its name from the Trans-Arabian Pipeline Company (Tapline), a subsidiary of Aramco (Arab-American Oil Company) that had built a 744-mile-long pipeline from Al Qaysumah to the Lebanese coast. By the mid-1970s Aramco was pumping over 480,000 barrels of crude oil per day to waiting oil tankers at the port of Sidon. The advent of supertankers and the problems in Syria and Lebanon in the 1980s ended Tapline's operations to the Mediterranean, and by 1990 it was little more than a line feeding a small refinery in Jordan.[15] Although the pipeline had lost its usefulness, the adjacent road, which Tapline built for construction and maintenance of the pipeline, had become an important part of the Saudi Arabian transportation network.

This route, initially labeled MSR (Main Supply Route) AUDI, ran as a four-lane road from the port of Ad Dammam to an intersection approximately forty-five miles north of Al Jubayl.[16] If the convoys missed that intersection, as some did, including two Army specialists who became prisoners of war, they would find themselves approaching the front lines near the town of R'as al Khafji.[17] As the route headed northwest, its name changed to MSR DODGE. It followed the pipeline for another 200 miles on a paved two-lane road. General Pagonis, the theater logistics commander, reserved this route for the movement of coalition troops and combat equipment from the ports to the TAA.[18]

The only rest facility along this 300-mile route was at Logistics Base (Logbase) BASTOGNE, 111 miles north of Ad Dammam, operated by Pagonis' 22d Support Command. This installation was similar to a truck stop on an American superhighway. Here, drivers could refuel their vehicles and obtain any needed maintenance. The facility also had the only constructed toilet facilities along the entire route, as well as a 24-hour-a-day mess hall, where the standard fare was hamburgers, fries, and soft drinks.[19]

The second route consisted of two highways that ran south of the Tapline Road in a wide arc from Ad Dammam to Hafar al Batin. The first leg of the journey, initially called MSR TOYOTA, went from Ad Dammam west to Riyadh on a four-lane road for 226 miles. From there, another highway, now called MSR SULTAN, headed north another 302 miles to King Khalid Military City. General Pagonis reserved this route for the trucks that carried supplies to the logistics bases in the north. While the distance was over 200 miles longer than the northern route, this was much less congested, and the supply convoys often made better time than the tactical units moving along Tapline Road.[20]

The key to the TAA and the success of VII Corps was Logbase ALPHA, the second of the desert supply installations of Pagonis' 22d Support Command.[21] Brig.



Tapline Road

Gen. Robert P. McFarlin's 2d Corps Support Command controlled VII Corps support operations from this facility, located seventy-five miles southeast of Hafar al Batin. Until VII Corps units moved west, into their forward assembly area sectors, it would be the primary location of all corps combat service support activities. When the U.K. 1st Armoured Division began moving west on 18 January, its Forward Force Maintenance Area, commanded by Brig. Martin White, also moved to the vicinity of this logistics base. While technically separate from the U.S. installation, its proximity allowed for the sharing of transport and common supply items such as fuel, food, medical supplies, and water, as well as force protection requirements.[22] Such a large and growing installation was an obviously tempting target for Iraqi units, so force protection was an important responsibility of the assembling VII Corps.

The corps staff divided TAA JUNO into assembly areas for each of the major subordinate commands. Northeast of Logbase ALPHA was the 2d Cavalry's TAA SEMINOLE, named after the first campaign in the swamps of Florida of the 2d Dragoons, the historic name for the regiment. Located north of Tapline Road, about sixty-five miles east of Hafar al Batin, SEMINOLE was a classic desert waste-

land with only sand and no hills within sight. For some strange reason the area was littered with dead camels and sheep. On its arrival, each troop and squadron spent many hours in the assembly area policing up the carcasses.[23] In addition to normal assembly area operations conducted by all units, the 2d Cavalry also screened the corps' northern boundary behind the Egyptian 3d Mechanized Division and covered the corps' movement into assembly areas.[24]

The corps staff specified two other division assembly areas north of the Tapline Road. The 1st Infantry Division's crescent-shaped TAA ROOSEVELT lay just west of the 2d Cavalry and just north of Logbase ALPHA. Other than a few small trails, there was nothing significant about the terrain in this sector. Farther north of the 1st Infantry Division was TAA KEYES, into which the British moved in late January.[25] Although KEYES was another nondescript area located just south of the Egyptian security force, the proximity of the British and the 1st Infantry Division allowed for the extensive cross-training and rehearsals needed to effect a successful breaching operation.

The two American armored divisions moved to assembly areas south of Tapline Road. The 1st Armored Division ("Old Ironsides") occupied TAA THOMPSON, a circular area west of Logbase ALPHA and southeast of the main corps airfield at Al Qaysumah. The 3d Armored Division set up just east of KKMC.[26] Sometimes called the Emerald City, KKMC was a large military installation built for the Saudi military in the 1980s at the head of the Wadi al Batin. It remained a key command and logistics facility for the duration of the conflict.[27] From their locations near this installation, these heavy divisions could either block an Iraqi strike down the Wadi al Batin or, as part of Schwarzkopf's offensive concept, swing northwest across the desert to their ultimate attack sectors.

Franks' staff assigned sectors in TAA JUNO for the corps' other combat support and service support commands. Corps artillery units moved into the assembly areas of those divisions they would support in the opening stages of the combat operation. The 11th Aviation Brigade moved to a makeshift airfield just east of Logbase ALPHA. The corps' main command post occupied a site between the 1st and 3d Armored Divisions, and the corps tactical command post moved just off Tapline Road behind the 2d Cavalry.[28]

Another unit that would have a key role in VII Corps operations at TAA JUNO was the 1st Cavalry Division. This unit from Fort Hood, Texas, nicknamed the First Team, had been in the Gulf since October. Designated as Schwarzkopf's theater reserve, it was the one ground unit of which the commander in chief retained personal control until the last moment to either reinforce success or prevent disaster. On 3 January Third Army placed the division under the operational control of VII Corps, and it began moving from its sector near Ad Dammam north to TAA WENDY, an assembly area on the west side of the Wadi al Batin. Located just north of KKMC, the 1st Cavalry Division was the only unit allowed in that sector until the beginning of the air campaign. While VII Corps moved its forces into TAA JUNO, the 1st Cavalry Division provided most of the ground combat power necessary to stop a preemptive Iraqi attack against the growing TAA or Logbase ALPHA.[29]

Building Combat Power

Drawing the boundaries on desert maps was the job of Franks' planners at the corps headquarters. Squeezing the combat power into the tactical assembly area so these plans could work was the job of individual officers and soldiers. It was a job as difficult as any they had ever imagined. In January and February 1991 the VII Corps began to assemble a combat capability in the tactical assembly area. The late arrival of cargo ships, the barely adequate numbers of heavy equipment transporters, and the traffic on the main supply routes all contributed to delay the movement of the combat units to the desert. In spite of the delays, combat units continued to arrive into their sectors at a steady pace during these critical months. Simultaneously with the buildup, the Army gave many of these units new equipment to enhance their fighting capability.

Most soldiers did not move to TAA JUNO with their combat vehicles but on buses the 22d Support Command had rented. By the time the corps' movement was over, the command had a fleet of 290 of these red, white, and blue vehicles. The harsh road conditions, long distances, and generally poor equipment maintenance contributed to keeping a high percentage of them out of service at any given time. But somehow the transportation specialists kept enough buses running back and forth to the assembly area to do the job. Each day ten to fifteen convoys with ten to twenty buses each moved an average of 1,500 VII Corps soldiers and their personal equipment to TAA JUNO.[30]

This journey to the desert assembly area was sometimes quite an adventure. At the beginning of the deployment, contracted civilian drivers drove one-third of the buses. Most were from a variety of countries and spoke little or no English. They did not respond to American rules of convoy discipline and had the tendency to break out of their assigned convoys and go on to their supposed destination solo. For example, the author traveled to TAA ROOSEVELT in late December on one such bus with the 1st Infantry Division Band. South of Al Jubayl, the driver broke from the 1st Infantry Division's headquarters convoy and began driving the route alone. After a couple of hours he pulled the bus over to what looked like a rest stop. Dressed in his Bedouin robes, he got off the bus and walked about twenty-five yards toward a deserted building. Stopping in full view of the male and female soldiers of the band, he squatted and defecated on the ground. After the American passengers recovered from their culture shock, they jumped off the bus and proceeded to find their own piece of desert to relieve themselves. Female soldiers quickly developed a "battle drill" for such contingencies. One soldier provided local security, while the other covered herself with rain ponchos to give a small sense of privacy in the open desert. Back on the bus, the driver turned onto Tapline Road and the adventure ended when the band rejoined the rest of the convoy at Logbase BASTOGNE. In spite of these drivers' guileless breaches of protocol, most stayed on the job until actual hostilities began in early January.[31]

The traffic on Tapline Road became heavy, and accidents were common. Trucks, also driven by civilians with little concern for military convoy discipline, often forced other vehicles off the road or drove much too close to the vehicles in



A contracted Saudi bus prepares with the rest of a convoy to leave the port area.

front. Saudi Arabian civilian and commercial traffic also used the Tapline Road, creating even more confusion.[32] In one incident on 30 December, an Aramco tanker truck hit an American troop bus that had stopped behind a Saudi truck. Fortunately, none of the thirty casualties, all soldiers assigned to the 128th Combat Support Hospital, was serious.[33] A few days later another truck accident sent two more soldiers to the hospital.[34] These incidents continued throughout the deployment, adding another element of risk to an already dangerous mission.

As mentioned earlier, the 1st IDF that ran the port operation had a serious problem retrieving buses from the units in the field. For various reasons, once units got hold of the vehicles, they were inclined to keep them under their control. Some kept them in the assembly area while waiting for some of their own combat vehicles to arrive. Other units sent the buses back but tried to retain control of them in the port area. As a result a steady stream of written and verbal orders emanated from the corps commander and staff to the divisions and other commands, demanding that the buses be returned. Ultimately, the 2d Corps Support Command took control of all buses in Ad Dammam, and the 1st Armored Division Support Command took control in Al Jubayl, thus limiting the disappearance of these precious assets that eventually moved over 100,000 soldiers to the assembly areas.[35]

Moving military vehicles to TAA JUNO was an even more complicated process. Crews convoyed wheeled vehicles along the Tapline route under the supervision

of the 1st IDF's debarkation control headquarters. The soldiers of each convoy performed extensive preoperations maintenance and gathered three days' worth of food and water, maps of the region, and enough ammunition to perform limited self-defense.[36]

Most frustrating to commanders was the movement of the corps' heavy equipment—tanks, infantry fighting vehicles, and self-propelled artillery—to the TAA. Compared to pneumatic tires, the tracks of armored vehicles had a short life span: depending on the type of vehicle, about two thousand miles. After that distance, individual track blocks would start to break, crippling the vehicle as effectively as a land mine or an antitank rocket. No one really knew how many miles the tanks would have to travel in the upcoming conflict. Furthermore, the desert environment, with its fine sand, could wear the track even faster. It was foolish, especially before the conflict began, to waste track mileage on the 300-mile administrative movement to the desert assembly area. In addition, driving the extremely heavy tanks on the Tapline Road would destroy it, or at least render it unusable for most wheeled vehicles.

The answers to the problem were heavy equipment transporters, large tractor-trailers. Originally designed to carry a 60-ton vehicle, these systems now had to carry the heavier Abrams tank. The extra few tons limited the tractors' speed to around 15 mph and confined them to the few paved roads in the theater. Because of the extra time needed to properly load and maintain these vehicles and drive to the various unit assembly areas and return, only a portion of them was available at any time. With only 1,300 HETs in theater, including tractors from several coalition partners, to serve the whole coalition, there were never enough heavy transporters to go around.[37] The result was a backlog of fighting vehicles in port, waiting to move out to the TAA.[38] The VII Corps and the 1st IDF staffers did what they could to make the most efficient use of these precious assets. They directed that all units moving to the field notify the movement control center in the port of any space available on their vehicles. The staff also directed units to immediately unload all HETs and smaller tractor-trailers and return them to the port.[39]

In general, most of the corps' equipment arrived at the front in good shape. Occasionally, a HET driver would dump a tank or other combat vehicle along the side of the road at the wrong place. Sometimes the driver, who often moved without a formal convoy, became lost. On 12 January, for example, one HET carrying a 2d Cavalry tank took a wrong turn and headed for Kuwait and the Saudi border town of Khafji. Fortunately, U.S. Special Forces soldiers stopped the driver before he strayed too close to the border and called back to the VII Corps headquarters for someone to guide him to the right location.[40] While appearing uncontrolled, the movement of heavy equipment went as well as any of the commanders could expect. The Army for many reasons had failed to invest in the HETs needed to project combat power within a theater of operations. Even with the addition of similar equipment from coalition partners, there simply was not enough heavy transportation available.

By January there was a heightened sense of urgency to move equipment forward. By then the XVIII Airborne Corps units had begun moving west of TAA

JUNO, forcing Maj. Gen. Eugene L. Daniel and his VII Corps rear command post to fill any gaps between their units with VII Corps equipment. As a result the Tapline Road during this phase was a solid wall of moving vehicles and soldiers.[41] Still, VII Corps' backlog of vehicles in port continued to grow. In some cases, commanders such as the 1st Armored Division's Maj. Gen. Ronald H. Griffith, in spite of the wear on the vehicles' tracks, moved some units directly from the port to the TAA by traveling on the side of the Tapline Road.[42] It was fortunate that more units did not have to resort to this method of moving to the field.



General Griffith

The first VII Corps combat units reached TAA JUNO on 18 December. On that day the 2d Cavalry, led by its 2d Squadron, had begun the 300-mile trip. With a priority of transportation support, the regiment's move was the most organized in the corps, with an entire squadron moving each day. Behind the tractor-trailers carrying tanks and other tracked vehicles came buses carrying the crews and the squadron's remaining wheeled vehicles. The combat vehicles carried their basic load of ammunition, and each unit was ready to fight upon its arrival in the assembly area.[43] By the twentieth most of the regiment was in the desert and beginning its program of training and security as the rest of the corps moved into TAA JUNO. The 11th Aviation Brigade moved all its combat elements to the assembly area by 12 January. Both Apache-equipped attack helicopter battalions had their Hellfire missiles loaded and were ready to respond to an Iraqi attack.[44] With these two units, the 2d Cavalry and 11th Aviation Brigade, in place, the corps heavy divisions began moving from the port.

At 1300 hours on 27 December the VII Corps main command post (CP) followed the 2d Cavalry on its journey from the port to its command post location. The trip for the advance party took all day, and they arrived after dark, around 1800 hours. With little visibility, all the soldiers could do was to set up their tents in a sandstorm and weather their first dismal night in the desert. Few members of the command post had any ammunition at all, and even members of the small security force had to pass on their loaded magazines as they changed shifts.[45] By the end of the next day, the headquarters still had no communications or power to start operating, and all were simply figuring out how to live in the desert environment.

After three long days on the road, the main body of the command post finally arrived on the afternoon of the twenty-ninth. The next day the tactical opera-



Convoy along Tapline Road; below, *VII Corps Headquarters, "Camp Jayhawk," with Camouflage Netting*



tions center, the heart of the command post, began the process of establishing communications with lower, adjacent, and higher headquarters.[46] For the first time since World War II, the VII Corps' headquarters was truly "in the field."

As noted earlier, the entire piecemeal buildup of the corps at JUNO caused much anxiety among the leadership. Isolated facilities, such as the VII Corps main command post, and growing logistics installations, such as Logbase ALPHA, were obvious targets for small groups of Iraqi commandos. Generals Franks and Landry and Colonel Cherrie, all veterans of the 11th Cavalry in Vietnam, recognized the danger and expected an Iraqi response. Operations by the Viet Cong against such bases had been common during the conflict in Southeast Asia. Later incidents, such as the 1983 car bombing of the American embassy in Beirut, showed that Arab militants were well versed in such tactics. The corps' leaders also assumed that the Iraqis would use every weapon and tactic at their disposal. Franks' staff thus took a number of precautions for defense. Most visible was the construction of berms around the command post vehicles and individual fighting positions to protect soldiers from small-arms fire.[47]

Soon these protective measures became standard for most of the corps' support facilities. For example, on 2 January Colonel Cherrie ordered the 7th Engineer Brigade to prepare two evacuation hospital sites, each requiring fifteen acres of level, compacted earth surrounded by a berm. In addition, the engineers constructed a helicopter landing pad, as well as an easily accessible airstrip for C–130 aircraft.[48] Once the engineer work was done, the unit moved in and set up its hospital facilities. Eventually, five-foot-high walls of earth and dug-in crew and individual fighting positions dotted TAA JUNO. These earthen walls, however, gave only an illusion of protection and in the event of an attack would have been of no value in stopping high-velocity projectiles from hitting their intended targets.[49]

At the same time the VII Corps headquarters was establishing its positions, the divisions were also moving into their portions of the tactical assembly area. A small detachment of the 1st Infantry Division unfurled the divisional flag on 9 January in a ceremony at TAA ROOSEVELT.[50] It was the fourth time in a century that the Big Red One had deployed to a foreign shore. For the rest of the month the division continued to convoy units from the port to the TAA. For Maj Gen. Thomas G. Rhame, the division commander, it was a painfully slow process. When the air campaign began in mid-January, Rhame's 3d Brigade, previously known as the 2d Armored Division (Forward) stationed in northern Germany, had just arrived at the port of Al Jubayl. So that it could reduce truck transportation and be ready to fight as soon as it got to its desert location, the 3d Brigade received permission to load its ammunition in its combat vehicles at the port.[51] In spite of these efforts, the brigade was not ready for combat until 25 January. Most of the 1st Infantry Division would not be ready to move to its forward assembly area farther west until 2 February.[52]

The transportation logjam that General Griffith's 1st Armored Division met during its movement to TAA THOMPSON was another exercise in frustration. Troops began arriving at the ports on 16 December, and their equipment arrived a week



Colonel Zanini



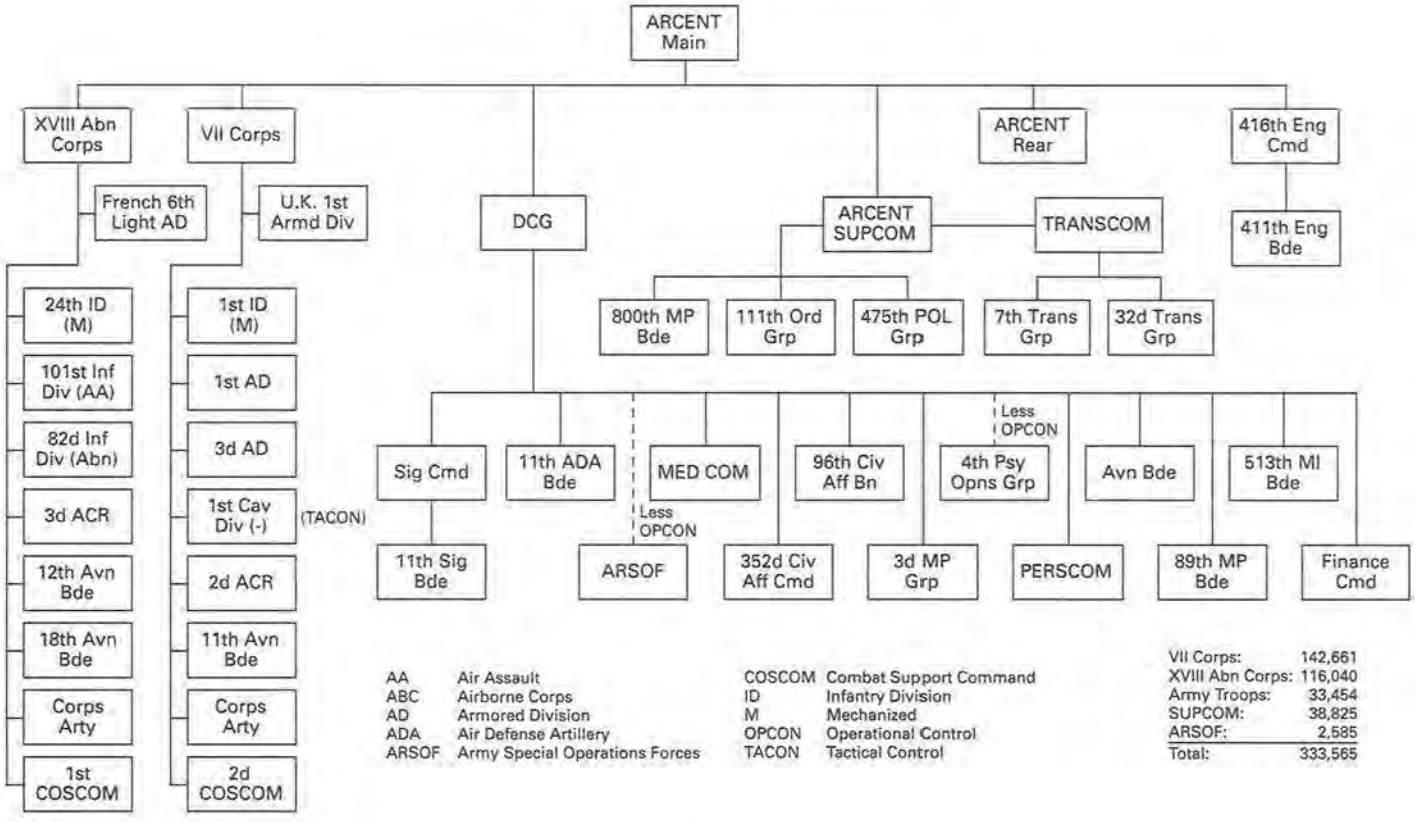
General Funk

later. Individual vehicles and parts of units began to trickle out to the desert just after Christmas. The senior maneuver commander in the tactical assembly area, Col. Daniel Zanini of the 3d Brigade, organized these crews into ad hoc fighting units and directed them to their battalion sectors. At the same time he established effective command of these units in case they had to respond to an Iraqi attack before their full chain of command arrived.[53]

Frustrated by the lack of transportation, Griffith received permission on 24 January from General Franks to road-march two battalions of Bradleys to TAA THOMPSON. While this rapid deployment improved the 1st Armored Division's combat capability, there were almost a hundred M1A1 tanks and over eighty more Bradleys that were still waiting transportation in mid-January.[54] Each of the 1st Armored Division's brigades took approximately twenty-five days to clear the port area and move to the tactical assembly area. The last of the brigades, the 3d, was ready to start its desert training cycle on 24 January.[55] However, not until 2 February did most of "Old Ironsides" arrive in the desert ready for combat operations.[56]

The 3d Armored Division was the last of the corps' American combat divisions to arrive in the desert. The division commander, Maj. Gen. Paul Funk, had his command ready to receive equipment with his division tactical command post in place in TAA HENRY before Christmas.[57] However, the movement of his units to the assembly area took much more time. On 13 January he had over seven battalions' worth of equipment waiting for truck transportation at the port.[58] Although the

Chart 5—Third Army, January 1991



Source: U.S. Army Central Command, Morning Briefing, 24 Feb 91, Swain Collection.

main command post headed to the desert on 21 January, getting the rest of the division on the road was a slow process.[59] As late as 24 January, over a week after the air campaign began, the division still had over ten battalions of tanks, Bradleys, and field artillery in the port area.[60] Not until 11 February did all of the "Spearhead's" combat systems arrive in TAA HENRY.[61]

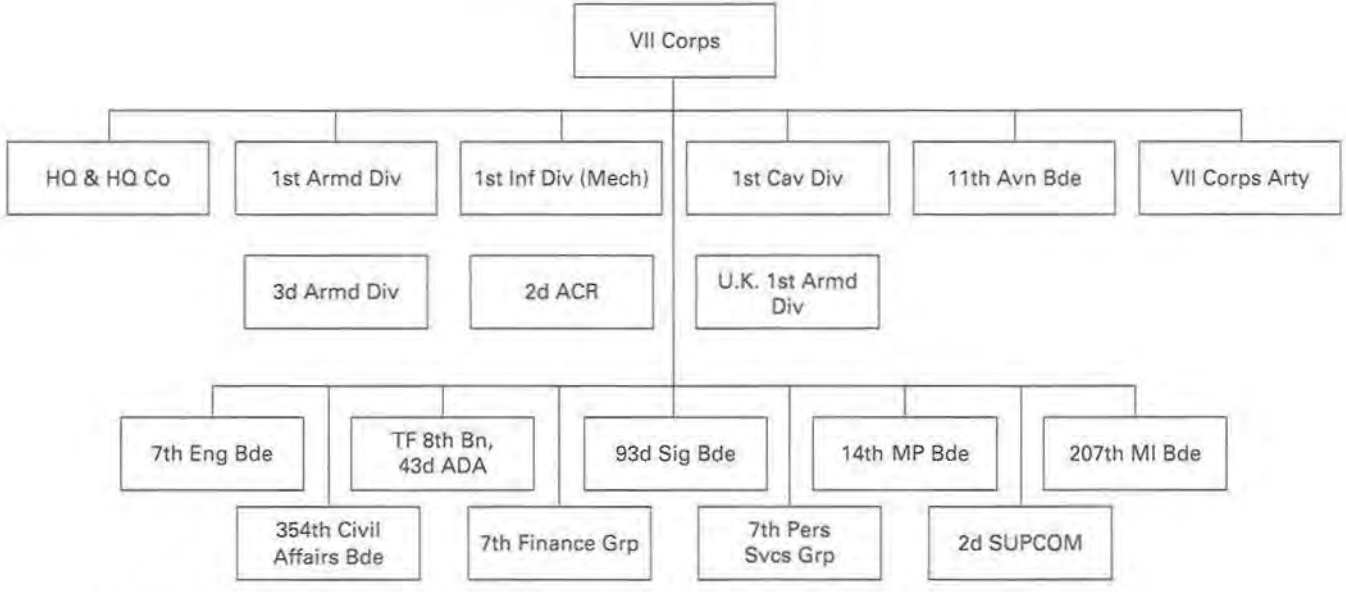
On the morning of 18 January the U.K. 1st Armoured Division began moving from its training areas north of Al Jubayl to TAA KEYES, becoming part of VII Corps.[62] In three weeks of constant motion the entire division and its support operation relocated, using the Tapline Road (MSR DODGE) as its principal route. Each 700-kilometer round trip took between twenty-four and thirty-six hours. Some truck drivers, according to the unit's history, made the trip as many as twenty times during the move.[63]

The transfer to VII Corps meant that the British logistics operation now had to move into the interior of the country as well. The scale of this deployment is quite impressive. As Sir Kenneth Hayr, former British deputy chief of staff for commitments, pointed out, the British moved their 25,000-man fighting force in nineteen days the "equivalent of the distance from the Normandy beaches to Berlin."[64] Since most of the British equipment was unique, the U.K. 1st Armoured Division had to depend on its own supply service and could not count on the American corps' logistics for support. As a result, the British division's stockpiles were impressive: Its new forward force maintenance area, next to Logbase ALPHA, held enough artillery ammunition for 15 days, tank and other ammunition for 8 days, and fuel for 10 days of sustained combat.[65] By 31 January the entire division was set in TAA KEYES and ready for focused training and combat operations.[66]

As noted earlier, the 1st Cavalry Division was General Schwarzkopf's theater reserve, located northwest of JUNO to block the Wadi al Batin approach to KKMC and the growing logistics bases along Tapline Road.[67] On 7 January, minus one brigade that was now under the operational control of the marines, the division began moving from its assembly area on the coast near Dhahran to TAA WENDY, a distance of over three hundred miles. Remembering problems with their initial deployment to Saudi Arabia that summer, the division staff ensured that sufficient combat service support and life support equipment arrived in the new assembly area ahead of most of the combat elements. Each brigade took about ten days to complete the movement, with the last elements of the 2d Brigade arriving at 0530 on 16 January.[68]

These last two arrivals gave the VII Corps its organization for the remainder of the conflict. By all accounts, the movement had been an exercise in frustration. Reflecting on this period after the war, Stan Cherrie, the VII Corps G–3, noted: "The most difficult thing [during DESERT SHIELD and DESERT STORM] was getting from the ports of Jubayl and Dammam into the TAA."[69] Franks was fortunate that nothing serious went wrong during this deployment. Most notable during this operation is the total absence of Iraqi activity along the main supply routes or in TAA JUNO. Iraqi commando probes or raids by units could have slowed the entire operation. The Iraqis chose to let yet another opportunity pass.

CHART 6—VII CORPS, JANUARY 1991



1,487	Tanks
1,384	Infantry/Cavalry Fighting Vehicles
568	Artillery Tubes
132	Multiple Rocket Launchers
8	Missile Launchers
242	Attack Helicopters
142,661	Soldiers

Source: VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, an. A; VII Corps Comdr, "Versatile, Expansible, Deployable, Lethal" (DESERT STORM Briefing), n.d.

Force Modernization

Simultaneously with the deployment into the tactical assembly area, many units began replacing old equipment with the latest in the Army's inventory.[70] These improvements took place both in the port areas and in the TAA. All of them contributed in some way to VII Corps' success against the Iraqi forces. None of them happened by chance; they were the results of the intensive management by the corps and unit staffs, and in fact by the entire Army.

Few peacetime Army units were ever at full strength. Units normally deployed in Europe, such as the 1st and 3d Armored Divisions, usually had most of their soldiers assigned, but not all were present for duty. The 2d Brigade of the 1st Armored Division, for example, had only 75 percent of its tanks fully manned in 1990.[71] School assignments, details, and annual leaves further reduced the number of soldiers available for training and operations. Units stationed in the United States, such as the 1st Infantry and 1st Cavalry Divisions, were in worse shape. In some cases, these personnel shortages caused unit commanders to take combat equipment out of service and place it in temporary storage.[72] That situation changed dramatically as the VII Corps deployed to Saudi Arabia. Now the corps had more soldiers than normally authorized.

The Army's active and reserve soldiers enthusiastically greeted DESERT STORM. Across the active Army and reserve components, many soldiers sought assignments in units ordered to Southwest Asia. In addition, unit commanders reassigned soldiers to deploying combat units, bringing them up to full personnel strength. This influx of new soldiers created some problems. Many crews had not trained together and practiced the critical timing needed to fire tank and Bradley engagements.[73] Some soldiers arrived in theater with M16A1 rifles, while the rest of the division used M16A2s. The ammunition is not interchangeable, and units went through all sorts of gyrations to ensure the appropriate 5.56-mm. ammunition went to the right soldier.[74] Leaders resolved these problems as all the corps units were brought up to full combat strength.

In addition, Arab linguists began joining the corps on 15 January. Most were Kuwaiti students who had been studying engineering, computer science, and other technical disciplines in the United States. The Kuwait embassy in Washington, D.C., selected these students and formally enrolled them in the Kuwaiti Army. Each division received thirty-five linguists and further assigned them down to brigades and battalions as the tactical plans required.[75]

Most VII Corps units arrived in the theater in green battle dress uniforms (BDUs). The Army simply could not procure and ship enough of the new brown desert camouflage uniforms (DCUs) before the corps deployed from Germany. Units that left from the United States, such as the 1st Infantry Division, arrived with both desert and green combat uniforms. Lack of the DCUs was never a big issue. Many soldiers believed the BDUs marked them as soldiers who trained to beat the Russians in Europe, giving them a psychological edge over the Iraqis.[76] After the war, most soldiers finally received their allotment of DCUs, just in time to return to Germany.

While the U.S. Army's combat equipment was superb, its personnel support equipment was extremely unsatisfactory. In an age of lightweight quick-erecting camping tents, most VII Corps soldiers used World War I–era shelter halves and general purpose (GP) medium tents. These were difficult to assemble, had no floors, and were unstable when desert winds began to blow.[77] Latrine facilities were just as antiquated. Male soldiers urinated in "piss tubes," pipes strategically situated in the unit's encampment. For defecating, and for use by female soldiers, the corps built wooden latrines with three stalls and placed them in each unit's assembly area. Fifty-five–gallon oil drums, cut in half and placed under the seat, caught the waste. Each morning details of soldiers pulled the full drums from the back of the latrine, added gasoline, and burned the waste, the same way the Army had twenty-five years earlier in Vietnam.[78] Although soldiers of the opposite sex tried to respect each other's privacy in these crude contraptions, often they would share the stalls as just part of the job. The VII Corps soldiers went to war with living and sanitation facilities that would be familiar to their World War I predecessors.[79]

Although the soldiers of VII Corps complained about their food, they were probably the best-fed troops in American history. The old C-rations of the World War II–Korea–Vietnam eras were gone. Now soldiers in the field ate from small brown packages called meals, ready to eat (MREs). They were easy to carry in a soldier's trousers pocket. While somewhat monotonous, they formed the basic meal for most members of the corps during the early stage of operations. When the unit could set up its mess trailer, tray packs (T-rations) with fresh chicken, rice, salads, and bread would improve at least one of the day's meals.[80] Troops soon tired of small cans of lasagna and other pasta dishes called MOREs (meals off-the-shelf and ready to eat) that were designed to augment the MREs.[81] Finally, soldiers in the assembly area could often grab a hamburger, nicknamed Wolfburger, and a soft drink at one of the mobile snack trucks designed and organized by the 22d Support Command's food service adviser, CWO Wesley C. Wolf.[82] No soldier in VII Corps ever went hungry.

Combat equipment, fortunately, was first rate in almost every regard. The VII Corps arrived in Saudi Arabia with a mixture of main battle tanks. Most Germany-based units possessed the M1A1 tank with a 120-mm. smoothbore gun and improved defensive armor. Units from the United States deployed with M1 tanks with the older but accurate 105-mm. rifled cannon. Both had a 1,500-horsepower turbine engine, a superb suspension, and a sustained cross-country speed greater than forty miles per hour. Both tanks had laser range-finders and thermal imaging sights that gave their crews the ability to acquire targets at night. Both also carried a .50-caliber machine gun in the commander's station, a 7.62-mm. machine gun at the loader's station, and a 7.62-mm. machine gun mounted coaxial with the main gun. The major difference between the two tanks was the M1A1's improved NBC defensive system and the improved range and tank-killing ability of the larger smoothbore gun.[83]

For years critics had attacked the M1 as being too costly, a "gas guzzler," and generally unreliable.[84] By 1990 the Army had almost a decade of experience with



Makeshift Shower; below, *Disposing of Latrine Waste into a Cat Hole Dug in the Desert*





M9 Armored Combat Earthmover

this system. Years of improvements and training had resolved most of the tank's earlier maintenance problems. Tank crews deployed to Saudi Arabia believed their system was superior to any other tank on the battlefield. Its Achilles heel, however, continued to be its excessive fuel consumption.

Col. David O. Bird supervised the M1A1 "rollover" program in Saudi Arabia. His team of over six hundred military and civilian technicians and trainers worked out of the port of Ad Dammam. The M1A1 tanks shipped from storage in Germany were not always the most modern. Bird's team made several major modifications on the equipment, including the attachment of hardened steel to the turret near the gun tube for extra protection, installation of a heat shield in the engine compartment, upgrade of optical systems to protect against laser threats, and painting for desert operations. Ultimately, this operation resulted in all but two of VII Corps' armored battalions fighting with the most modern tanks available.[85]

Changes in the corps' tank inventory began almost immediately. Around Christmas the 1st Cavalry Division exchanged its fleet of 240 worn M1 tanks, some of the oldest in the Army, for a new issue of modified M1A1s.[86] The 1st Infantry Division, which also had a fleet of old M1 tanks, was able to reequip the two battalions from its 1st Brigade with the improved models. The division's tank crews had trained on M1A1s before their departure from Kansas, so it was simply a matter of swapping equipment and calibrating the new tank's main guns.[87] Some units, such as the 2d Armored Cavalry, the 3d Armored Division, and the 2d



Tank with Mine Rake

Armored Division (Forward), which Central Command attached to the 1st Infantry Division, arrived with the most modern tanks, called M1A1 HA because of their "heavy armor" plating. In late December the 1st Armored Division also upgraded two more of its battalions to M1A1 HA tanks. In a close-range battle with T–72s, these improvements in the corps' main battle tank fleet could be that qualitative edge that made the difference. Only the 1st Infantry Division's 2d Brigade went into combat using the basic M1 tank with its 105-mm. gun.[88]

All the corps' infantry and armor battalions arrived equipped with the M2 infantry fighting vehicle (IFV) or the M3 cavalry fighting vehicle (CFV). The latter, used by regimental and divisional cavalry squadrons, had less room for infantry and more for ammunition. With a 25-mm. Bushmaster cannon, a TOW antitank missile, and a 7.62-mm. coaxial machine gun, the M2/3 was a match for the Iraqi BMP and all of the other enemy personnel carriers.[89] An improved version, the M2A1, was in production as the corps went to the Gulf. This model incorporated the more lethal TOW 2 antitank missile and improvements in armor protection and fuel stowage.[90] Enough of these new vehicles were available to reequip the 2d Cavalry. In a short time the regimental crews were able to reconfigure these infantry vehicles to carry the extra ammunition the cavalrymen needed.[91]

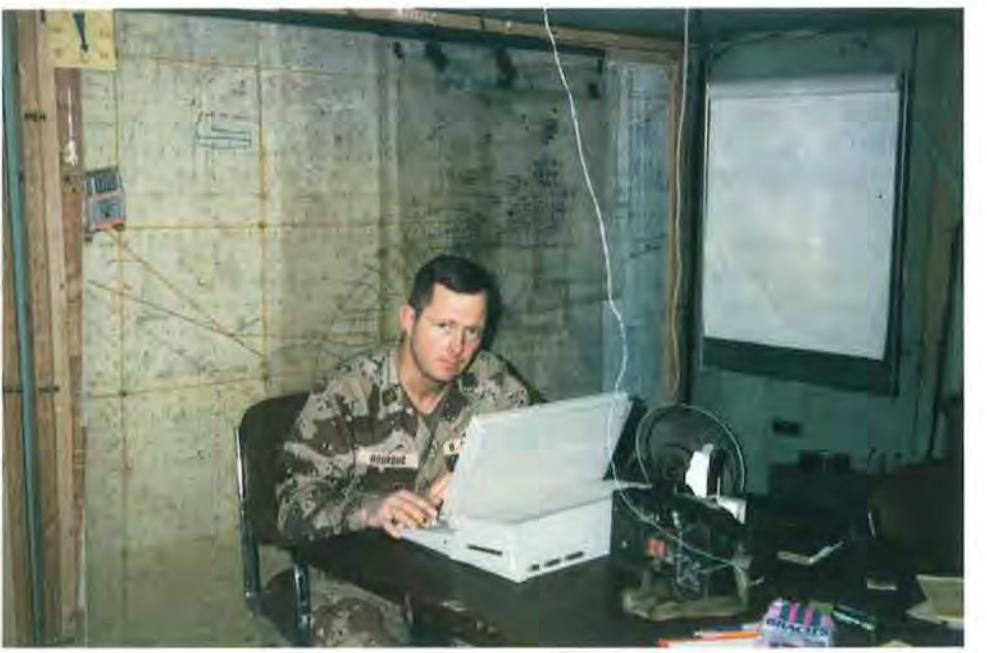
The VII Corps' first battle task was to break through the Iraqi defenses before maneuvering to engage the *RGFC*. The Iraqi defensive works were based on measures that had proved successful during the war with Iran. These included trenches,



The ARCENT liaison team uses TACSAT telephone to receive a situation report.

oil-filled moats, barbed wire, and mines. Army leaders expected the Iraqis to cover all these obstacles with direct and indirect fire weapons. To assist in breaching these potentially formidable barriers, the Army added a whole range of engineer mobility equipment to the corps' inventory. These additions included mine rollers and tank plows that attached to the front of the M1 series tanks. There were also antimine rakes to put on the front of combat engineer vehicles (CEVs) to further improve the corps' countermine capability.[92] Most of this equipment went to the 1st Infantry Division, with a set to each of the other divisions and the 2d Cavalry. Engineer battalions also turned in their old bulldozers and replaced them with the M9 armored combat earthmover (ACE). This armored bulldozer had improved mobility and armored protection for the operator. During combat operations, the ACE could move forward of the tanks and Bradleys, filling in trenches, plowing under obstacles, and destroying bunkers.[93]

Few soldiers had seen a global positioning system (GPS) receiver prior to deployment to Saudi Arabia. It turned out to be an important addition to the corps. By communicating with satellites, the GPS could guide its operator to the exact location desired. Whole units could now maneuver in the desert without fear of becoming lost. There were never enough of these precious devices—only about three thousand for the more than forty thousand vehicles in the VII Corps.[94] Unit commanders took great pains to ensure that the GPS went to their most important leaders and vehicles.



The Author, a.k.a. the "Night Mayor," with Early Laptop Computer

Less noticeable, but also important, were recent changes to the command and control infrastructure. Supplementing traditional corps and division communications systems were the new single-channel and multichannel tactical satellite (TACSAT) telephones. The phones were critical because of the great distances and high speeds Franks expected in the desert environment. The capability they provided was impressive. Because of the satellite technology, division commanders could call back to their home station in Europe or in the United States to check on morale or support issues. Staffs could, using electronic data transfer between computers, download in an hour large amounts of personnel or logistics information that would take a week or more to arrive by mail. Finally, it became the primary means of command and control between the VII Corps and Third Army commanders while the former was commanding at the front.[95]

Franks and other corps commanders needed information on what the Iraqi Army was doing on the other side of the border. Most of this information came from the numerous collection units directed by Central Command, the Army Intelligence Agency, and other strategic commands. For this information to be useful, these agencies had to share it quickly with the corps and division staffs. The VII Corps arrived in theater without the communications systems that would allow for this rapid exchange of intelligence information. Brig. Gen. John F. Stewart, Jr., the Third Army G–2, worked to open these communications channels.[96] Unit commanders were seldom, however, satisfied with the intelligence they received.

The last major item of equipment that appeared in the desert was the personal computer. Many had been part of the corps' garrison authorizations back in Germany or in the United States. Some units purchased their systems just before their departure to Saudi Arabia. They were everywhere, and few staffs from battalion through corps could function without at least one per section. Their electronic mail (email) capability, then unfamiliar to most soldiers, provided an alternate method of communications within the corps staff and down to the major subordinate commands. Staff officers in every command, using computer programs such as Harvard Graphics and PowerPoint, prepared briefing charts showing everything from deployment progress to the Iraqi order of battle. Without doubt, these computer operators generated huge quantities of information for their commanders and senior headquarters.[97]

Once the units of VII Corps arrived in TAA JUNO, they spent several days organizing and adjusting to living in the desert environment. They could not rest long, however. General Franks had directed a rigorous training schedule to prepare the Jayhawks for the battle ahead.

Notes

[1]VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, p. 7. In an assembly area, a force prepares or regroups for further action. OPLAN 1990–2 identified three types of assembly areas: the tactical assembly area; the forward assembly area, from which the corps would commence combat against Iraq; and the redeployment assembly area (RAA), which the corps used when returning from Iraq and preparing to move back to the port.

[2]DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), pp. 32–40.

[3]ARCENT, DESERT STORM Intelligence Summary (Intel Sum), briefing slides, Swain Collection, Fort Leavenworth, Kans.; ARCENT, Desert OPLAN 0001, DESERT STORM, 27 Dec 90, briefing slides, FORSCOM; VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], an. L, in VII Corps AAR, Fort Leavenworth, Kans.

[4]ARCENT, DESERT STORM Intel Sum, briefing slides.

[5]VII Corps G–2, "100-Hour Ground War," pp. 79–82.

[6]Lt. Gen. Prince Khalid ibn Sultan, *Desert Warrior* (New York: HarperCollins, 1995), pp. 217–47.

[7]DOD, *Conduct of the Persian Gulf War*, p. 40.

[8]Sultan, *Desert Warrior*, pp. 224–25.

[9]Interv, Richard Swain with Stanley F. Cherrie, 19 Aug 91, Swain Collection.

[10]Interv, Larry Heystek with Stephen L. Arnold, 19 Nov 90, Swain Collection.

[11]VII Corps, FRAGO 29–91, Mock Mission Through Syrian Special Forces Rgt, 8 Jan 91.

[12]VII Corps, FRAGO 78–91, 17 Jan 91.

[13]VII Corps, FRAGO 32–91, Movement of 9th Division, 20 Jan 91; VII Corps TAC, Staff Jnls, 23 Jan 91, entry 39, and 26 Jan 91, entry 20.

[14]Intervs, Joe Huddleston with Calvin A. H. Waller, 2 May 91; Peter S. Kindsvatter with Frederick M. Franks, Jr., 2 Apr 91; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), p. 225.

[15]Richard F. Nyrop, ed., *Saudi Arabia: A Country Study*, 4th ed., DA Area Handbook Series (Washington, D.C.: Government Printing Office, 1984), p. 148; Douglas Little, "Pipeline Politics: America, TAPLINE, and the Arabs," *Business History Review* 64 (Summer 1990):255–85.

[16]DOD, *Conduct of the Persian Gulf War*, p. 427; Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War* (Washington, D.C.: U.S Army Center of Military History, 1995), pp. 63–65.

[17]Spcs. Melissa Rathbun-Nealy and David Lockett missed that turn and were captured by advancing Iraqi troops on 1 February. Earlier, on 3 January, soldiers from the 2d Cavalry also had missed the turn and got within three hundred meters of the Kuwait border, as noted in VII Corps Main CP, G–3, Staff Jnl, 3 Jan 91, entry 5.

[18]ARCENT, Desert OPLAN 0001, 27 Dec 90, briefing slides; William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard Business School Press, 1992), p. 122.

[19]Pagonis, *Moving Mountains*, pp. 127–29.

[20]ARCENT, Desert OPLAN 0001, 27 Dec 90, briefing slides; Pagonis, *Moving Mountains*, p. 122; Schubert and Kraus, *Whirlwind War*, pp. 63–65; DOD, *Conduct of the Persian Gulf War*, p. 427.

[21]Pagonis, *Moving Mountains*, pp. 124–25.

[22]Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 66–69.

[23]Col. Leonard D. Holder, Comdr, 2d ACR, "Second Armored Cavalry Regiment, Operation DESERT STORM 1990–1991," Troop Handout, 1 Mar 91; Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 11.

[24]VII Corps, OPLAN 1990–2, p. 20; VII Corps Main CP, Comdr's Sitrep 4, 21 Jan 91.

[25]VII Corps, OPLAN 1990–2; VII Corps, Sitrep 4, 21 Jan 91.

[26]VII Corps, OPLAN 1990–2, pp. 16–17.

[27]Pagonis, *Moving Mountains*, p. 136.

[28]VII Corps, OPLAN 1990–2, pp. 19, 22–35.

[29] 1st Cav Div, Chronology of the 1st Cav Div, Robert H. Scales Papers, Fort Leavenworth, Kans.
[30] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 41.
[31] Ibid., p. 41, briefing charts; author's notes.
[32] Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, p. 12; John Sack, *Company C: The Real War in Iraq* (New York: William Morrow and Co., 1995), p. 46.
[33] VII Corps Main CP, G–3, Staff Jnl, 31 Dec 90, entry 21.
[34] Ibid., 3 Jan 91, entry 14.
[35] 1st IDF, DESERT STORM/DESERT SHIELD AAR, p. 41, briefing charts.
[36] Ibid., briefing charts (Preparation for Movement to the TAA).
[37] Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. IV: The Gulf War* (Boulder, Colo.: Westview Press, 1996), pp. 698–99; Pagonis, *Moving Mountains*, p. 123.
[38] 1st IDF, DESERT STORM/DESERT SHIELD AAR, briefing chart (Heavy Lift Assets), p. 41.
[39] VII Corps, FRAGO 32–91, Rapidly Deploy Corps to TAA, 8 Jan 91.
[40] VII Corps Main CP, G–3, Staff Jnl, 12 Jan 91, entry 12.
[41] VII Corps, FRAGO 64–91, Corps Rapid Movement to TAAs, 18 Jan 91.
[42] VII Corps Main CP, G–3, Staff Jnl, 17 Jan 91, entry 29.
[43] Stephen Robinette, note to author, 19 Mar 98.
[44] VII Corps Main CP, VII Corps Sitrep 28, 12 Jan 91.
[45] Paul E. Christopher, "VII Corps Main Command Posts During Operation DESERT SHIELD and DESERT STORM: A Personal Experience Monograph," Unpubl Ms, AWC, 1992, p. 17.
[46] VII Corps Main CP, G–3, Staff Jnl, 29 Dec 90, entries 1–26.
[47] VII Corps, FRAGO 2–91, 7 Eng Bde Constructs Berms, Holes for Fighting Positions, etc., 31 Dec 90.
[48] VII Corps, FRAGO 9–91, 7th Eng Bde Construct a Tank Gunnery Range for 2ACR and Construct Two MEDEVAC Hospitals for 2 COSCOM [Corps Support Command], 2 Jan 91.
[49] Peter S. Kindsvatter, VII Corps Historian Notes and Observations, 26 Apr 91, pp. 5, 83–84.
[50] 1st Inf Div, Opn DESERT SHIELD and DESERT STORM Cmd Rpt, 19 Apr 91, p. 3; author's notes.
[51] VII Corps Main CP, G–3, Staff Jnl, 17 Jan 91, entry 13; Steve Vogel, "Hell Night: For the 2d Armored Division (FWD) It Was No Clean War," *Army Times*, 7 Oct 91, p. 14.
[52] VII Corps Main CP, Comdr's Sitrep 16, 2 Feb 91.
[53] Vogel, "Metal Rain," p. 12; 1st IDF, DESERT STORM/DESERT SHIELD AAR, briefing chart (VII Corps Personnel and Equipment Deployment).
[54] VII Corps TAC, Staff Jnl, 30 Jan 91, entry 52; VII Corps Main CP, VII Corps Sitrep 7, 24 Jan 91; Vogel, "Metal Rain," p. 12.
[55] 1st Armd Div, DESERT STORM Briefing, Mar 91; VII Corps Main CP, Comdr's Sitrep 7, 24 Jan 91.
[56] VII Corps Main CP, Comdr's Sitrep 16, 2 Feb 91.
[57] 3d Armd Div Staff, Hist Overview of the 3AD in the Persian Gulf War, n.d.
[58] VII Corps TAC, Staff Jnl, 13 Jan 91, entry 18.
[59] VII Corps, Sitrep 4, 21 Jan 91.
[60] VII Corps, Sitrep 7, 24 Jan 91.
[61] VII Corps, Sitrep 25, 11 Feb 91.
[62] VII Corps Main CP, G–3, Staff Jnl, 18 Jan 91, entry 35.
[63] Pearce, *The Shield and the Sabre*, pp. 66–67.
[64] Kenneth Hayr, "Logistics in the Gulf War," *RUSI Journal* (Autumn 1991):17.
[65] Ministry of Defense, *Operation GRANBY: An Account of the Gulf Crisis, 1990–91, and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1993), pp. 3–7; Hayr, "Logistics in the Gulf War," pp. 16–17.
[66] Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91: The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 3–5 to 3–7; VII Corps Main CP, Comdr's Sitrep 7, 24 Jan 91.
[67] Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 139.

[68] 1st Cav Div, Chronology of the 1st Cav Div, and Chronology of 2d Bde, 1st Cav Div.

[69] Interv, Swain with Cherrie, 19 Aug 91.

[70] This section describes improvements to the American inventory. The British 1st Armoured Division also underwent an important series of modifications prior to and after its deployment. Most important were improvements made to the Challenger main battle tank. See Pearce, *The Shield and the Sabre*, p. 34.

[71] Vogel, "Metal Rain," p. 8.

[72] Before DESERT SHIELD, when the author was executive officer of the 2d Battalion, 34th Armor, each company had several tanks in extended maintenance and not available for training.

[73] Vogel, "Metal Rain," p. 8.

[74] Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 30.

[75] VII Corps, FRAGO 36–91, Distribution of Corps Arabic Linguists, 5 Jan 91; Kindsvatter, Historian's Notes, p. 10.

[76] Interv, Kindsvatter with Franks, 5 Apr 91.

[77] Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 27; author's notes.

[78] Interv, Kindsvatter with Franks, 5 Apr 91.

[79] Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 27; author's notes.

[80] Pagonis, *Moving Mountains*, pp. 114–15.

[81] Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 27; author's notes.

[82] Pagonis, *Moving Mountains*, pp. 128–29.

[83] DA, *Weapon Systems 1990* (Washington, D.C.: Government Printing Office, 1990), pp. 13–15; Schubert and Kraus, *Whirlwind War*, pp. 30–31. The 105-mm. gun is a rifled cannon that uses a one-piece shot-shell combination in a metal canister. The 120-mm. gun is a smoothbore system, firing a variety of rounds in combustible cartridge cases.

[84] Andrew Cockburn, *The Threat: Inside the Soviet Military Machine* (New York: Vintage Books, 1984), pp. 198–99.

[85] Steve E. Dietrich, "In-Theater Armored Force Modernization," *Military Review* (October 1993):40–43.

[86] J. Paul Scicchitano, "Night Strikes: The Secret War of the 1st Cavalry Division," *Army Times*, 23 Sep 91, pp. 8, 14.

[87] Jim Tice, "Coming Through: The Big Red One Raid," *Army Times*, 26 Aug 91, p. 12; Interv, Kindsvatter with Franks, 5 Apr 91. Calibrating the main gun simply means adjusting the fire control system so the tank can hit its target.

[88] VII Corps Main CP, G–3, Staff Jnl, 31 Dec 90, entry 17; Interv, Kindsvatter with Franks, 5 Apr 91; Dietrich, "In-Theater Armored Force Modernization," pp. 40–43.

[89] The *Boyevaya Mashina Pehoti* is a Soviet-made mechanized infantry vehicle.

[90] DA, *Weapon Systems 1990*, p. 17.

[91] Holder, "Opn DESERT STORM 1990–1991"; Interv, Kindsvatter with Franks, 5 Apr 91.

[92] Interv, Kindsvatter with Franks, 5 Apr 91; Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 35.

[93] 1st Inf Div, DESERT SHIELD/STORM LL, p. 34; Interv, Kindsvatter with Franks, 5 Apr 91; DA, *Weapon Systems 1990*, pp. 78–79.

[94] Schubert and Kraus, *Whirlwind War*, p. 203; Interv, Kindsvatter with Franks, 5 Apr 91.

[95] Author's notes. As night operations officer in the 1st Infantry Division main command post, the author observed or participated in hundreds of these transmissions throughout the deployment. Interv, Kindsvatter with Franks, 5 Apr 91.

[96] John E. Stewart, Jr., "DESERT STORM: A Third U.S. Army Perspective," *Military Intelligence* (October–December 1991):23–24; Interv, Kindsvatter with Franks, 5 Apr 91.

[97] Author's notes. The records of almost every unit provide overwhelming evidence as to the ubiquity of these small computers.

5

Precombat Training

Training is the Army's top priority; it prepares us to fight. As leaders, our sacred responsibility is to ensure that no soldier ever dies in combat because that soldier was not properly trained.

—Carl E. Vuono[1]

In a chapter contributed to *America's First Battles*, written several years before the Army's deployment to Southwest Asia, the noted military historian John Shy identified the major weakness of American forces in their first encounter with the enemy:

Virtually every case study emphasizes the lack of realistic large-scale operational exercises before the first battle, exercises that might have taught commanders and staffs the hard, practical side of their wartime business as even the most basic training introduces it to the soldier at the small unit level.[2]

The U.S. Army that arrived in the Gulf in the fall and winter of 1990 was the product of a recent revolution in military training. Before 1975 unit commanders measured training effectiveness by time. How long did the unit remain in the field? How many hours of such and such training did the unit experience? Missing, of course, was any analysis as to the effectiveness of the training. There were no training objectives and standards of performance that indicated how well the unit or soldier actually performed the mission.[3] Following the 1973 Arab-Israeli War and the American withdrawal from Vietnam, General William E. DePuy and his new Training and Doctrine Command shoved a seemingly radical training program down the throats of Army commanders around the world.[4]

By 1975 Field Manual (FM) 21–6, *How To Prepare and Conduct Military Training*, one of the most important military documents since World War II, was in the hands of unit commanders. It taught the basics of "Performance Oriented Training," which demanded specific standards for all the tasks the Army said soldiers and units should perform. American soldiers trained to standards contained in *Soldiers' Manuals*, not to time. Under the direction of the unit's noncommissioned officers (NCOs), who were responsible for individual and crew training, soldiers became proficient in the basics of their specific military skills.[5] Senior commanders arranged for skill qualification tests to ensure their soldiers could perform their individual combat missions.[6]

Officers supervised unit training, now called collective training. Organizations of all sizes trained according to the specific ARTEP (Army Training and Evaluation

Plan) for their unit. These ARTEPs were essentially lists of tasks needed to accomplish a specific mission (hasty attack, river crossing, etc.). Specialists at Army service schools divided each major task into the various smaller steps that successful units usually performed during such a mission. These ARTEPs provided a baseline for units to use in developing their training plan and for evaluating their training.[7] At least once a year senior commanders arranged for an exercise to measure their subordinate units' performance. Wherever possible, these unit exercises were at the Army's combat training centers.

For ten years the Army refined its training system and tested it at the several combat training centers (CTCs) in the United States and Germany. Most important of these was the National Training Center in the heart of the Mojave Desert. Using sophisticated laser technology to support combat engagements, Army trainers subjected armored and infantry battalions to the most demanding evaluations in the world.[8] For several weeks, without rest, units fought and re-fought an experienced OPFOR (opposing force) that used Soviet-like equipment and tactics. It was the toughest, most demanding, and most stressful training American units had ever experienced. Battalions that were successful at the NTC were justifiably proud of their accomplishments.[9] Those units that did not perform as well went home and started the training process again. Officers' careers were made and broken in the computerized sands of the Mojave Desert.

In 1988, FM 21–6 was replaced by FM 25–100, *Training the Force*, which discussed the mature philosophy of Army training. A subsequent manual, FM 25–100, *Battle Focused Training* (1990), spelled out the specific techniques needed to implement this training philosophy.[10] An important element was the need to sustain proficiency in tasks for which soldiers and units had previously trained.[11] The key was to focus on the combat tasks the unit needed to accomplish its wartime mission, vis-à-vis the mission essential task list (METL). Each unit, from platoon through division, had a METL. For example, the 1st Armored Division's METL, developed before the Iraqi invasion of Kuwait, listed the following essential tasks:

- Transition to war
- Move the division
- Defend
- Attack from the march
- Counterattack or reinforce
- Secure the division rear
- Attack (by fire) deep targets affecting the close battle
- Sustain the division fight
- Command and control the division[12]

Once in TAA JUNO, commanders modified these METLs to reflect the new dimensions of the unit's tactical mission. After talking with the XVIII Airborne Corps commander, Lt. Gen. Gary E. Luck, and other experienced leaders, Franks concluded he would need a three-week training cycle to adapt the soldiers' skills



Weapons Training at the NTC with a .50-caliber Machine Gun Equipped with Blank Firing Device and Multiple Integrated Laser Engagement System (MILES)

to the desert environment. He wanted them to rehearse and develop new skills based on the environment and the enemy the corps was facing.[13] This cycle, which most units were able to accomplish, provided a focus for units arriving in the desert. Each subordinate commander used the time to achieve his own special training needs. For example, the 1st Armored Division commander, General Griffith, stressed mobility and massing of combat power, while General Rhame, the 1st Infantry Division commander, focused on the skills his division needed to breach the Iraqi defenses.[14] Training in each of the tactical assembly areas began with the individual soldier.

Individual and Small-Unit Training

At the most basic level soldiers trained on individual skills needed to survive and defeat Iraqi soldiers in the upcoming fight. Using the *Soldiers' Manuals* as their guide, NCOs drilled their charges in small-arms care and use, first aid, NBC operations, and hundreds of other repetitive and mundane tasks.[15] This kind of training is usually not very dramatic or exciting. Under the direction of their NCOs, infantrymen assembled and disassembled their M16 rifles, tank loaders practiced selecting the proper ammunition and loading it into the main gun's breech, and tank and Bradley gunners honed their vehicle identification skills. Across the corps, soldiers practiced these and thousands of other skills until they became second nature.



Demonstrating an RPG–7 Rocket Launcher at the NTC Firing Range

Building on the individual training came the crew and squad exercises. The firing of their weapons was their most important training task. Good combat unit commanders have always emphasized gunnery skills. Frederick the Great, for example, argued that "infantry that can load the fastest will always defeat those who are slower to reload."[16] The 1973 war between Israel and its Arab neighbors convinced General DePuy, at the beginning of the TRADOC training revolution, that firing first and accurately was still a fundamental principle of warfare.[17] Franks believed in live-fire training just before combat operations.[18] He insisted that his solders sharpen their weapons skills with live fire as soon as they were settled in their assembly areas. Gaining confidence in their weapons systems, some that they fired for the first time, was critical. Training ammunition is often different from the ammunition used in combat. A large percentage of corps soldiers had never fired the more powerful service ammunition. Franks wanted his soldiers to experience its kick "before we crossed the line of departure."[19]

Soon after the corps' arrival, the G–3 training staff began coordinating with the Saudi Arabian authorities to establish firing ranges. Understandably, the Saudi government wished to restrict the firing to as few areas as possible. Even after firing has stopped, the target area often contains unexploded ordinance that can cause injuries long after the firing unit has departed. The Saudi commander at King Khalid Military City worked with General Franks and his staff in obtaining the appropriate land for this important training.[20]

Each of the divisions built ranges for firing their combat systems.[21] Although relatively primitive in comparison to the great ranges the Army used in Europe, they were sufficient for the tasks at hand. Divisional and corps engineer units assisted in constructing berms to restrict the flight of various projectiles and in target emplacement. For the tanks, the engineers constructed these ranges as close as possible to the standards that the Armor School prescribed.[22] For example, on 2 January the corps ordered the 7th Engineer Brigade to build a tank gunnery range for the 2d Cavalry. Its heart would be a 100-meter-long berm, 15–20 meters high and 10–15 meters deep. It was to be ready not later than 9 January.[23] The engineers finished the job on time, and by 17 January the 2d Armored Cavalry, firing on that range, completed all of its tank calibration and M2/M3 zeroing.[24]

The corps artillery also had the opportunity to fire its M109 howitzers and multiple launch rocket systems. Based on the unit task list, each battalion shot a variety of rounds, including dual-purpose improved conventional munitions (DPICM), Copperheads, and rocket-assisted projectiles (RAP).[25]

Even more complex than the training received by maneuver and artillery crews was that undertaken by the corps' aviators. First was the basic task of flight training. Aviators are always practicing, and almost every hour of flight during peacetime operations is some kind of training event. Flying in the desert environment was extremely treacherous and an important training task in itself. Making this problem more difficult was the fact that many aviators had not flown for about a month while their aircraft were on ships en route to Saudi Arabia. Most attack helicopter operations were to take place at night, so many of the corps' aviators went to "reverse cycle" (i.e., sleeping during the day, flying at night) training to help prepare them for these missions. Flying at night is daunting even for the experienced aviator. Night optics, while excellent for finding targets, distorts the pilot's depth perception and confuses his orientation to the horizon.[26] Basic night flight training thus became an early priority of all corps aviation units.

Beyond flying, the Cobra and Apache gunners needed the opportunity to fire their weapons. The cost of TOW missiles, fired from Cobra helicopters, and Hellfire missiles, fired from Apache attack helicopters, restricts the number that are fired during peacetime. In addition, most gunners had only fired target practice missiles. Now, at the assembly area ranges, Franks ordered each attack helicopter crew to fire one service missile. The firing of service ammunition increased the crews' proficiency and confidence as the beginning of the ground campaign approached.[27]

The training of the engineer crews was also quite demanding. Soldiers had to learn to operate the new armored combat earthmover (ACE) and maneuver it as part of a mechanized company team. Soldiers practiced mine clearing by hand and with the mine clearing line charge (MICLIC), essentially a trailer pulled by a tank. Once near the minefield, the operator fired a rocket that pulled a line charge, like a long rope, across the minefield. Once the line rested across the barrier, the operator detonated the charge. In theory, the mines were neutralized to a depth of 110 meters, creating a lane eight meters wide.[28] In practice, the MICLIC was only marginally effective. At one point it appeared as though it would be of no use during the 1st Infantry Division's breach.[29] In spite of extensive practice and assistance



Mine Clearing Line Charge

from outside experts, especially marines familiar with this equipment, the 1st Infantry Division's success with this device ranged from a low of 50 percent in early training up to nearly 90 percent before the ground campaign.[30]

Across the corps soldiers rehearsed the tasks they would need to know by heart in the upcoming weeks. Medical personnel practiced the difficult task of triage, separating wounded soldiers who would survive with immediate treatment from those who probably would not survive at all. Other soldiers went over the grim graves registration procedures, especially the task of temporarily burying and marking the graves of American and Iraqi soldiers killed in combat.[31]

The soldiers of the British 1st Armoured Division were also busy working on their individual skills. With one of the finest noncommissioned officer corps of any army in the world, the division was adept at preparing its soldiers for war. Their individual training began as soon as they arrived in the theater in November. British NCOs were extremely aggressive in their training, and several soldiers, including the commander, the second in command, and the regimental sergeant major of the Staffordshire Regiment, were injured on the hand-grenade range.[32] Nevertheless, their commander deemed their small-unit training effective and continued it as they pulled into TAA KEYES.

Collective Training

Individuals, crews, and squads do not win battles—company teams, battalions, and brigades do. While the noncommissioned officers focused on the

small-unit training, the corps' officers supervised collective training. As units arrived in TAA JUNO, they began conducting exercises to address the problems they expected in the upcoming conflict. This training took several forms, most importantly firing and maneuver exercises, breach techniques, and command and staff exercises.

Since World War II no army has been able to mass artillery fire better than the U.S. Army. One call from a battalion forward observer can start a sequence that culminates with several brigades' worth of artillery ordinance all landing on the same target. A few moments later the artillery commander can shift all that firepower against another target or divide it between several smaller ones. The flexibility of a centralized battlefield system of linked fire-direction centers has made the U.S. ground soldiers' tasks much easier and has saved many American lives. Recent additions to the Army's arsenal, such as the MLRS, Firefinder artillery-locating radar, fire support team vehicle (FIST-V), and TACFIRE (the computer-based tactical fire-direction system), have made it easier for the artillery commander to mass fires effectively.

As the artillery units arrived at JUNO, they practiced under desert conditions the collective skills they had rehearsed year after year on ranges in Grafenwöhr in Germany and at Forts Riley and Hood in the United States. The regimen included selecting and rapidly occupying firing positions; rehearsing firing missions under both dry and live fire; and tactical redeployments before counterbattery systems could return fire. Batteries learned to move in the desert using a battalion wedge, rather than in column as they had moved in Germany. General Abrams, the corps artillery commander, and the divisional artillery commanders drilled these units until such movements were natural. Abrams, the former head of the Army's Combined Arms and Services Staff School (CAS^3) at Fort Leavenworth, conducted routine meetings of artillery commanders to ensure they were thinking through the problems of fighting an Iraqi artillery force that was every bit, at least on paper, their equal.[33]

The corps' aviation battalions continued to improve their ability to maneuver in this new aerial environment. One of the first unit training events for the 11th Aviation Brigade took place on 7 January, when it conducted a mock mission with two Apache and one OH–58 helicopter against the Syrian forces. While planners designed such exercises to lessen the possibility of an unintended engagement with the Syrians, they also served to improve the brigade's flying capabilities in the featureless desert environment.[34] As noted earlier, aviators also went to reverse-cycle training, sleeping during the day and conducting their flight operations by night. By 5 February the 11th Aviation Brigade was well along in preparing for night and deep operations by its attack battalions.[35]

The U.K. 1st Armoured Division had a special problem to work through, that of Brig. Christopher J. A. Hammerbeck's 4th Brigade. While the individual battalions of the 4th Brigade were excellent units and well trained, they had no experience working together. To remedy this deficiency and bring the 4th Brigade up to the standards of the 7th Armoured Brigade, which had been in the Gulf much longer, Maj. Gen. Rupert A. Smith and Brigadier Hammerbeck sought as many col-

lective training opportunities as possible.[36] Determined to whip his new command into shape, the brigade commander launched a series of training events in early January called Exercise NESSUN DORMA ("Let Nobody Sleep"). Hammerbeck repeatedly maneuvered his brigade over twenty-five kilometers, sequentially committing his battle groups into a series of six separate and two brigade attacks. By the end of the month he reported to Smith that the 4th Brigade was ready.[37]

Some of the most dramatic and comprehensive training exercises in TAA JUNO centered on the 1st Infantry Division's expected breach of the Iraqi defenses and the subsequent passage of lines by the U.K. 1st Armoured Division. On 13 January the American division received the 176th Engineer Group (three battalions) (direct support) and the 9th Engineer Battalion (operational control) so the division could start preparing for the breach operation.[38] Lt. Col. Stephen C. Hawkins, commander of the 1st Engineer Battalion (1st Infantry Division), planned and supervised the construction of a five-kilometer-wide replica of a portion of the Iraqi trenches as they existed on the eastern side of the Wadi al Batin. It was as accurate as current intelligence would allow, even in its direction of orientation. The battalion took almost two weeks to construct this obstacle, complete with tank ditches, fire trenches, berms, wire, and practice mines.[39] The division's brigades also built reproductions of Iraqi company positions behind the barriers to familiarize their soldiers with the difficult tasks (e.g., clearing trench lines, moving through minefields, and neutralizing strong points) at hand.[40]

Training for the breach operation was a multi-echelon process with much coordination between the Americans and British. The American troops had to develop the techniques to accomplish several separate tasks. They had to approach the enemy positions, cut lanes through the minefields and obstacles and across the trench line, and move tanks and infantry carriers across the lane. Once into the Iraqi positions, the combat troops had to clear their immediate zone and then enlarge their sector on the Iraqi side of the line. Finally, the 1st Infantry Division had to pass the British units through the marked lanes at night and direct them into their own zone of attack. This training took place with the assumption, which later proved incorrect, that the Iraqi *26th Infantry Division*, which defended that sector, would develop a deliberate defensive barrier system.[41] The British training problem was how to move through the American breach under conditions of limited visibility amid heavy combat. Once across, they had to reorganize and attack east out of the breachhead against the Iraqi *VII Corps'* tactical reserves.[42]

As they arrived in JUNO, the 1st Infantry Division's attacking battalions began to practice their breach techniques. The commanders experimented with various arrangements of tanks, rollers, plows, and engineer equipment to determine the best combat formation to use. There was no universal solution; instead each unit developed its own formation to defeat a specific Iraqi defensive position. In addition to the breach process, the battalions practiced the techniques they needed for assaulting and clearing trench lines, the timing between ground attacks and artillery fires, and medical evacuation techniques while under fire.[43]

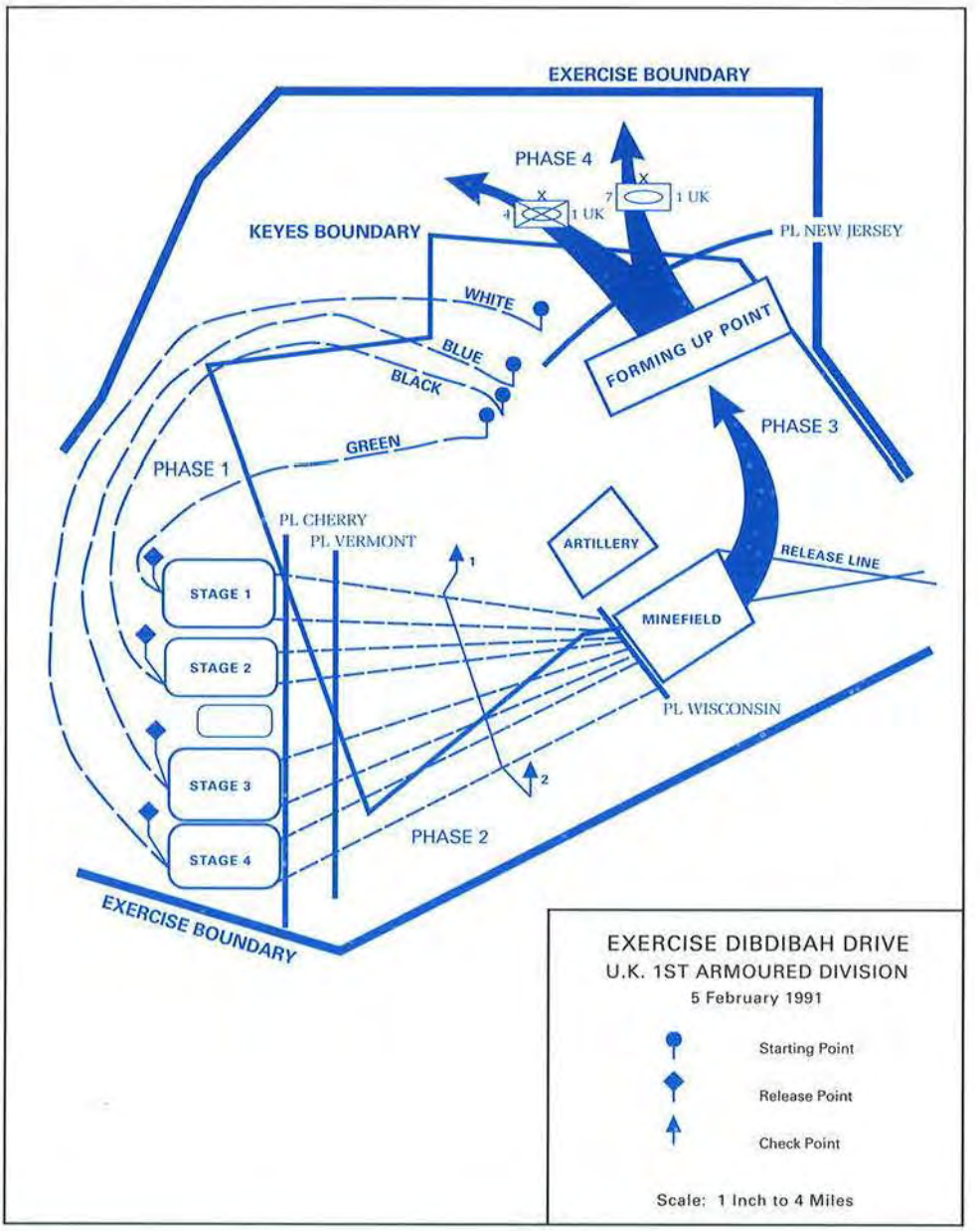
The after-action reviews of the early practice runs were, in the words of one battalion commander, "humbling." Initial movements to the line of departure were

"ragged" and initial attacks "uncoordinated." Timing between attacking units and field artillery was unsatisfactory, resulting in his battalion's being unable to execute its fire-support plan.[44] With little previous experience in breaching enemy defenses, and using new equipment such as the ACE, mine rollers, and tank plows, the rehearsals showed just how ill-prepared the division was to assault a well-prepared defensive line. Ultimately, companies, battalion task forces, and the two lead brigades resolved each problem they discovered and rehearsed all aspects of the breach plan, to include operations during hours of darkness. Before the division moved out of TAA JUNO, each brigade ran a dress rehearsal, with all elements of the command participating, through the breach replica.[45]

The training plan was not complete, however, until the U.K. 1st Armoured Division joined in the exercise. On 4 February both the 1st Infantry Division and the British brigade and battalion commanders participated in a seminar that examined in detail how the passage was to take place. It was designed to develop specific procedures and identify responsibility for each aspect of the passage. The list of specific discussion topics was extremely extensive and included such wide-ranging issues as security procedures, priorities of routes, combat service support, procedures to react to chemical attack, and the transfer of enemy prisoners of war.[46]

The British had already trained hard for their part in the exercise. Like their American counterparts, they used the crawl-walk-run approach to training. Starting with the basic skills and intellectual preparation, they progressed until the entire division could accomplish this mission with as few changes as possible. They ran orders drills, essentially practice among commanders and staffs, on 27–28 January. Then they progressed to a leader's tactical exercise without troops on 29–30 January. During this phase, staffs issued orders and subordinate commanders conducted the operation using only their own vehicles and assistants. The next step in the training schedule was brigade field training exercises, from 31 January–2 February.[47]

Following the passage of lines seminar with the 1st Infantry Division on 4 February, the U.K. 1st Armoured Division began a full-scale exercise called DIBDIBAH DRIVE. At 0500 on the fifth, the entire division began a training passage through the lanes marked by 1st Infantry Division soldiers. American and British commanders established adjacent command posts to facilitate communications and problem solving. At the appointed time, British scouts made contact with American engineers at the appropriate linkup points outside the passage lanes. The British reconnaissance troops, guided by the American engineers, moved through the lanes and marked the attack positions for the following battalions. While troops groped throughout the night in lanes marked only by chemical lights and an occasional flashlight, the collocated staffs worked through the details of fire support, moving the Royal Artillery through the breach and preparing contingency plans in case of a determined Iraqi counterattack.[48] In spite of the friction, accidents, and occasional chaos from thousands of soldiers and vehicles moving at night, the exercise was an important step in preparing the two divisions for the difficult task. Even without enemy interference, the passage of one entire division


EXERCISE BOUNDARY
PHASE 4
X
7
1 UK
X
4
1 UK
KEYES BOUNDARY
PL NEW JERSEY
WHITE
BLUE
BLACK
GREEN
FORMING UP POINT
PHASE 3
PHASE 1
PL CHERRY
PL VERMONT
ARTILLERY
RELEASE LINE
1
STAGE 1
STAGE 2
MINEFIELD
PL WISCONSIN
STAGE 3
2
STAGE 4
PHASE 2
EXERCISE BOUNDARY
EXERCISE DIBDIBAH DRIVE
U.K. 1ST ARMOURED DIVISION
5 February 1991
Starting Point
Release Point
Check Point
Scale: 1 Inch to 4 Miles

MAP 7

through another is extremely complex. Few commanders had ever planned or executed one in training, and no one had done so in combat.[49]

While the 1st Infantry and U.K. 1st Armoured Divisions continued to prepare for their breach operation, the rest of the corps' divisions continued training at all echelons. Training of the battle staffs was an important element of this preparation. Nowhere in Europe or in the United States did division and corps staffs routinely practice moving, commanding, and controlling units over the great distances they would confront in Southwest Asia. Most American postwar mechanized experience was in defending against a Soviet penetration within the limited geographical confines of Central Europe. Now they would be the ones attacking hundreds of kilometers deep into Iraq. Much training was needed to accustom commanders and staffs to this radical change in operational maneuver.

Staffs also needed to practice proper communications techniques and the operation of command posts in the field. American leaders have historically tended to talk too much on the radio, and the trend continued with the early corps arrivals at TAA JUNO. On 2 January the corps staff began enforcing communications discipline among these arriving command posts. Units were to monitor their radio frequencies continually and answer calls on the corps command net after the first transmission.[50] Franks wanted to instill a sense of urgency into radio operators and battle staffs and to force them to understand that they were at war and not on a training exercise. He moved the corps tactical command post frequently to accustom the crews to tearing down, moving, and reassembling the equipment. He had the tactical command post control the move from the port so it could practice controlling the corps, rather than relying on the corps main command post as had been the normal practice in the past.

In January Franks ran a series of war councils with his senior commanders and staffs to improve their teamwork for the new mission. This effort included informal discussions around map boards about the upcoming battle, as well as a three-day BCTP command post exercise at King Khalid Military City.[51] During this exercise, Franks reacted to intelligence information confirming that Iraqi defensive positions ended opposite the intended breach site, opening the way for the bulk of the corps to bypass the breach and attack deep into the Iraqi rear.[52] This kind of rehearsal, adjustment, and training was conducted simultaneously at all levels of the command.

On 21 January the corps command posts and all major subordinate commands conducted a five-hour communications rehearsal of all command and control nets. The exercise scenario portrayed the 2d Cavalry seventy-five kilometers beyond the border with the rest of the corps following.[53] From their command posts, commanders and staffs worked through the orders they could expect in battle with the *Republican Guard*. For several hours the corps nets intermingled messages from the exercise with real-world communications.

Regimental and division commanders also worked to improve the performance of their own forces. They practiced battle formations by day and night, navigation, changing formations (going from a wedge to a line and from a column to a wedge), and fitting fire support into the maneuver formation so that fires were

immediately available.[54] All units conducted command post exercises to familiarize their commanders and staffs with the terrain on which they would fight and the courses of action they might take.[55]

Franks had done his best to learn from the words of Shy and other historians. After a couple of weeks in TAA JUNO, he believed that most his corps was ready for combat.[56] He continued to emphasize his training program even after the beginning of the air campaign on 16 January. With the beginning of hostilities, Franks now forced the corps leadership to prepare for a number of potential combat contingencies.

Notes

[1]DA, FM 25–101, *Battle Focused Training* (Washington, D.C.: Department of the Army, 1990), inside cover.

[2]John Shy, "First Battles in Retrospect," in *America's First Battles, 1776–1965*, ed. Charles E. Heller and William A. Stofft (Lawrence: University Press of Kansas, 1986), p. 329.

[3]Romie L. Brownlee and William J. Mullen III, *Changing an Army: An Oral History of General William E. DePuy, USA Retired* (Washington, D.C.: U.S. Army Center of Military History, 1988), pp. 182–86.

[4]A number of documents, in addition to that of Brownlee and Mullen, describe this revolution and the impact of General DePuy. Most important are Maj. Paul H. Herbert, *Deciding What Has To Be Done: General William E. DePuy and the 1976 Edition of FM 100–5*, Operations, Leavenworth Paper no. 16 (Fort Leavenworth, Kans.: Combat Studies Institute, 1988); and Richard M. Swain, *Selected Papers of General William E. DePuy* (Fort Leavenworth, Kans.: Combat Studies Institute, 1994).

[5]Memo, Gen William E. DePuy for Sgt Maj of the Army William G. Bainbridge, sub: The Noncommissioned Officer Corps—The Soldier's Manual and the SQT, 20 Oct 76, in Richard M. Swain, *Selected Papers*, pp. 207–09; DA, FM 21–6, *How To Prepare and Conduct Military Training* (Washington, D.C.: Department of the Army, 1975), pp. 8–26.

[6]John L. Romjue, Susan Canedy, and Anne W. Chapman, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973–1993* (Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 1993), pp. 21–27.

[7]Ibid., p. 23.

[8]Anne W. Chapman, *The Origins and Development of the National Training Center, 1976–1984* (Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 1992), pp. 81–110. James R. McDonough's *The Defense of Hill 781* (Novato, Calif.: Presido Press, 1988) is a superb saga of the intensity of the stress armored and mechanized units experienced during their several-week rotation at the NTC.

[9]Hans Halberstadt, *NTC: A Primer of Modern Land Combat* (Novato, Calif.: Presidio Press, 1989), summarizes all the technology and phases of the National Training Center. A less glowing report of the NTC experience is found in George C. Wilson, *Mud Soldiers: Life Inside the New American Army* (New York: Charles Scribner's Sons, 1989), pp. 189–205.

[10]DA, FM 25–101, inside cover.

[11]DA, FM 25–100, *Training the Force* (Washington, D.C.: Department of the Army, 1988), pp. 1–4.

[12]Memo, Ronald H. Griffith for Comdr, VII Corps, sub: 1st Armd Div Mission Essential Task List (METL), 8 Jun 90.

[13]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC.

[14]1st Armd Div, DESERT STORM Briefing, Mar 91, Training Intent slide; VII Corps Main CP, Comdr's Sitrep 19, 5 Feb 91, p. 2, and Sitrep 28, 12 Jan 91; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 150–51, Interv, Kindsvatter with Franks, 5 Apr 91.

[15]DA, Soldier Training Publication 21–1, *Soldiers' Manual of Common Tasks: Skill Level 1* (Washington, D.C.: Department of the Army, 1987), table of contents; Scales, *Certain Victory*, p. 150.

[16]Jay Luvaas, ed., *Frederick the Great on the Art of War* (New York: The Free Press, 1966), pp. 78–79.

[17]William E. DePuy, "Implications of the Middle East War on U.S. Army Tactics, Doctrine and Systems [1974], in Swain, *Selected Papers*, p. 103.

[18]Interv, Kindsvatter with Franks, 2 Apr 91.

[19]VII Corps, Sitrep 1, 18 Jan 91.

[20]Interv, Kindsvatter with Franks, 5 Apr 91.

[21]VII Corps, Sitrep 4, 21 Jan 91.

[22]VII Corps, Sitrep 1, 18 Jan 91.

[23]VII Corps, FRAGO 9–91, 7th Eng Bde Construct a Tank Gunnery Range for 2ACR and Construct Two MEDIVAC Hospitals for 2 COSCOM, 2 Jan 91.

[24]VII Corps, Sitrep 1, 18 Jan 91.

[25] VII Corps Arty, "Operation DESERT STORM: A Fire Support Perspective," briefing slides; VII Corps, Sitrep 1, 18 Jan 91; Interv, Kindsvatter with Franks, 5 Apr 91; Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. II: The Iran-Iraq War* (Boulder, Colo.: Westview Press, 1990), pp. 710–17. The Copperhead is a laser-guided artillery round used to destroy individual targets. DPICM rounds carry approximately eighty-eight small bomblets that disperse over a relatively wide area, suppressing troop activities and destroying light vehicles and equipment. The RAP is a projectile with an extended range. The rocket assist increased the range of the M109 (155-mm.) round from 14.6 kilometers to 23.5 kilometers.

[26] Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps, Sitrep 4, 21 Jan 91.

[27] VII Corps, Sitrep 4, 21 Jan 91.

[28] DA, *Weapon Systems 1990* (Washington, D.C.: Government Printing Office, 1990), pp. 82–83.

[29] VII Corps, Sitrep 20, 4 Jan 91.

[30] Memo, 1st Inf Div, sub: LL During Opn DESERT SHIELD/STORM, Mar 91, p. 36; VII Corps, Sitrep 19, 5 Feb 91, p. 16.

[31] VII Corps, FRAGO 6–91, Mandatory Graves Registration (GRREG) Training, 2 Jan 91.

[32] Nicholas Benson, *Rat's Tales: The Staffordshire Regiment at War in the Gulf* (London: Brassey's, 1993), pp. 44–48; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 54–55.

[33] VII Corps Arty, "Fire Support Perspective," briefing slides; Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps, Sitrep 19, 5 Feb 91, p. 4.

[34] VII Corps, FRAGO 29–91, Mock Mission Through Syrian Special Forces Regiment, 7 Jan 91.

[35] VII Corps, Sitrep 19, 5 Feb 91, p. 5.

[36] Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91: The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 2–17 to 2–19.

[37] Ibid.; Pearce, *The Shield and the Sabre*, p. 57.

[38] VII Corps, FRAGO 52–91, Task Organize VII Corps Eng Assets for Obstacle Breach Training, 13 Jan 91.

[39] Interv, Thomas A. Popa with Stephen Hawkins, 26 Jul 91, CMH.

[40] Gregory Fontenot, "The 'Dreadnoughts' Rip the Saddam Line," *Army* (January 1992):33.

[41] Ibid.

[42] VII Corps Main CP (Plans), OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, pp. 19–20.

[43] VII Corps, Sitrep 7, 23 Jan 91; Fontenot, "'Dreadnoughts,'" pp. 33–34.

[44] David F. Gross, "History of the 3d Battalion, 37th Armor, in Operation Desert Storm," Unpubl Ms, Apr 98, p. 26, author's files.

[45] Lon E. Maggart and Gregory Fontenot, "Breaching Operations: Implications for Battle Command and Battle Space," *Military Review* (February 1994):26–28; Interv, Kindsvatter with Franks, 5 Apr 91.

[46] Memorandum of Instruction, 1st Inf Div, sub: Forward Passage of Lines Seminar, 31 Jan 91 [misdated 1990]; VII Corps, Sitrep 18, 4 Feb 91.

[47] VII Corps, Sitrep 4, 21 Jan 91; VII Corps TAC, Staff Jnl, 12 Jan 91, entry 35.

[48] Patrick Cordingley, *In the Eye of the Storm* (Hodder, England: Coronet Books, 1996), pp. 222–25; VII Corps, Sitrep 19, 5 Feb 91.

[49] Ministry of Defense, *Operation DESERT SABRE*, pp. 2–6; VII Corps, Sitrep 19, 5 Feb 91; Interv, Kindsvatter with Franks, 5 Apr 91.

[50] VII Corps Main CP, G–3, Staff Jnl, 2 Jan 91, entry 13.

[51] Interv, Kindsvatter with Franks, 5 Apr 91.

[52] Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 105.

[53] VII Corps, FRAGO 76–91, Communications Exercise, 20 Jan 91.

[54] Interv, Kindsvatter with Franks, 5 Apr 91.

[55] VII Corps TAC, Staff Jnl, 12 Jan 91, entries 18, 20, 28, for example; VII Corps, Sitrep 1, 17 Jan 91.

[56] Interv, Kindsvatter with Franks, 5 Apr 91.

6

The Defense of TAA Juno

On 16 January the war began with an air campaign designed to destroy Iraq's ability to maintain its hold in Kuwait. During this period VII Corps continued to train and absorb new equipment, but increasingly its units became involved in immediate operational and tactical concerns. The VII Corps was now in a war zone; combat was imminent, and preparation of the battlefield had begun.

Security and Deception

The numerous command posts and supply convoys moving along the Tapline Road offered a tempting target for Iraqi special forces and commando units. American and British division and corps command posts were easily identified by their large complement of wheeled vans and huge antenna farms. Defended only by service support soldiers, they would be lucrative targets for raids. A successful Iraqi attack on one of these locations could also result in the loss of key operational plans and codes, the destruction of important equipment, and the deaths of between fifty and a hundred coalition soldiers. Such a loss would affect both the conduct of the ground offensive and the concern of the American and British publics about casualties.

The 1983 terrorist attack on the U.S. Embassy in Beirut, Lebanon, was on the minds of many commanders throughout the corps. Army commanders believed that the success of the attack was primarily the result of security compromises and were determined to prevent such an event from recurring.[1] This concern was communicated to all U.S. troops, who reacted accordingly. For example, on 24 January a guard assigned to the 2d Brigade of the 101st Air Assault Division, guarding Al Qaysumah, fired at the tires of a civilian vehicle that was approaching his compound and would not stop. In this case the driver turned out to be Saudi Arabian soldier who was late for work.[2] The potential effects of even one bomb-laden car or van on a U.S. installation could not be ignored.

Deployed command posts were also vulnerable to attack. Most of the principal command posts were located in the center of clusters of other units. For Iraqi raiders to approach a division command post, they would have to pass by a dozen or so company and battalion bases armed with tanks, infantry fighting vehicles, and other heavy equipment. One way to infiltrate into the center of these clusters would be to appear as a group of Bedouins. Clans of the *Mutayr*



VII Corps TAC; below, *Battalion Command Post in a TAA*



tribe had long herded their sheep and goats in the region occupied by the VII Corps.[3] To the amazement of British and American soldiers, a seemingly empty plot of desert near their compounds would be transformed in a few hours into a small tent village with forty to fifty inhabitants. These groups were able to move without incident through the American lines right up to the entrance of an American division headquarters.[4] Erecting gigantic wire perimeters around the huge assembly areas was simply not practical. Thus, as in Vietnam, determined enemy commandos could exploit such weaknesses.

To minimize the danger from such potential attacks, Franks directed that the entire corps go to "stand-to" at 0500 each day. During stand-to, all soldiers were awake and manning their fighting positions; all combat vehicles were started and ready for combat. Essentially, the entire corps was prepared to defend itself. Once all commands reported "stand-to complete," Franks or his G–3 would order them to "stand down." Standing down required approximately 50 percent of the command to be awake and on duty. While these defenses were never tested, these activities contributed to a heightened sense of threat awareness throughout the entire command.[5]

While there were no actual attacks on VII Corps encampments, an apparently aborted attack was cause for concern. Before dawn on 19 January a Nissan pickup truck with five armed "civilians" was spotted south of the border berm west of the Wadi al Batin, not too far from the growing Logbase ECHO, apparently observing supply activities. The corps tactical command post called the military police, who went out in search of the pickup. The corps main command post also reacted to this potentially dangerous surveillance and requested the closest combat unit, the 1st Cavalry Division, to send soldiers to investigate. Apparently, the offending pickup truck departed before American soldiers arrived on the scene and was never found.[6]

On 22 January, shortly after implementation of the stand-to policy, Franks requested permission from Third Army to move the Bedouin tribesmen away from the American sector. He hoped it could be done with the assistance of the Saudi government. If not, he wanted Yeosock to provide clear orders on the kind of force he could use.[7] Fortunately, he did not need coercion to clear his sector. Working with Saudi officials, the 14th Military Police Brigade removed all Bedouin camps from TAA JUNO and the newly developing installations in the sector on the western side of the Wadi al Batin. Thereafter the corps policed the area and kept these exotic tribesmen at least ten kilometers from unit activities.[8]

In addition to securing TAA JUNO, VII Corps participated in a theaterwide effort to confuse the Iraqi Army. When presented the final offensive concept in early November, General Schwarzkopf had insisted on a comprehensive program to mask the coalition's intentions and focus enemy attention away from the actual attack zone. This deception would try to convince the Iraqi defenders that the main coalition force would attack directly against Iraqi forces in southern Kuwait. In order to reinforce this image, Schwarzkopf prohibited American units from operating west of the Wadi al Batin until after the start of the air campaign.[9]

The VII Corps supported the deception plan in a number of ways. One was to position the 2d Cavalry essentially northeast of Logbase ALPHA, in a very visible



VII Corps Soldier in Defensive Position with an M60 Machine Gun; below, *The ubiquitous appearances of Bedouins could have masked an enemy sneak attack.*

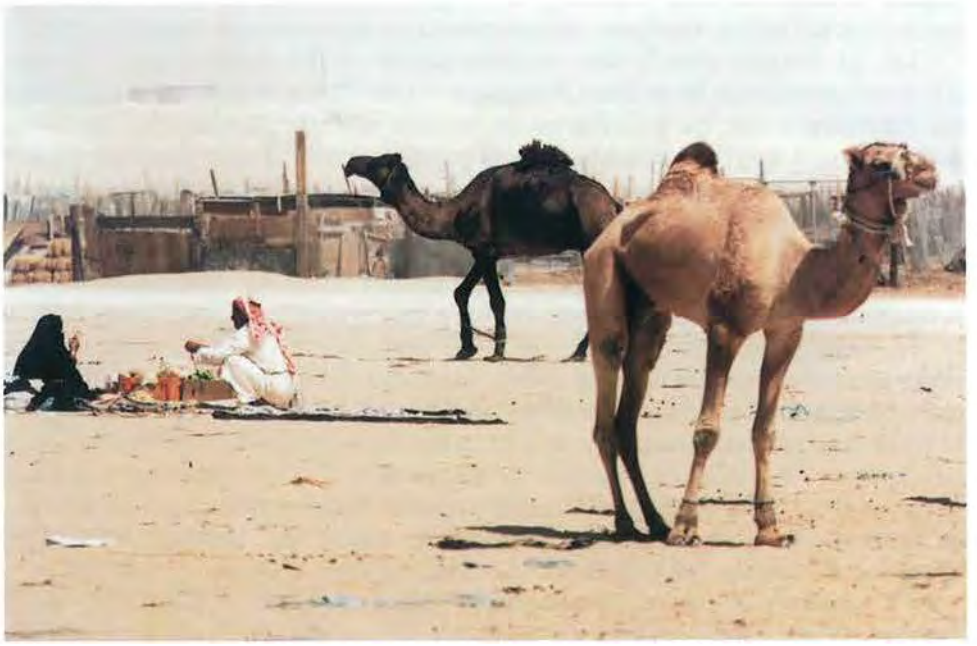
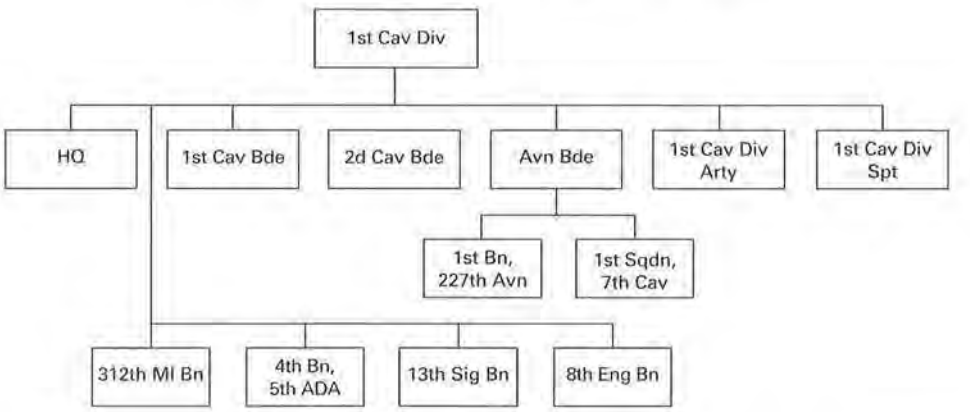


CHART 7—1ST CAVALRY DIVISION, JANUARY 1991



Source: 1st Cavalry Division, "1st Cavalry Division," n.d., Swain Collection, Fort Leavenworth, Kans.

location, as though it would constitute an advance guard for an attacking corps. Corps leaders also made a point to maintain positive contact with the western boundary of XVIII Airborne Corps, 3d Cavalry, and the Northern Area Command forces that were screening the Kuwait border. This arrangement presented Iraqi intelligence analysts with the image of a forthcoming attack by two adjacent corps. To reinforce this charade, Franks also placed a Hawk air defense battery in that area, with instructions to activate its radar and other electronic emitters. In addition, he deployed some deception cells with electronic emitters to give the impression of additional unit activity east of the Wadi. Ultimately, in support of Schwarzkopf's offensive plan, Franks wanted to make sure the Iraqis believed that the entire VII Corps would attack east of the Wadi al Batin and was not simply assembled in a temporary holding area.[10]

In compliance with Schwarzkopf's instructions, Franks permitted no traffic across the depression or in the town of Hafar al Batin until the beginning of the air campaign. Making very few exceptions, Franks usually restricted permission to communications and logistics officers in civilian clothes in civilian vehicles. Crossing the Wadi was primarily to examine the ground (for elevation, drainage, soil composition, etc.) so the staff could complete plans for supporting the ground offensive. Franks and Cherrie personally monitored such movements on a makeshift chart with sticky notes.[11]

Once the air campaign began, VII Corps began bringing combat and combat support elements into the attack sector. At the same time the 1st Cavalry Division began a series of border operations designed to keep the Iraqi high command's attention focused on the Wadi al Batin, an effort that will be will be discussed in detail later. Meanwhile, the corps continued to respond to the potential of an Iraqi spoiling attack.



Cherrie's Map

Battles Never Fought

In December 1990 the Iraqi Army possessed the capability to launch a spoiling attack against the coalition's buildup south of the Kuwait border. The Third Army intelligence briefing of 27 December described General Yeosock's concern: a four-division main Iraqi attack down the Wadi al Batin with a secondary attack toward the border town of Khafji. Possible objectives included the command posts at King Khalid Military City, Logbase ALPHA, and the embryonic VII Corps assembling in TAA JUNO.[12] While such an attack might appear suicidal from hindsight, its chances of political, if not military, success were reasonable. The VII Corps G–2, Col. John C. Davidson, believed the Iraqis could make it at least to Hafar al Batin and the Tapline Road, ninety kilometers south of the Iraqi border. Yeosock thought such an attack was a possibility, although not a probability, and his command needed to take appropriate precautions.[13]

If the Iraqis chose to gamble on such a raid, and their armor was able to reach TAA JUNO before being destroyed by coalition aircraft, the attackers would be almost immune from further air strikes. Mingled among logistics bases and command posts, with few organized ground forces to stop them, the Iraqi Army had the potential for a reasonable battlefield victory.[14] The political repercussions of such a success, with thousands of British and American troops killed and wounded, might have altered the ultimate outcome of the war and the peace that followed. It was a dangerous threat that required serious consideration.[15]



An Element of the French 6th Light Infantry Division in Bivouac

On 1 January General Franks began to address the defensive alignment of the corps. Following Yeosock's lead, he urged his commanders and staffs to ponder: "What if we have to fight tonight?"[16] At this point, however, the corps had only limited combat power, primarily the 2d Cavalry, but dozens of logistics centers and command posts.[17] Therefore, the corps staff on 7 January requested that Third Army assign the corps operational control of the 1st Cavalry Division and French forces if VII Corps had to execute a defense forward of the Tapline Road.[18]

In response, on the night of 8 January, Third Army issued FRAGO 91–2, Defense in Sector. The VII and XVIII Airborne Corps were to deny the Iraqis access to the growing logistic base. In addition to the 2d Cavalry and the 1st Cavalry Division, just arriving in the vicinity of Hafar al Batin, Yeosock gave Franks tactical control of the 2d Brigade from the 101st Air Assault Division.[19] At 2300 the three infantry battalions from Col. Theodore Purdom's brigade, an artillery battalion, and an Apache battalion began a forty-plus-hour movement from the coast to the airfield at the town of Al Qaysumah.[20] Two days later Third Army notified the corps that it was now under "Threat Condition Charlie," a high risk of enemy operations.[21] That same day, as if to underscore the potential threat, four Iraqi jet aircraft penetrated Saudi airspace to the east of the corps.[22]

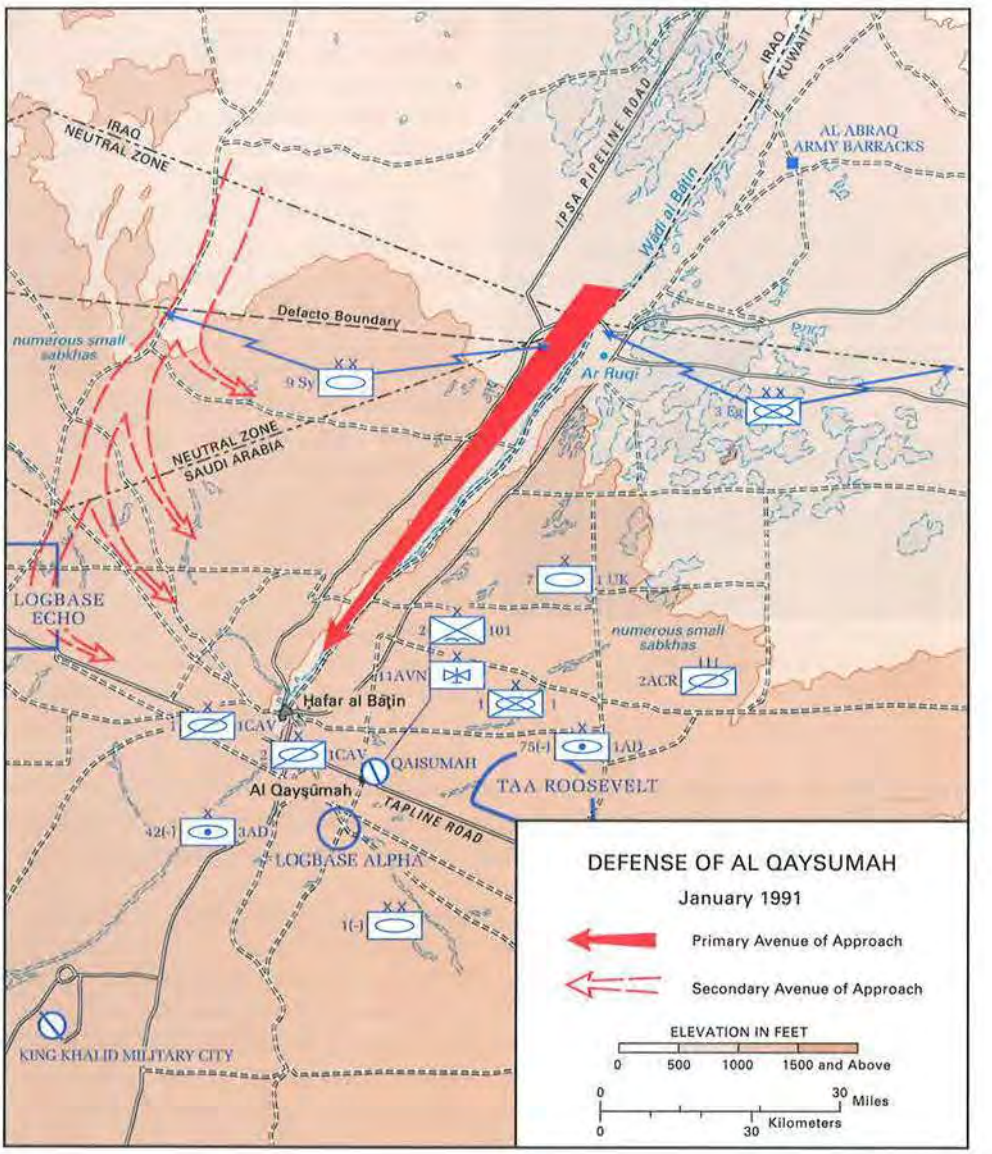
General Franks linked up with the infantry brigade at Al Qaysumah on the thirteenth. On that rainy afternoon the corps commander's Black Hawk was

grounded. As Franks approached the brigade's developing defenses in his HMMWV, he realized they were the only American forces north of Tapline Road in the area of Hafar al Batin. He knew, despite any heroics, they would be doomed if the Iraqis ever attacked in force. Franks was moved by the sight of the 101st troopers at work—by themselves in the driving rainstorm, trying to dig in with only the personal entrenching tools they carried. He also noticed that they were grossly under-armed for a fight with enemy armor, with only 60- and 81-mm. mortars, their own machine guns and a few TOW, Dragon, and LAW antitank missiles.[23] The brigade's immobile direct-support battalion of 105-mm. artillery would be an easy target for Iraqi counterbattery fire. This was a light infantry defense waiting for an armored assault it could not stop.[24] The outlook continued to worsen, as Franks received another report of the probability of an Iraqi attack down the Wadi al Batin that night.[25]

One of the nightmares of American military history is the saga of Task Force Smith during the Korean War. In July 1950 Lt. Col. Bradley Smith led an infantry task force from the 21st Infantry, 24th Infantry Division, into Korea. Little else was available. With only thirteen antitank rounds for their artillery battery, and without other weapons capable of stopping North Korean T–34 tanks, the small force hurled itself into the teeth of the Communist offensive. It was a disaster. The task force lost 153 men killed and wounded in that futile, arrogant attempt to stop a determined enemy.[26] American commanders were determined not to repeat that experience.

While the 2d Brigade, 101st Air Assault Division, was far better trained than Smith's troops, they were physically incapable of stopping a determined Iraqi assault with the equipment they had. Franks decided on the spot to treat the Iraqi threat as real and incorporate the 2d Brigade into a coordinated defense. For the first time in the Gulf, he began to deploy his forces to fight Iraqi troops. He contacted the 7th Engineer Brigade and directed four battalions of engineers to help prepare the 2d Brigade's defense. Soon engineer bulldozers and ditching machines replaced entrenching tools as they dug an 8 1/2-kilometer-long tank ditch and sowed over 4,000 mines. The engineers dug in all sixty of the brigade's TOW missiles and built hundreds of other emplacements and fighting positions. Franks also contacted his corps support command and ordered it to give the 101st Air Assault Division any needed logistics support. Finally, he repositioned an MLRS battery so it could reinforce the fires of the air assault brigade's light artillery.[27] This support ensured that the airmobile infantrymen could defend the airfield.[28]

Shortly thereafter, at 1530, the corps commander ordered Brig. Gen. John H. Tilelli, Jr.'s 1st Cavalry Division forward to a defensive sector along the Tapline Road. To improve the sector's command and control situation, Franks placed the 2d Brigade, 101st Air Assault Division, under the tactical control of the 1st Cavalry Division.[29] Franks also told Tilelli to employ a ground surveillance radar platoon under the operational control of the 5th Special Forces Group that was, along with the Syrian forces, screening the Iraqi border. This platoon would give the 1st Cavalry Division, as well as the entire corps, some dedicated early warning in case of an attack down the Wadi al Batin.[30] Within two hours the First Team was on



MAP 8

the move. Across areas soaked by recent rains, in total darkness, the 1st Cavalry Division inched forward. By 0300 the following day, the division was arrayed on either side of the Wadi al Batin and prepared for defensive operations.[31]

In addition, Franks ordered the 1st Infantry Division, moving into TAA ROOSEVELT north of Tapline Road, to establish a blocking position. With negligible combat power in JUNO at this point, the division would be hard-pressed to stop



General Tilelli

any attack into Hafar al Batin and Logbase ALPHA from the northwest.[32] To support this defense, he ordered the 75th Field Artillery to reposition across Tapline Road to the 1st Infantry Division's assembly area.[33]

The Iraqi forces failed to attack on the thirteenth or in the days that followed. It was probably their best chance to disrupt the progress of the growing DESERT STORM offensive force. Franks' response, however, improved the command and control capabilities of his growing command.[34]

Tilelli's division took a few days to recover from its dramatic march from the coast. On 16 January Franks decided to strengthen his position in the event of an attack. He ordered the 1st Cavalry Division north of Tapline Road to a sector on the west side of the Wadi, near the small town of Ruqi, but behind the screen line provided by the Syrian forces, as noted earlier.[35] By the beginning of the air campaign, the division thus had both brigades in its defensive array north of Tapline Road with the 2d Brigade of the 101st Air Assault Division still entrenched in the vicinity of Al Qaysumah Airfield.[36] The tactical situation seemed under control.

However, on 19 January, just as the defensive situation appeared to be stabilizing, Colonel Cherrie discovered that the Saudi Arabian forces to the east of the Syrian division and the eastern side of the Wadi al Batin had departed without warning. As far as Central Command was concerned, this early movement was not part of the plan. Although the Saudis were ordered to reestablish a screen line as quickly as possible, there was no assurance they were going to return.[37] The 2d Cavalry, already in the process of moving into its attack sector, was available only in the event of an emergency. Cherrie, therefore, contacted the U.K. 1st Armoured Division's liaison officer at the corps main command post and told him to be prepared to establish a screen line along the border to detect any Iraqi attack toward TAA JUNO.[38] He then directed the 1st Cavalry Division to be prepared to establish a screen line along the border if the Syrian units also departed.[39] To add urgency to the situation, at 1324 corps intelligence assets intercepted a message that confirmed the Iraqis had detected the movement of the Arab forces out of the sector. A few moments later Third Army authorized VII Corps to occupy a screen line in the sector vacated by Saudi Arabian troops.[40] Both the 1st Cavalry Division and U.K. 1st Armoured Division deployed their reconnaissance squadrons accordingly.[41] Franks

also gave the U.S. 1st Armored Division a warning order to attack and destroy any penetration of Iraqi forces down the Wadi.[42]

By 19 January the VII Corps' combat power had increased to levels that would support effective defense operations. The two brigades of General Tilelli's 1st Cavalry Division were still reinforced by the 2d Brigade of the 101st Air Assault Division and the 42d Field Artillery Brigade from corps artillery. Maj. Gen. Thomas G. Rhame's 1st Infantry Division, while still short of ammunition and tanks, was ready to defend with essentially two brigades, a field artillery battalion and the 75th Field Artillery Brigade.[43] Maj. Gen. Rupert A. Smith's entire U.K. 1st Armoured Division was pulling into its assembly area and now had two armored battalions and one infantry battalion ready for combat operations. Maj. Gen. Robert H. Griffith's U.S. 1st Armored Division, now the corps reserve, continued to improve its combat capability and had its 2d Brigade, 4th Brigade, and one ad hoc brigade ready to respond to an Iraqi attack. Maj. Gen. Paul Funk's 3d Armored Division now had two armored battalions and one infantry battalion as well as an MLRS battery and a field artillery battalion in TAA JUNO. The VII Corps now had the combat power to soundly defeat an Iraqi attack.[44]

However, not to be complacent, the corps staff continued to be concerned with Iraqi intentions during these last days of January. The staff believed the Iraqis were about to enter a new phase of active operations, which included firing rockets, multiple-rocket launchers, and field artillery against the coalition buildup. Intelligence specialists believed they might even resort to using chemical weapons. Furthermore, special operations forces could augment these artillery missions by striking at the corps' rear area and threatening its lines of communications.[45]

An Iraqi attack on a Saudi border police station in the early morning hours of 22 January gave credence to the offensive potential of the Iraqi forces.[46] Around 1100 the VII Corps staff began to receive information that Iraqi ground forces were crossing into Saudi Arabia north of the 1st Cavalry Division zone. Between the border and the 1st Cavalry Division was the Syrian 9th Armored Division, which was in the process of moving out of the VII Corps' sector to its own attack zone farther east. The situation had to be handled carefully. Colonel Cherrie notified the 2d Cavalry and told them to put their aviation units on standby and to be prepared to move one cavalry troop west to Logbase ECHO on one hour's notice. His staff apprised all other headquarters of the situation so they could begin to tighten their own security and prepare for combat operations.[47]

At 1125 Third Army verified that there were dismounted enemy ground forces moving into the corps' sector. The situation, however, was extremely confused with both VII Corps and Syrian forces in the same general area. In order to mitigate this condition and provide sufficient warning for the American troops, Cherrie asked Third Army for permission to send forces into the sector to find out if, indeed, Iraqi forces had crossed the border. At 1210 Cherrie gained Syrian approval to launch an American reconnaissance sweep along the border. He ordered the 1st Cavalry Division to investigate the supposed attack with an air cavalry troop.[48]

At 1400 corps intelligence specialists reported that some of the Iraqis were special forces or commando units and were heading south. The tension in the

command post continued to rise, and combat appeared imminent.[49] The 1st Cavalry Division's air troop, however, found no Iraqis, nor did a second air mission flown from the opposite direction. At 1635 the mystery was solved as an American special forces commander, operating in that sector with the Syrians, reported that he now had fifteen Iraqi prisoners of war.[50] Instead of a commando unit, they were merely defectors. Although the incident reflected the inadequate border surveillance of the period, the threat of such a probe caused the corps staff and subordinate commanders to improve their combat readiness. They tested their communications and staff procedures, coordinated between units, and deployed or prepared to deploy combat forces. It was solid training for commanders and staffs.

The corps staff's information that something was going to happen came true on the night of 29–30 January. East of the VII Corps zone, Iraqi forces crossed the Kuwaiti border and attacked toward the seacoast town of R'as al Khafji and at other areas across the front, including areas near Ruqi adjacent to the 1st Cavalry Division's sector. These attacks were probably reconnaissance operations designed to identify the coalition's composition, disposition, and combat effectiveness.[51] That morning Third Army called the VII Corps main command post to ask how many Hellfires and tactical missiles they had fired. Furthermore, they wanted to know how long it would take the corps to dispatch an attack helicopter battalion to support the U.S. Marine and Saudi Arabian forces in their fight along the coast. The corps told them it would take an hour and forty-five minutes but was never ordered to send forces east.[52]

The Iraqis were apparently probing other parts of the Saudi border. In the early hours of 1 February, fifty exhausted Saudi border guards arrived in the 1st Infantry Division's new forward assembly area, on the west side of the Wadi al Batin. The division's 1st Squadron, 4th Cavalry, had been screening that sector and protecting a logistics base under construction. The Saudis claimed to have been in battle with a heavy Iraqi force. That afternoon cavalry troopers escorted them out of their area and down to the Tapline Road.[53] The probes at Khafji and other parts of the sector prompted VII Corps to order the 1st Infantry Division to reinforce their units in the forward assembly area.[54]

On 2 February Third Army was still concerned enough over the potential of another Iraqi spoiling attack to issue a warning order for the defense of the sector. The concern was heightened by the report from the 1st Infantry Division that Iraqis were cutting down the border berm north of its forward assembly area. The offending Iraqi engineer equipment was destroyed by an AH–1 Cobra helicopter.[55]

The actions Franks, his staff, and commanders took to defend the tactical assembly area and logistics installations were an important part of preparing the corps for battle. The Iraqis never chose to interfere with the VII Corps buildup, and only the shortage of heavy transportation continued to slow the progress. All these reactions to the potential threats went a long way toward increasing the security posture of the corps and psychologically preparing its soldiers for their various future tasks.

Fire Support

The VII Corps also conducted limited, but important, combat activities from JUNO involving two new systems, the Patriot air defense missile and the ATACMS (Army Tactical Missile System). On 10 January Task Force 8th Battalion, 43d Air Defense Artillery, the Patriot missile air defense unit, went to its highest state of readiness with two batteries "hot" at all times to protect Logbase ALPHA and the corps rear.[56] Although the Army had designed the Patriot as an antiaircraft weapon, it was the only system available that had any hope of defeating a Scud missile attack. Starting on 18 January, continuous Scud launches were directed toward the ports, Riyadh, and KKMC.[57] Many of the missiles flew over VII Corps positions in TAA JUNO. Attacks on Israel caused special concern in the command group, and after the attacks on 18 January the corps went to 100 percent alert.[58] Nevertheless, no Scuds or Iraqi aircraft attacked the VII Corps while it was in TAA JUNO.

The corps used another new weapon during this period, the Army Tactical Missile System. At 0043 on 18 January, Capt. Jeffrey Lieb's Battery A, 6th Battalion, 27th Field Artillery, 75th Field Artillery Brigade, fired two ATACMS missiles against an Iraqi SA–2 antiaircraft missile battery 150 kilometers away in southwest Kuwait. This was the first VII Corps engagement since World War II. Later that night Battery A fired at another SA–2 site 126 kilometers away.[59] The next day the battery also fired at three SA–2 and one SA–3 antiaircraft missile batteries.[60]

Although the ATACMS was only in the early stages of production, those that were ready had been assigned to batteries and rushed off to Saudi Arabia with the corps. Two missiles, each contained in their own special canister, were mounted on an MLRS launcher. With ranges beyond 150 kilometers, the ATACMS gave the Army the capability to destroy high-priority targets well beyond the range of standard field artillery.[61] The ATACMS targets were usually enemy combat units rather than fixed installations. Almost all the early targets were air defense missile sites. These attacks contributed to the air campaign by destroying those systems before they had a chance to fire. From 12–14 February the battery also fired at several Iraqi multiple rocket launcher batteries located north of the intended breaching area.[62]

The most difficult problem of the ATACMS engagements was determining missile effectiveness. Targeting was accurate and used multiple collection sources such as aerial reconnaissance, satellite imagery, and the new Joint Surveillance Targeting Acquisition Radar System (JSTARS). Once Iraqi units turned on their radar and guidance systems, the various coalition collection elements could identify them by type and location and send the fire mission down to the targeting cell at the corps main command post. However, in most cases, the only way the hit was confirmed was by the absence of further enemy electronic activity.[63] In only a few cases did Air Force reconnaissance confirm that the targeted antiaircraft missile sites had been destroyed.[64]

The first launches of these missiles, at dark and from within the tactical assembly, caught most Americans by surprise. Radio nets came alive as duty officers



Patriot Missile System, 7th Air Defense Artillery Brigade, Saudi Arabia; below, *ATACMS Fired During Testing, White Sands Missile Range, New Mexico*



throughout the corps attempted to find out what happened. In some cases, units broke into their chemical protective clothing and assumed a higher state of alert. Once the pandemonium abated, the corps artillery became much more proactive in warning friendly units that they were near an imminent ATACMS launch.[65]

Preparing To Move West

The air campaign began on 17 January at 0200 local time.[66] The next day Franks removed many of the restrictions placed on his troops regarding movement west of the Wadi al Batin. Unit commanders could now stock Logbase ECHO with supplies, search for corps and division CP sites, and select airfield locations. They could also reconnoiter their new attack positions and sectors, routes to those locations, and crossing sites at the Wadi and Tapline Road.[67] But only on 26 January did Franks authorize all commanders to begin limited reconnaissance of their new sectors to the west with their subordinate commanders and leaders.[68]

On 19 January the VII Corps' sister unit, the XVIII Airborne Corps, began moving to its attack positions to the west. The 11th Aviation Brigade set up and operated a forward area arming and refuel point (FAARP) for support of the 101st Air Assault Division's massive helicopter fleet as it moved into position.[69] The 2d Brigade of the 101st was returned to its division and pulled out of its defense at Al Qaysumah Airfield.

By the beginning of February, most of the VII Corps had arrived in JUNO. Over 100,600 American and 30,000 British soldiers were now ready for combat. With over 90 percent of his soldiers and over 96 percent of his combat equipment on hand, the VII Corps commander was ready for the next phase of the operation: the movement west of the Wadi al Batin into attack positions.[70] ECHO, the corps' new western logistics base that would ultimately support the ground offensive with over 130 million gallons of water, 60 million gallons of fuel, 6,000 tons of ammunition, and thousands of truckloads of other supplies, was growing as trucks arrived daily.[71] As already noted, the 1st Infantry Division dispatched its cavalry squadron to protect the growing supply depot from the prying eyes of Iraqi reconnaissance. Soon 2d Cavalry's air cavalry scouts would start to patrol the sector of their attack, signaling the corps' readiness to begin occupying its final attack positions.[72]

The time the corps units spent in the tactical assembly areas was important. These assembly areas became the focus for building combat power, for training, and even for combat planning and operations. Unit commanders were able to incorporate new equipment, train their soldiers, and plan and rehearse all aspects of the upcoming campaign. Over one hundred separate corps fragmentary orders and thousands of staff and subordinate unit orders, messages, and other documents indicate the incredible dynamics of the period. Most of these disparate activities were directed, controlled, and managed by the corps staff. It was a complex effort that rivaled in scale and intensity the operations of any large civilian corporation. Its bottom line, however, was not financial success. The American public would evaluate the campaign at its end in terms of missions accomplished and lives saved.

Notes

[1]Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), pp. 112–13.

[2]VII Corps TAC, Staff Jnl, 24 Feb 91, entries 30, 34.

[3]Richard F. Nyrop, ed., *Saudi Arabia: A Country Study*, 4th ed., DA Area Handbook Series (Washington, D.C.: Government Printing Office, 1984), pp. 77–85.

[4]Author's notes.

[5]VII Corps TAC, Staff Jnl, 11 Jan 91, entries 7–19; Ltr, Frederick M. Franks, Jr., to author, 5 Oct 94; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC.

[6]VII Corps TAC, Staff Jnl, 19 Jan 91, entry 11; VII Corps Main CP, G–3, Staff Jnl, 19 Jan 91, entries 11, 12.

[7]VII Corps, Sitrep 5, 22 Jan 91.

[8]VII Corps, FRAGO 83–91, Defense of Tapline Road/Protection of Rear Area Facilities, 21 Jan 91.

[9]Richard M. Swain, *"Lucky War": Third Army in Desert Storm* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 89.

[10]Interv, Kindsvatter with Franks, 5 Apr 91.

[11]Ibid.

[12]ARCENT Briefing, ARCENT OPLAN 001, DESERT STORM, 27 Dec 90, Spoiling Attack slide.

[13]Interv, Kindsvatter with Franks, 5 Apr 91.

[14]VII Corps, Sitrep 20, 4 Jan 91.

[15]Sean D. Naylor, "Flight of Eagles," *Army Times*, 22 Jul 91, p. 12; Interv, Kindsvatter with Franks, 5 Apr 91. Events such as the Chinese intervention during the Korean War and the Viet Cong's Tet Offensive in Vietnam in 1968 were never far from the minds of VII Corps commanders and planners. In both of these cases, experts and intelligence planners discounted the probability of such attacks because they were suicidal and would suffer at the hands of American air power. The enemy forces, while they suffered heavy casualties, changed the ultimate outcome of the wars in their favor.

[16]VII Corps Main CP, G–3, Staff Jnl, 1 Jan 91, entry 13.

[17]VII Corps, Sitrep 20, 4 Jan 91.

[18]VII Corps Main CP, G–3, Staff Jnl, 7 Jan 91, entry 17.

[19]VII Corps TAC, Staff Jnl, 8 Jan 91, entry 12; Interv, Kindsvatter with Franks, 5 Apr 91.

[20]Naylor, "Flight of Eagles," p. 12.

[21]VII Corps TAC, Staff Jnl, 10 Jan 91, entry 16.

[22]Ibid., 11 Jan 91, entry 20.

[23]These are a series of antitank rockets. The TOW (Tube-Launched, Optically Tracked, Wire Command–Link Guided) is a long-range (3,750 meter) guided missile; the Dragon is a medium-range (1,000 meter) man-portable guided missile; and the LAW (Light Antitank Weapon) is a short-range (200 meter) unguided rocket.

[24]Interv, Kindsvatter with Franks, 5 Apr 91.

[25]Naylor, "Flight of Eagles," p. 12.

[26]T. R. Fehrenbach, *This Kind of War: A Study in Unpreparedness* (New York: The Macmillan Co., 1963), pp. 97–107; Roy K. Flint, "Task Force Smith and the 24th Division: Delay and Withdrawal, 5–19 July 1950," in *America's First Battles, 1776–1965*, ed. Charles E. Heller and William A. Stofft (Lawrence: University Press of Kansas, 1986), pp. 266–82.

[27]VII Corps, FRAGO 47–91, 2/101 Abn Div Survivability Positions, 13 Jan 91; Naylor, "Flight of Eagles," p. 12; Interv, Kindsvatter with Franks, 5 Apr 91.

[28]The 101st was actually an airmobile unit. The normal mode of transportation was by Black Hawk helicopter.

[29]1st Cav Div, Chron of the 1st Cav Div, n.d.

[30]VII Corps, FRAGO 49–91, Conduct Border Surveillance and Early Warning, 13 Jan 91; Interv, Kindsvatter with Franks, 5 Apr 91.

[31]J. Paul Scicchitano, "Night Strikes: The Secret War of the 1st Cavalry Division," *Army Times*, 23 Sep 91, pp. 14–15; VII Corps TAC, Staff Jnl, 13 Jan 91, entry 29; VII Corps, FRAGO 50–91, Change of No Penetration Line, 14 Feb 91.

[32] 1st Inf Div, Chron Sum of Events, 26 Mar 91.
[33] VII Corps, FRAGO 50–91, 14 Feb 91.
[34] Interv, Kindsvatter with Franks, 5 Apr 91.
[35] VII Corps, FRAGO 58–91, 1st Cav Crossing of Tapline Road, 16 Jan 91.
[36] VII Corps, Sitrep 1, 17 Jan 91.
[37] VII Corps TAC, Staff Jnl, 19 Jan 91, entries 41, 51.
[38] VII Corps, FRAGO 67–91, Movement of Selected Corps Assets into FAAs/Sectors, 19 Jan 91.
[39] VII Corps TAC, Staff Jnl, 19 Jan 91, entries 24–28.
[40] Ibid., entries 32, 34.
[41] VII Corps Main CP, Comdr's Sitrep 16, 2 Feb 91.
[42] VII Corps TAC, Staff Jnl, 19 Jan 91, entry 42.
[43] 1st Inf Div, Chron Sum of Events, 26 Mar 91.
[44] VII Corps, Sitrep 5, 22 Jan 91.
[45] VII Corps, FRAGO 83–91, Defense of Tapline Road/Protection of Rear Area Facilities, 21 Jan 91.
[46] VII Corps TAC, Staff Jnl, 22 Jan 91, entries 20–22.
[47] Ibid., entries 24–27.
[48] Ibid., entries 29–35.
[49] Ibid., entry 41.
[50] Ibid., entries 44–48.
[51] VII Corps Main CP, G–3, Staff Jnl, 30 Jan 91, entry 4; CENTCOM Exec Intel Sum, 31 Jan 91.
[52] VII Corps Main CP, G–3, Staff Jnl, 30 Jan 91, entry 117.
[53] Ibid., 1 Feb 91, entries 10, 12, 14.
[54] VII Corps Main CP, Comdr's Sitrep 16, 2 Feb 91.
[55] VII Corps Main CP, G–3, Staff Jnl, 2 Feb 91, entries 2, 7–9.
[56] Ibid., 10 Jan 91, entry 2.
[57] Iraq began launching Scuds against Israel on 17 January. Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. IV: The Gulf War* (Boulder, Colo.: Westview Press, 1996), pp. 854–58.
[58] VII Corps Main CP, G–3, Staff Jnl, 18 Jan 91, entry 18.
[59] Ibid., entry 2; VII Corps Arty, "Operation DESERT STORM: A Fire Support Perspective," briefing slides, n.d.; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), p. 242.
[60] VII Corps Main CP, G–3, Staff Jnl, 19 Jan 91, entry 50; VII Corps Arty, "Fire Support Perspective."
[61] Frank N. Schubert and Theresa L. Kraus, eds., *The Whirlwind War* (Washington, D.C.: U.S. Army Center of Military History, 1995), p. 262; VII Corps Arty, "Fire Support Perspective"; DA, *Weapon Systems 1990* (Washington, D.C.: Government Printing Office, 1990), p. 65.
[62] VII Corps Arty, "Fire Support Perspective."
[63] Ibid.
[64] Interv, Kindsvatter with Franks, 5 Apr 91.
[65] Author's notes.
[66] VII Corps, FRAGO 60–91, Change of State of Hostilities and Modification of the OPLAN 1990–2 Classification Guidance, 16 Jan 91.
[67] VII Corps, FRAGO 56–91, Modified Restrictions on Opns West of Wadi al Batin, 16 Jan 91.
[68] VII Corps, FRAGO 96–91, VII Corps Conducts Required Reconnaissance of FAA UTAH, 26 Jan 91.
[69] VII Corps, FRAGO 66–91, FAARP Spt for XVIII Abn Movement, 19 Jan 91; VII Corps Main CP, G–3, Staff Jnl, 19 Jan 91, entry 24.
[70] VII Corps, Personnel and Equipment Status Chart as of 31 Jan 91. This chart, affixed to the 2 February Main CP Journal, does not include the U.K. 1st Armoured Division. According to Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), p. 67, the U.K. 1st Armoured Division had around 30,000 soldiers. Many of them provided the service support U.S. divisions received from the Corps Support Command.

[71] VII Corps Comdr, "Versatile, Expansible, Deployable, Lethal," DESERT STORM briefing, n.d.; 22d Spt Cmd Log Plans Cell, Status Rpt Log Hist, in 22d Spt Cmd AAR, vol. 1, Exec Sum, Dec 91, tab D.

[72] VII Corps, Sitrep 16, 2 Feb 91.

7

The Iraqi Defenses and the 1st Cavalry Division

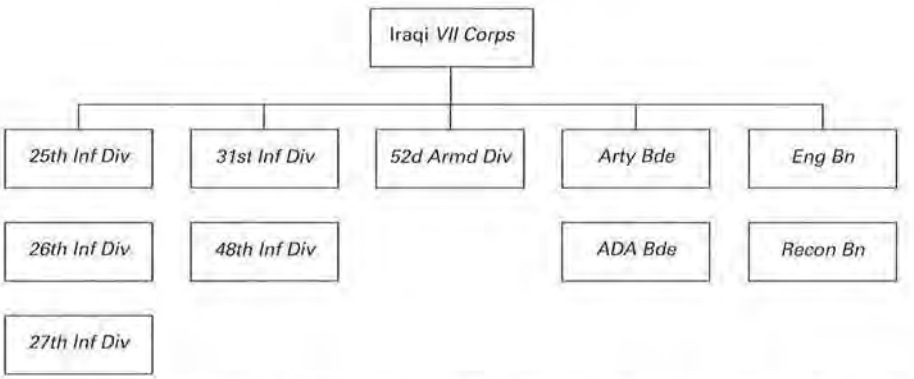
If the VII Corps was to reposition to its attack sector successfully, it had to divert the Iraqis' attention and prevent them from interfering with the move. It was critical that the enemy not detect the movement. Franks needed to do several things to Maj. Gen. Ahmed Ibrahim Hamash, the opposing Iraqi *VII Corps* commander. First, as part of General Schwarzkopf's overall deception plan, Franks wanted to convince Hamash that VII Corps planned to attack into his already prepared defensive positions west of the Wadi al Batin. Second, he sought to prevent the Iraqi forces from detecting and interfering with his operational movement to the west. In addition, just before the ground offensive, Franks needed to create gaps in the barrier between the Iraqi and Saudi Arabian borders. Simultaneously, Franks wanted his artillery, attack helicopters, and supporting aircraft to destroy the Iraqi *VII Corps*' artillery, command and control facilities, and mobile reserves. To accomplish these tasks, the U.S. VII Corps had to begin dueling with the Iraqi Army long before the formal start of DESERT STORM's ground campaign.

The Iraqi Front Line

Defending the area west of the Wadi al Batin, the departure sector for the U.S. VII Corps' offensive, was the Iraqi *VII Corps*. General Hamash, the Iraqi commander, deployed his five "straight-leg," or nonmotorized, infantry divisions in fixed fighting positions along the border. Each division entrenched two brigades forward, on line from east to west, and its third brigade several kilometers to the rear—Iraqi standard formation for a deliberate defense. Hamash deployed the *27th Infantry Division* in his eastern sector to block the Wadi approaches. This unit had a narrow sector, only ten kilometers wide. To the west, in similar formations but with larger frontages, were the *25th*, *31st*, *48th*, and *26th Infantry Divisions*. The *26th Infantry Division*, *VII Corps*' westernmost, had a frontage of almost thirty-five kilometers, with its right (western) flank virtually unprotected.[1] General Hamash dispersed the *52d Armored Division*, behind the forward units, prepared to counterattack any penetrations in his sector.

The Iraqi *IV Corps*, east of the Wadi al Batin, also had units oriented on the defense of this critical avenue of approach. Its *20th Infantry Division* defended close

CHART 8—IRAQI *VII CORPS*, JANUARY 1991



Source: VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], an. L, in VII Corps AAR.

to the Wadi, and its *6th Armored Division* was farther back in reserve. Should the Iraqi commanders become aware of the massive U.S. displacement west, the Iraqi *IV* and *VII Corps*' tactical reserves could use the Wadi al Batin approach as an attack axis to cut main supply routes of both American corps and seriously disrupt the coalition's attack schedule.[2] In the event they achieved any success against the U.S. forces, the Iraqi high command could order the heavy divisions of the *Republican Guard* to move down the Wadi al Batin and reinforce the initial attack.

The Iraqi intelligence organization should have detected the movement along Tapline Road of the two massive U.S. corps. Because reconnaissance operations had been a well-known Iraqi problem during the Iran-Iraq War, it was reasonable for American planners to assume that their foes would have corrected any deficiencies in this area.[3] Before its invasion of Kuwait, Iraq had an extremely large intelligence-collection capability—on paper.[4] After two weeks of aerial pounding, Iraq's reconnaissance capability probably had diminished, but it still should have possessed the ability to discover the VII and XVIII Corps' movement west into their attack positions.

Iraqi corps commanders had many units they could use for reconnaissance tasks. The *VII* and *IV Corps* were each authorized a reconnaissance battalion. Each battalion, organized into two companies, had forty-six vehicles, primarily Soviet-made BRDM–2 and French-manufactured AML wheeled scout cars. Each regular infantry division also had a similar unit. Each brigade and battalion had an additional reconnaissance platoon of six BRDMs or AMLs.[5] The Iraqi corps also had a number of potentially capable reconnaissance elements. These included artillery locating battalions, combat engineers, and chemical defense reconnaissance platoons. However, traditionally Iraq had relied heavily on signal intelligence. During the Iran-Iraq War, it demonstrated a significant electronic communications interception capability and was able to exploit such information on the battlefield. To

accomplish this task, each corps had an electronic warfare battalion with a mix of Soviet and Western equipment.[6]

During the Iran-Iraq War, the Iraqis also had special detachments for missions behind Iranian lines and in Kurd-controlled areas. These units, each made up of twenty-five to thirty men, including Iranians or Kurds who rallied to the Iraqi side, conducted long-range patrols to collect information and to ambush and capture prisoners. Sabotage may have been an additional mission of these detachments.[7] There was always the potential of civilian Iraqi supporters and Bedouin tribesmen reporting the movement or preparations of the U.S. VII Corps for its movement across the Wadi. Saudi police discovered Iraqi agents at facilities in the rear and posing as contractors at coalition base camps.[8] While Hafar al Batin was rumored to be a hotbed of Iraqi sympathy, Franks was not too concerned over "some human [intelligence] collector driving around out there among the sheep."[9]

While the air campaign neutralized the Iraqi Air Force, the possible Iraqi use of drone observation aircraft (remotely piloted vehicles, or RPVs), created a stir in the VII Corps sector. These small, unmanned aircraft could fly to an area and essentially make a movie of the enemy's defenses and facilities. The VII Corps intelligence officers knew about their potential reconnaissance capability since they used similar aircraft in their own collection effort.[10] Starting in early February, there were many reports of Iraqi RPVs in TAA JUNO. In response Colonel Cherrie asked Task Force 1st Battalion, 83d Air Defense Artillery, equipped with Patriot missiles and sophisticated air defense radar, to help identify these aircraft and to assist the corps in their detection. Friendly aircraft were also warned to use their transponders to avoid accidental engagement.[11] No Iraqi drones, however, were ever captured or shot down, and the affair seemed to reflect American anxiety rather than Iraqi reconnaissance capabilities.

If Iraqi reconnaissance forces located American forces on the move or in the tactical assembly area, their extensive gun and rocket artillery could disrupt the corps. During the Iran-Iraq War, Iraq had been able to place effective indirect fire on targets within five minutes of their location. On paper, the Iraqi artillery even outgunned its coalition opponents.[12] Between the two Iraqi corps, there were potentially three to six corps artillery battalions and possibly twenty divisional battalions in position to attack the immediate area opposite the Saudi border.

The most dangerous items of artillery came from the Iraqi corps rocket brigade. Using Soviet-made FROG–7s (free-rockets-over-ground, or unguided missiles), and Brazilian Astros Multiple Rocket Launchers, the Iraqis could deliver high explosive, DPICM (dual-purpose improved conventional munitions), chemical and, the most dangerous, fuel-air mixture munitions. While the Iraqis did not employ this last munition during the ground campaign, corps planners had to consider its presence and capability.[13]

Finally, the various types of Scud systems had an even greater predicted range and potential. "Scud" was the NATO code name for the Soviet SS1 series of ballistic missiles. Mounted on a truck that combined the roles of transporter, erector, and launcher, the Scud was a highly mobile system. During the war with Iran in the late 1980s, Iraq modified the basic missile to give it an extended range of over six hun-



Soviet FROG–7 Nuclear-capable Surface-to-Surface Missile

dred kilometers.[14] The Iraqis had launched the first Scuds on 17 January against Israel, wounding ninety-six people and damaging almost 1,700 apartments. On 18 January Iraq began firing Scuds into Saudi Arabia. Although tactical success was minimal, their appearance caused significant psychological stress in the coalition camp.[15] Coalition air and special forces units followed these attacks with massive Scud-hunting expeditions in western Iraq.[16] However, neither Scuds nor FROGs had used their chemical warheads as of 1 February. Had the Iraqis chosen to use chemical weapons, their disruptive effect when dropped into the middle of a moving corps was unimaginable, even with the Americans' chemical defensive equipment.[17]

Franks also worried about an Iraqi reconnaissance in force, an attack designed to force the enemy to disclose his strength, dispositions, and intentions.[18] In its simplest form, platoon and company-size elements could attack limited objec-

tives. The Iraqis had already carried out an operation of this size on the Saudi border post of Ruqi on 30 January.[19] If the Iraqis were successful in such probes, Franks knew they could follow up with larger, more destructive efforts.[20]



Soviet-built, Iraqi-modified Scud-B Missiles and Launchers on Display

The possibility of a large-scale spoiling attack was also a continuing threat.[21] The vulnerability of the logistics bases near Hafar al Batin, King Khalid Military City, and Logbase ECHO developing west of the Wadi presented tempting targets to any enemy commander. The vulnerability of two corps using one main supply route made the potential rewards for an aggressive Iraqi commander high indeed. A surprise Iraqi offensive down the Wadi al Batin would have resulted ultimately in Iraq's decisive defeat. The effect, however, of even a few dozen tanks and armored vehicles creating havoc among the transports on Tapline Road or among the supply depots of Logbase ALPHA would have been dramatic. Pictures of exploding ammo dumps and American bodies, carried by the international news media back to the United States, could have created a change in the political situation and weakened America's will to pursue the conflict. Political, if not military, rewards awaited such an action. Historical examples warned the corps' leadership that Saddam Hussein might attempt such a desperate gamble if there was a possibility of obtaining strategic success.[22]

The Iraqi attack on Khafji on 30 January underscored the threat. An Iraqi brigade had attacked southward and seized the small Saudi coastal town of R'as al Khafji, some 225 kilometers east of the VII Corps, on the Persian Gulf. While this engagement ended in a rapid defeat for the invading force and the destruction of the Iraqi second echelon in its assembly areas, the Khafji attack demonstrated the Iraqis' capability to launch such a probe. There was no reason to believe that they would not do better in a second attempt elsewhere.[23]

If their reconnaissance elements discovered the VII Corps' movement, the Iraqis could reposition their forces to meet the attack. Rather than hitting *Republican Guard* troops out of position, the Americans might then engage them after they had repositioned and had the time to prepare the terrain for a deliberate defense. In addition, the Iraqis could withdraw their front-line forces deeper into Iraq and out of range of coalition artillery. Such a move could seriously affect the coalition's battle plans.



A soldier examines a Scud missile that a Patriot shot down in Saudi Arabia.

By 13 February Col. John C. Davidson, the VII Corps G–2, believed the Iraqis were still capable of interfering with the command's move. He expected the Iraqi Army to continue to defend in depth and its command to adjust unit locations to compensate for losses in forward defenses because of coalition air attacks. The main Iraqi effort would continue to focus on the defense of the Wadi al Batin approach. The divisions to the west were performing economy-of-force missions, especially in the far west, and the G–2 believed the Iraqis would attempt to use chemical weapons to assist them. He did not believe there would be a major spoiling attack on the scale of Khafji because of the significant degradation of the Iraqi mobile forces and their overall logistical capabilities. He did, however, expect them to conduct aggressive counterreconnaissance operations using company and battalion forces. He further believed that if the Iraqis discovered the VII Corps' movement, the probability of such reconnaissance activity would increase. He warned that while Iraqi signal intelligence was limited, the moving divisions would generate excessive radio communications traffic, which was vulnerable to Iraqi interception. He noted that Iraqi forces retained the capability to infiltrate units into the western part of the corps sector to reinforce elements of *26th Infantry Division*. This reaction could slow the required rapid advance of the VII Corps during the attack.[24] The G–2's analysis, as it turned out, was wrong only concerning the use of chemical weapons.

The 1st Cavalry Division's Deception

Articles and books published soon after the war portray the ground offensive as one rapid sweep across southern Iraq and Kuwait. Even General Schwarzkopf, in his briefing of 27 February 1991, referred to the attack as a "Hail Mary Play."[25] In fact, the ground offensive was a complex, phased scenario that took over a full month to execute. The initial step in this operation was the movement of the 1st Cavalry Division north to the sector just west of the Wadi al Batin. From here, the division conducted a deception operation to attract the attention of Iraq's degraded intelligence collection assets, causing their commanders to focus on that sector. Next, the 1st Infantry Division sent combat units west of the Wadi to secure the new logistics facility (Logbase ECHO) in the attack sector. Then, each of these two divisions conducted a series of limited actions in front of their existing positions to further confuse the Iraqi commanders as to the intended direction of the American attack. With the border area secure, the remainder of the VII Corps and the entire XVIII Corps moved several hundred kilometers from their DESERT SHIELD locations in the east to their DESERT STORM sectors west of the Wadi al Batin. Only then, in late February, was the Third Army prepared to throw the Iraqi Army out of Kuwait.

The 1st Cavalry Division was the first American unit to confront the Iraqi defenses. After its activity in defense of Tapline Road and searching for potential border crossers discussed earlier, Brig. Gen. John H. Tilelli, Jr.'s division returned to TAA WENDY and well behind the Syrian 9th Armored Division still along the border. On 20 and 21 January the Syrian division began moving, and the First Team was ready to assume control of that sector opposite the Iraqi defenses.[26] Although the division had been the designated theater reserve, during this phase of the campaign it was under General Franks' operational control.

The cavalry's 1st Brigade, under Col. George H. Harmeyer, occupied the sector to the west, and its 2d Brigade, commanded by Col. Randolph W. House, held the eastern portion along the Wadi. The 1st Squadron, 7th Cavalry, screened the sector between the deployed brigades and the border berm.[27] The 1st Cavalry Division's role from that day until 23 February was the same: Fix the attention of the Iraqis on them and the Wadi al Batin approach and cover the VII Corps' movement to its attack positions.[28]

The Wadi al Batin is a usually dry streambed that rises in the highlands of Jabal Shammar, west of Riyadh, and runs northwest to the town of Hafar al Batin. From there, it continues in the same direction and forms the western, British-imposed, border between Iraq and Kuwait. The gully then dissipates thirty miles southwest of the Iraqi port of Al Basrah. In northern Saudi Arabia, the Wadi creates a broad valley up to six hundred feet deep and up to five kilometers wide. Slopes are often steep, making east-west vehicle travel difficult. It is traditionally one of the important avenues of approach into Mesopotamia. In the days before compasses and global positioning systems, the Wadi was one of the few visible terrain features between the Persian Gulf and the Syrian Desert. Camel-mounted Bedouins used the feature to guide their raids against caravans, moving between

Persia and the Mediterranean and the city dwellers of the Tigris-Euphrates Valley. For example, in 633 A.D. the Muslim armies of Khalid ibn al Waleed and al Muthanna ibn Haritha gathered at Hafar al Batin. Attacking up the Wadi, they entered the empire of Sassanid Persia. Victories near modern Kuwait City, Ash Shatrah (Iraq), and the Persian capital at Ctesiphon set the stage for the final Islamic conquest of all of Persia.[29] In the centuries that followed, other Arab raiders, predecessors of the Sabah and Saud families, continued to use this route to prey on city dwellers and farmers of Iraq. The Wadi al Batin's role in the military history of the region was legendary, and the Iraqi Army was going to watch the Wadi approach closely.

From late January until the beginning of the ground campaign on 24 February, the 1st Cavalry Division conducted a textbook example of deception. First, the cavalrymen established a security zone along the border. This move took place right after the Battle of Khafji, when the Saudi Arabian border guards withdrew from their screen line forward of the VII Corps. After consulting with the VII Corps staff, General Tilelli ordered the 1st Squadron, 7th Cavalry, to overwatch the highway complex at the intersection of Kuwait, Iraq, Saudi Arabia, and the Wadi al Batin. Called the Ruqi Pocket by American planners, this sector was the most dangerous avenue of approach into Saudi Arabia west of the coastal highway.

Each night a cavalry ground platoon moved forward and trained its thermal sights on the potential routes into the sector. In addition, the squadron began ground and air surveillance along fifty kilometers of the border west of the Wadi. By 6 January a task force based on the 3d Battalion, 32d Armor, had assumed responsibility for the western portion of the division screen line, allowing the cavalrymen the opportunity to rotate their troopers out of their smaller sector for some rest, showers, and equipment maintenance.[30]As the 1st Cavalry Division assumed its zone of operations, there were a number of small engagements between the Americans and the Iraqis. For example, a cavalry troop's Cobra helicopter drew fire from an Iraqi observation post on 5 February. This position soon became the target of a divisional test of firepower. On 7 February Battery B, 1st Battalion, 82d Field Artillery, fired the first laser-guided Copperhead round of the war at the unsuspecting observation post. As Iraqi soldiers ran away, a Cobra used a TOW missile to destroy the truck into which they were about to jump. Just after the truck exploded, an artillery battery, each gun firing one round at the target, finished off that hapless tower.[31] For such a limited target, this was an excessive use of firepower, but one sure to capture the attention of the Iraqi commanders.

After a week of patrolling and observing, General Tilelli launched a series of "Berm Buster" operations on 14 February. To discourage smuggling, the Saudis had built an eight- to ten-foot-high dirt wall along the border as an obstacle to any attacking force. By cutting gaps in the berm, the 1st Cavalry Division hoped to persuade the Iraqis that an attack was imminent just where they expected it.[32] By the end of the day the 1st Brigade had blasted three holes in this berm with combat engineer vehicles. In addition, it destroyed three Iraqi observation towers and four trucks. The brigade also identified an Iraqi mechanized platoon on the north side of the berm, near the western edge of the division's sector. After coordinating with

the 1st Infantry Division on the left flank, three battalion volleys of dual-purpose (antipersonnel and antivehicle) munitions destroyed these vehicles. By the end of the first day of operations, almost 170 Iraqis surrendered to the 1st Cavalry Division.[33] These operations continued through the fifteenth with additional towers and buildings destroyed and more prisoners surrendering.[34]

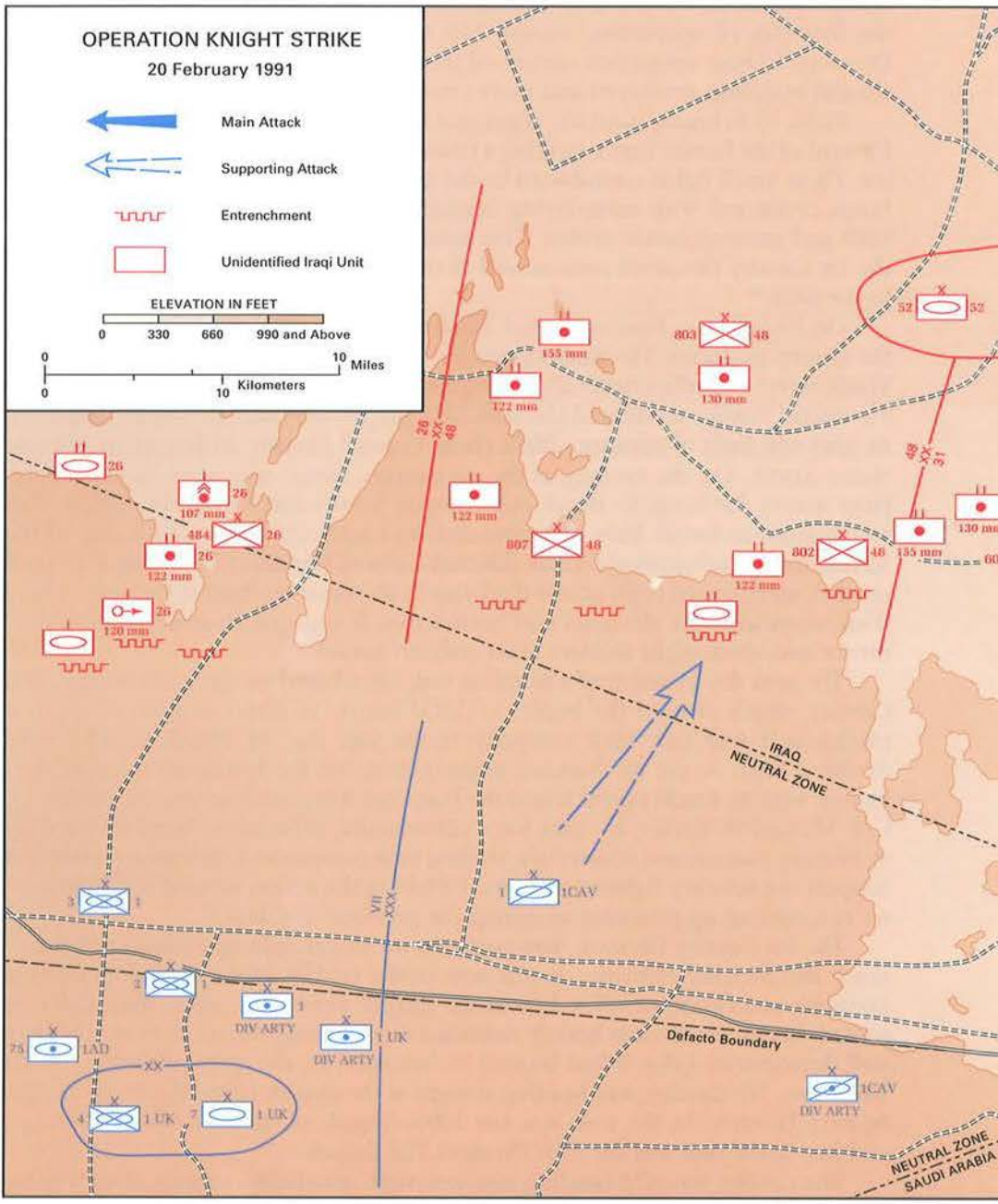
From 15 February until the beginning of the ground war, cavalry units moved forward of the border berm, igniting a counterreconnaissance battle across the sector. These small fights contributed to the Iraqi fixation on the Wadi al Batin. The Iraqis countered with mine-laying operations near the berm and several night raids and reconnaissance probes. This resulted in numerous small engagements in the 1st Cavalry Division's zone as well as that secured by the 1st Infantry Division to the west.[35]

On 19 February Franks ordered Tilelli to conduct a reconnaissance-in-force of the enemy positions. His instructions for what was to become Operation NIGHT STRIKE were: Find the enemy and determine his composition, his disposition, and his intent. Franks monitored the division's preparation and personally approved its plan and limit of advance. Tilelli chose Colonel House's 2d Brigade to execute NIGHT STRIKE. On the evening of the nineteenth, House sent a mechanized company across the berm to check out crossing points and search for mines. This reconnaissance found little of importance and returned to the south side of the screen line. Simultaneously, Tilelli directed Colonel Harmeyer's 1st Brigade to send another mechanized team across the berm in its sector to observe the areas where Iraqi reconnaissance elements had been active. It engaged an armored personnel carrier and about eight soldiers in its ambush zone.[36]

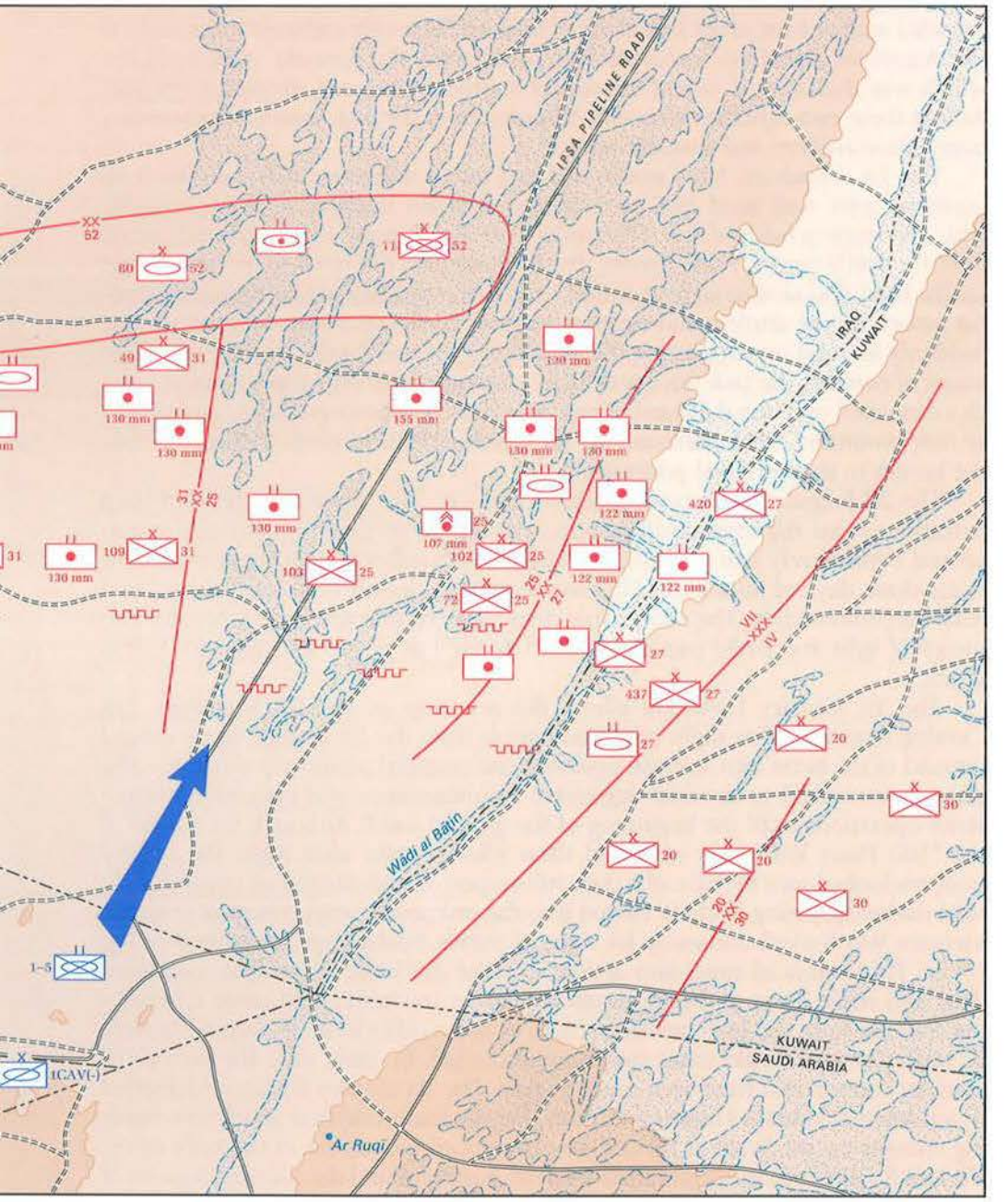
The next day House sent a battalion task force based on the 1st Squadron, 5th Cavalry, which crossed the border at 1200 hours. In direct support of the one mechanized and two tank company teams was the 3d Battalion, 82d Field Artillery. Team A, the mechanized infantry unit, led the battalion's diamond formation with its Bradleys and found the Iraqis ten kilometers across the border. Lt. Col. Michael W. Parker, the task force commander, believed he faced only a dug-in infantry platoon and ordered the trailing tank companies to advance on line and support the infantry fighting vehicles. Finishing the action seemed a simple matter of rounding up prisoners as during the previous few days.[37]

The 1st Cavalry Division, however, was no longer fighting isolated reconnaissance and security elements. It was now in the middle of the Iraqi *25th Infantry Division*'s security zone. Five kilometers farther north, the main Iraqi defenses waited. In one of the most heavily defended sectors along the entire front, the Iraqi staff demonstrated that it had learned its lessons from the war with Iran. The 1st Squadron, 5th Cavalry, was heading straight at the dug-in *103d Brigade* of the *25th Infantry Division*. To the west was the *109th Brigade* of the *31st Infantry Division*, and just to the east was the *25th Division*'s *72d Brigade*.

The cavalry was also heading into extensive minefields, strands of concertina wire, fire trenches, and other obstacles designed to channel the attacking forces. The Iraqi defenses also had electronic jamming support. These security forces, normally not authorized heavy antitank units, were reinforced with an antitank


OPERATION KNIGHT STRIKE
20 February 1991
Main Attack
Supporting Attack
Entrenchment
Unidentified Iraqi Unit
ELEVATION IN FEET
0
330
660
990 and Above
0
10
Miles
0
10
Kilometers
IRAQ
NEUTRAL ZONE
Defacto Boundary
NEUTRAL ZONE
SAUDI ARABIA
1CAV
DIV ARTY
1 UK
LAD
155 mm
130 mm
122 mm
120 mm
107 mm

MAP 9


IPSA PIPELINE ROAD
IRAQ
KUWAIT
Wadi al Batin
KUWAIT
SAUDI ARABIA
Ar Ruqi
1CAV(-)
1-5
155 mm
130 mm
122 mm
107 mm

battalion with 106-mm. recoilless rifles. In addition, Iraqi T-55 and T–62 tanks were integrated into the defensive scheme. The Iraqis could support those brigades with at least seven battalions of field artillery with eighteen tubes each. If the American task force succeeded in penetrating the forward Iraqi brigades, which was doubtful, it would encounter another reinforced divisional brigade. Behind these two echelons were two brigades from the *52d Armored Division* and many more artillery and antitank units.[38]

The 1st Squadron, 5th Cavalry, had run into a deliberate defense. The Iraqi positions were well sited and camouflaged. Hidden bunkers were everywhere, with overlapping fields of fire. The artillery remained under cover and undetected until the battle began. Furthermore, the Iraqi soldiers did not run, but stood and fought hard. Those who were captured had been overwhelmed by American combat power. All the artillery and close air support Tilelli's division could muster was suddenly focused on supporting the developing ground battle. At the end of five hours of combat, the task force was lucky to escape with only three combat vehicles destroyed and one damaged. Three American soldiers were killed and another nine wounded. That afternoon all 1st Cavalry Division units withdrew across the border to their original positions.[39]

The 2d Brigade had accomplished its mission. The skirmish reinforced Iraqi perceptions that the main coalition attack would be up the Wadi al Batin. It also proved conclusively that at least some Iraqis were still willing to fight even after thirty-three days of air attack. This was a valuable lesson that Franks discussed with his commanders. The short battle demonstrated that the Iraqi Army still had plenty of fight and could punish any ill-conceived or poorly executed VII Corps attack.

The 1st Cavalry Division's efforts did not stop as the 1st Squadron, 5th Cavalry, returned. That night mounted patrols from the 1st Brigade again moved forward of the berm into ambush positions and engaged small Iraqi elements. The division continued to conduct aggressive reconnaissance and counterreconnaissance operations until the beginning of the ground war.[40] Although the drama of the "100 Hour War" later obscured these efforts, night after night the cavalry troopers looked into the face of a then still-respected and dangerous opponent. In total darkness, young soldiers moved into the unknown, while veterans from the Vietnam War looked cautiously for signs of mines, booby traps, or antiarmor kill zones. Thirty days of small-unit actions pressed the limits of soldiers, commanders, and staffs. To push the Iraqis too quickly or too hard could cause a punishing reaction from the Iraqi artillery, a raid, or some other kind of offensive action. To push too little would cause the deception to fail. In either case, the final corps casualty count could have been much higher. The 1st Cavalry Division succeeded in reinforcing Saddam Hussein's illusion that the main coalition attack was heading straight up the Wadi al Batin.[41] The unnoticed movement of the bulk of the VII and XVIII Corps units into their western positions, and the ultimate success of their attacks, was partially due to the furor caused by the 1st Cavalry Division along the Wadi al Batin.

Notes

[1]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan" [Mar 91], an. L, in VII Corps AAR, Fort Leavenworth, Kans. Third Army's Iraqi order of battle assessment did not agree with that of VII Corps. Third Army believed the Iraqi *VII Corps* had seven infantry divisions (ARCENT Intel Sum, Apr 91). "The 100-Hour Ground War," based partially on postwar interrogations of Iraqi officers, is more accurate in this instance.

[2]VII Corps G–2, "100-Hour Ground War," pp. 16–24; 177th Armd Bde S–2, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), p. 90.

[3]177th Armd Bde S–2, *Iraqi Army*, p. 112.

[4]VII Corps G–2, "100-Hour Ground War," pp. 32–33.

[5]177th Armd Bde S–2, *Iraqi Army*, pp. 6, 18. The G–2, VII Corps, made few references to these reconnaissance units in his "100-Hour Ground War." He does not list these organizations in his unit order of battle (tab L). This omission is probably due to their small size, lack of documentation to support their assignment, and their general ineffectiveness (pp. 33–35). He could positively identify the wreckage of only twenty-five BRDMs. The 1st Cavalry Division and the 1st Infantry Division reports, however, included numerous references to BRDM and AML reconnaissance vehicles. These units existed within the division and corps organizations.

[6]177th Armd Bde S–2, *Iraqi Army*, pp. 110–12.

[7]Ibid., p. 106.

[8]VII Corps G–2, "100-Hour Ground War," pp. 32–33.

[9]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC.

[10]Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91: The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), p. 5–2; VII Corps, Sitrep 24, 10 Feb 91.

[11]VII Corps, FRAGOs 116–91, Iraqi Drones in Sector, 10 Feb 91, and 117–91, Enemy RPV [Remotely Piloted Vehicle] Flights Continue, 11 Feb 91.

[12]VII Corps G–2, "100-Hour Ground War," p. 34.

[13]Ibid., p. 55; 177th Armd Bde S–2, *Iraqi Army*, p. 9.

[14]Duncan Lennox, "Iraq—Ballistic Missiles," *Jane's Soviet Intelligence Review* (October 1990):438–40.

[15]Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. IV: The Gulf War* (Boulder, Colo.: Westview Press, 1996), pp. 854–58.

[16]Ibid., pp. 860–67; H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 484–86.

[17]While American soldiers could have survived a chemical attack, it probably would have contaminated their equipment, thus disrupting most routine activities.

[18]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 95.

[19]1st Cav Div, Chronology of 1st Bde, 1st Cav Div; VII Corps, Sitrep 16, 2 Feb 91; VII Corps TAC, Staff Jnl, 30 Jan 91, entries 3–4.

[20]VII Corps, FRAGO 107–91, Enemy Reconnaissance Effort Continues in Sector, 2 Feb 91.

[21]Interv, Kindsvatter with Franks, 5 Apr 91.

[22]Most notable are the German offensive in the Ardennes in December 1944 and the North Vietnamese–Viet Cong Offensive during Tet in 1968.

[23]Rebecca Grant, "The Epic Little Battle of Khafji," *Air Force Magazine* (February 1998):28ff; Charles H. Cureton, *U.S. Marines in the Persian Gulf, 1990–1991: With the 1st Marine Division in DESERT SHIELD and DESERT STORM* (Washington, D.C.: Headquarters, U.S. Marine Corps, 1993), pp. 42–47; VII Corps G–2, "100-Hour Ground War," pp. 82–83.

[24]VII Corps, Sitrep 27, 13 Feb 91.

[25]Gen H. Norman Schwarzkopf, Central Command Briefing, 27 Feb 91.

[26]VII Corps, Sitrep 4, 21 Jan 91; 1st Cav Div, Chronology of 1st Bde, p. A1; Interv, Moring with John H. Tilelli, Jr., 13 Aug 91, Swain Collection, Fort Leavenworth, Kans.

[27]John C. Wirick, "The 1st Cavalry Division in the Battle of Ruqi Pocket," in Swain Collection; 1st Cav Div, Chronology of 1st Bde; VII Corps Main CP (Plans), OPLAN 1990–2, Opn DESERT SABER,

13 Jan 91, pp. 14, 21–22.

[28] 1st Cav Div, Chronology of 1st Bde, p. A1; Interv, Moring with Tilelli, 13 Aug 91.

[29] Fred McGraw Donner, *The Early Islamic Conquest* (Princeton: Princeton University Press, 1981), pp. 41–48.

[30] Wirick, "Battle of Ruqi Pocket," p. 3.

[31] 1st Cav Div, Chronology of 1st Bde, p. B7; Wirick, "Battle of Ruqi Pocket," pp. 3–4; VII Corps, Sitrep 16, 2 Feb 91; VII Corps Main CP, G–3, Staff Jnl, 7 Feb 91, entry 11. This incident is one of the few documented Copperhead "hits" of the entire war.

[32] Peter S. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for DESERT STORM," *Military Review* 72, no. 1 (January 1992):20.

[33] VII Corps, Sitrep 28, 14 Feb 91; 1st Cav Div, Chronology of 1st Bde, pp. B8–10; Wirick, "Battle of Ruqi Pocket," p. 5.

[34] 1st Cav Div, Chronology of 1st Bde, pp. A2, B1; Wirick, "Battle of Ruqi Pocket," pp. 5–8.

[35] 1st Cav Div, Chronology of 1st Bde, pp. B10–12; VII Corps TAC, Staff Jnl, 17 Feb 91, entry 15; Wirick, "Battle of Ruqi Pocket," p. 7.

[36] VII Corps TAC, Staff Jnl, 19 Feb 91, entries 18, 24, 32; Wirick, "Battle of Ruqi Pocket," p. 8.

[37] VII Corps TAC, Staff Jnl, 20 Feb 91, entry 18; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 206; J. Paul Scicchitano, "Night Strikes: The Secret War of the 1st Cavalry Division," *Army Times*, 20 Sep 91, p. 15; Wirick, "Battle of Ruqi Pocket," p. 9.

[38] 177th Armd Bde S–2, *Iraqi Army*, pp. 90–97, 127–203; VII Corps G–2, "100-Hour Ground War," tab L.

[39] VII Corps TAC, Staff Jnl, 20 Feb 91, entries 24–27.

[40] Ibid., entries 27, 31, 32; Scales, *Certain Victory*, pp. 206–07; 1st Cav Div, Chronology of 1st Bde, pp. B12–13; Wirick, "Battle of Ruqi Pocket," p. 9.

[41] VII Corps G–2, "100-Hour Ground War," pp. 94–95; Interv, Richard Swain with Stanley F. Cherrie, 29 Aug 91, Swain Collection.

8

1st Infantry Division Border Activities and Field Artillery Raids

Even before the 1st Cavalry Division moved into its sector, combat units from Maj. Gen. Thomas G. Rhame's 1st Infantry Division were infiltrating across the Wadi al Batin to a sector near the Iraqi border. For almost a month these small units conducted security operations in the attack sector. Some of these early actions were a reaction to the Iraqi Army's limited reconnaissance activities designed to protect supplies needed for the offensive. Other activities helped to prepare the battlefield for the corps' attack by destroying obstacles along the border and neutralizing the Iraqi artillery. All these operations, most of which took place in the breach sector controlled by the Big Red One, took place before the start of the ground war in late February.

Combat Command Carter

The key to the forthcoming campaign would be the corps' ability to provide itself the necessary logistics support. The Army defines this capability, operational sustainment, as "those logistical and support activities required to sustain campaigns and major operations within a theater of war."[1] DESERT STORM planners at all levels of command, educated at Leavenworth's School of Advanced Military Studies, knew that logistic support was vital to the success of the operation. To facilitate this support, logisticians used a technique as old as war itself, staging supplies forward before the combat troops arrived.[2] Third Army established six major logistics bases to support the advance. The command ultimately stocked each of these sites with all classes of supply. Most important were Class I (food), Class III (fuel), and Class V (ammunition). During the initial stages of the offensive, VII Corps would depend on Logbase ECHO, located near a cluster of old houses along the border in the 1st Infantry Division's attack sector.[3] The main problem with these logistics installations was obvious. It took weeks to stock them with the tons of supplies needed to support a modern armored corps, and assembling them in the forward area made them vulnerable to attack.

During the third week of January, over a month before the ground offensive, engineer units began to move into the corps' attack sector, west of the Wadi al Batin. They started building berms to enclose fuel bladders and ammunition

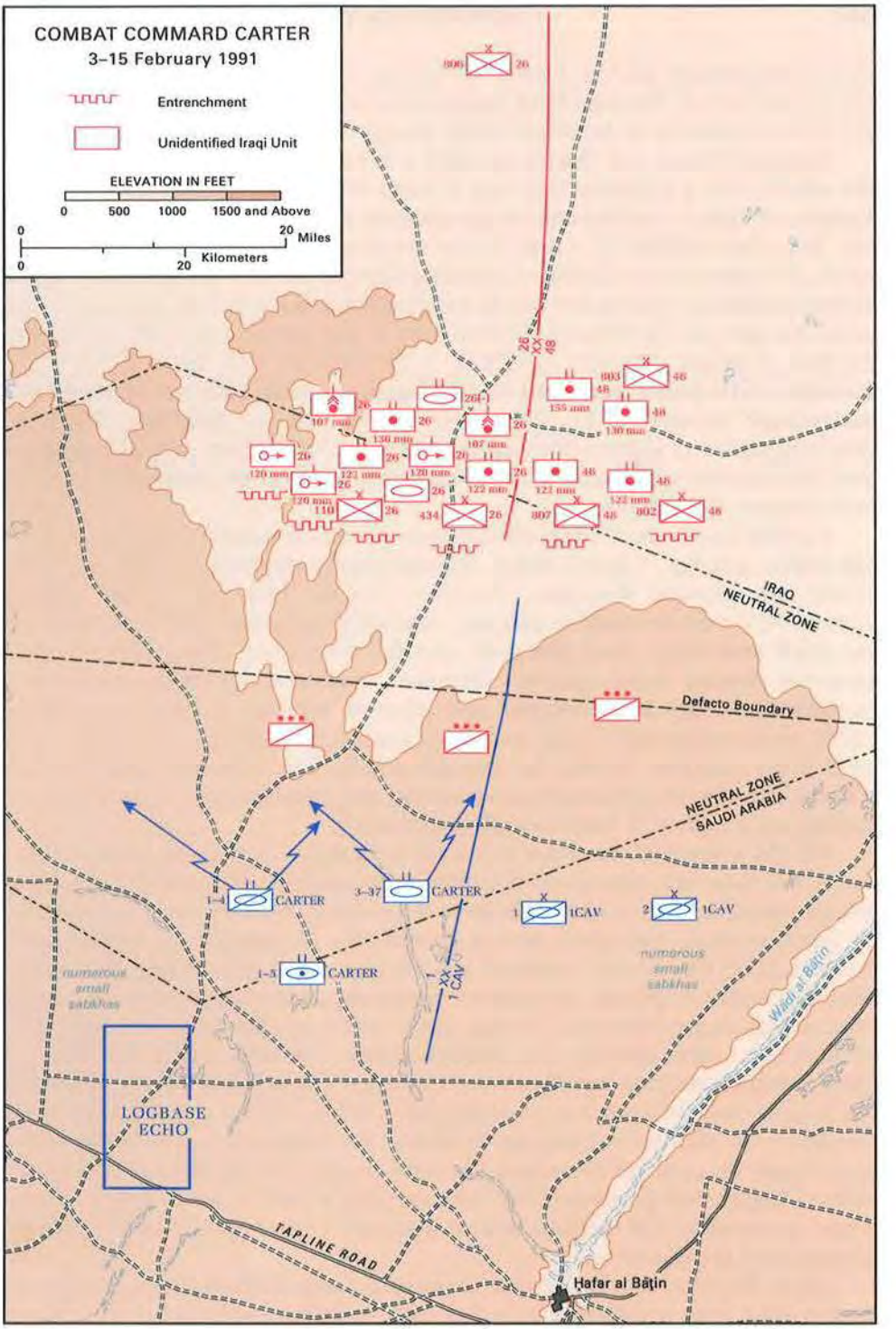
yards. They also built roads and other facilities required by the massive logistical effort. General Franks directed the 1st Infantry Division to protect the developing logistics base, located in that division's future sector.[4]

The mission fell to Lt. Col. Robert Wilson's 1st Squadron, 4th Cavalry. Like any divisional squadron of the era, the 1st had two ground troops (A and B), two air troops (C and D), and a headquarters troop. In addition to its authorized complement of forty-one M3A2 cavalry fighting vehicles, the 1st Infantry Division had augmented the squadron with nine M1A1 tanks upon its arrival at the port, giving the unit far greater combat power than was typical.[5] On 21 January Troop B left TAA ROOSEVELT and became the first VII Corps combat element to cross the Wadi al Batin. Six tanks moved with Capt. Michael Bills' Troop B as it crossed the Wadi.[6] The troop headed west, twenty kilometers north of the town of Hafar al Batin, to avoid observation by local civilians. Even a limited reconnaissance in that sector could have discovered the obvious signs of a large logistics site in the making, which would have compromised the deception plan. Therefore, with only a global positioning system receiver to guide their movements, these troopers stayed off the Tapline Road and away from Hafar al Batin to remain undetected. They arrived in a region where the only important landmark was the never-ending border berm.[7]

On 24 January Franks ordered the 1st Infantry Division to move north of the logistics base and establish a screen line between it and the Iraqi border. The screen mission is the lowest level of combat security one unit can provide. It implies dedicated, around-the-clock protection from enemy observation. Such a mission does not include decisive combat operations against an attacking force. Once Troop B was in position, it quickly became obvious to General Rhame and his staff that one troop was too small to do that job alone. He ordered Colonel Wilson to move the remainder of his squadron from TAA ROOSEVELT to assume Troop B's mission.

Wilson's aviation troops arrived on 25 January, with Troop A and the remainder of the squadron arriving on 27 January. Once Wilson arrived, he made contact with the 1st Squadron, 7th Cavalry, 1st Cavalry Division, on its right flank and began to acclimate to his new, desolate surroundings. The squadron was well beyond the span of effective division command and control, as communication between the unit and division headquarters, still back in TAA ROOSEVELT, was tenuous and sometimes intermittent.[8]

The battle at Khafji and numerous reports of Iraqi movement caused the corps staff to reconsider the security arrangements for Logbase ECHO. The cavalry squadron was beyond American artillery support and would be unable to stop any determined Iraqi probe toward the growing logistics installation. Recent Iraqi troop movements opposite the squadron suggested either Iraqi probes or an improvement of their defensive posture along the border. For example, at the beginning of February scouts observed a small Iraqi engineer unit cutting holes in the border berm. The aviation troop's Cobra gunships destroyed the offending bulldozer on the morning of 2 February, scattering the Iraqi soldiers working there. Cavalry reconnaissance patrols later found three additional gaps in the berm


COMBAT COMMARD CARTER
3–15 February 1991
Entrenchment
Unidentified Iraqi Unit
ELEVATION IN FEET
0
500
1000
1500 and Above
0
20
Miles
0
20
Kilometers
IRAQ
NEUTRAL ZONE
Defacto Boundary
NEUTRAL ZONE
SAUDI ARABIA
1–4 CARTER
3–37 CARTER
1–5 CARTER
1 1CAV
2 1CAV
1 CAV
numerous small sabkhas
numerous small sabkhas
Wadi al Batin
LOGBASE ECHO
TAPLINE ROAD
Hafar al Batin

MAP 10

and a new antitank ditch in front of it. The 1st Cavalry Division intelligence officer (G–2), Lt. Col. Terrance Ford, believed the Iraqis were becoming bolder with the recent departure of the Saudi border guards.[9]

Generals Rhame and Franks agreed it was important to reinforce and relieve the cavalry. On 3 February they sent a small brigade task force, called Combat Command Carter, commanded by the assistant division commander for maneuver, Brig. Gen. William G. Carter III, to the zone being screened by the cavalry north of Logbase ECHO. Combat Command Carter arrived in the afternoon with a covering mission to defeat any enemy incursion into Saudi Arabian territory. These additions gave the 1st Infantry Division force in the sector west of the 1st Cavalry Division a greater defensive capability. It included Lt. Col. David F. Gross' 3d Battalion, 37th Armor, organized as a balanced task force with two tank and two mechanized companies. Lt. Col. Harry Emmerson's 1st Battalion, 5th Field Artillery, provided indirect fire support. Finally, the division tactical command post brought the sophisticated communications to allow the command to work with the rest of the division.

Combat Command Carter's mission was security: It was not to engage in combat unless attacked. Carter's orders also specifically directed avoiding any electronic and physical detection. Therefore, for the next two weeks Combat Command Carter remained in position, observing the border. Tanks and Bradleys occupied observation posts along an extended screen line. Using these systems' powerful thermal sights, gunners identified small-unit movements and scouts occasionally noted Iraqi armored and wheeled vehicles. Ground surveillance radars monitored possible Iraqi avenues of approach, while mortar sections occupied firing positions behind the forward screen. The command then used its Cobras and OH–58 helicopters to investigate any observed activity to avoid disclosing the presence of American ground troops.[10]

For the soldiers of the armor task force screening a twenty-five kilometer sector, it was their first experience this close to the enemy. The tension was high as troops peered across the border. Early in the evening of 4 February, they watched as flares, mortars, and other devices sporadically illuminated the border trace. Around 2000 the cavalry squadron reported enemy activity across the border. Shortly thereafter, ground surveillance radars reported vehicles moving east to west and stopping from time to time. Gross' tanks and Bradleys were unable to identify the targets through their thermal sights. Suddenly, the radars reported these intruders moving rapidly toward Company C's positions. Gross scrambled his reserve tank platoon and reported his situation to the combat command's headquarters. After several minutes of silence, the Company C commander sent a spot report. He now had the supposed enemy in sight but was reasonably sure the rules of engagement prohibited him from engaging a herd of camels. From Colonel Gross' perspective, the incident at least reassured him of his command's responsiveness and fire discipline.[11]

On 6 February 1991, Combat Command Carter's activity increased in the border area. This activity began with a rash of drone aircraft or RPV sightings throughout the command's sector. The incidents put everyone on alert. On 9



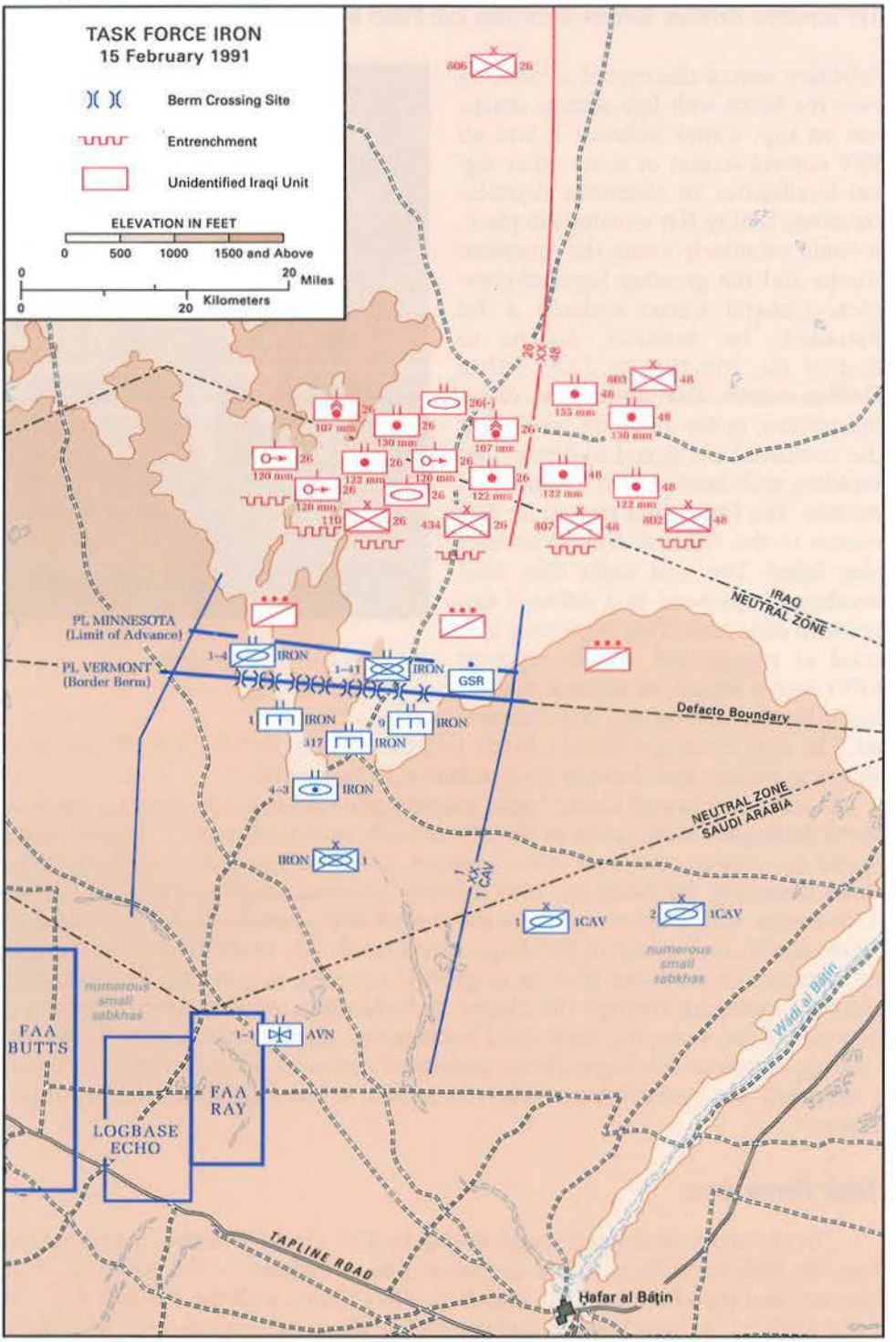
General Carter

February scouts discovered a building near the berm with five strange antennas on top. Carter believed it was an RPV control station or some other signal intelligence or electronic countermeasures facility. If it remained in place, it could ultimately locate the American troops and the growing logistics complex. General Carter ordered a 1st Battalion, 1st Aviation, Apache to destroy this structure at 2200 with a Hellfire missile. That same night, noticing activity in the building hit earlier, the command attempted to destroy the building with laser-guided Copperhead rounds. The first round missed by 200 meters to the right. A second attempt also failed. The next night they fired another Copperhead at a different target with little luck. That night they also tried to engage one of the reported RPVs with a Stinger air defense missile, but it lost its lock-on and self-destructed. The next evening Colonel Cherrie told the division to "knock it off" and stop shooting rockets and drawing Iraqi attention to that sector.[12]

Combat Command Carter began preparing to turn over its sector to the division's 3d Brigade, configured as Task Force IRON, on 15 February.[13] The command ended its mission on a sour note, however. On the afternoon of the fourteenth, Delta Company, 2d Battalion, 16th Infantry (cross-attached to the 3d Battalion, 37th Armor, and temporarily under the control of the cavalry squadron), attempted to clear a small group of buildings on the south side of the berm. The company commander used one platoon to provide covering fire, in case the other two platoons sweeping through the cluster of buildings needed support. When one member of the sweeping force fired his weapon, the other members of the two clearing platoons also began firing, and three American soldiers were wounded. Fortunately the overwatch platoon held its fire, or the incident could have been worse.[14]

Task Force Iron

The division's 3d Brigade, commanded by Col. David Weisman, provided the base for Task Force IRON.[15] The formation was to include the 1st Battalion, 41st Infantry, and the ubiquitous 1st Squadron, 4th Cavalry, with the 4th Battalion, 3d Field Artillery, in direct support and the 1st Battalion, 1st Aviation, with its Apache attack helicopters, occasionally under the task force's operational control. The


TASK FORCE IRON
15 February 1991
Berm Crossing Site
Entrenchment
Unidentified Iraqi Unit
ELEVATION IN FEET
0
500
1000
1500 and Above
0
20
Miles
0
20
Kilometers
806
26
XX
48
603
48
155 mm
48
130 mm
48
107 mm
26
130 mm
26
26(-)
107 mm
26
120 mm
26
123 mm
26
120 mm
26
122 mm
26
120 mm
26
110
26
434
26
122 mm
48
122 mm
48
807
48
802
48
IRAQ
NEUTRAL ZONE
PL MINNESOTA
(Limit of Advance)
PL VERMONT
(Border Berm)
1-4
IRON
1-41
IRON
GSR
Defacto Boundary
1
IRON
9
IRON
317
IRON
4-3
IRON
NEUTRAL ZONE
SAUDI ARABIA
IRON
1
XX
1 CAV
1
1CAV
2
1CAV
numerous
small
sabkhas
numerous
small
sabkhas
Wadi al Batin
FAA
BUTTS
1-1
AVN
FAA
RAY
LOGBASE
ECHO
TAPLINE ROAD
Hafar al Bāṭin

MAP 11

317th Engineer Battalion, with its armored combat engineer vehicles, completed the unit's organization.

Task Force IRON had a two-part mission. First, just like the 1st Cavalry Division in the east, IRON had to win the counterreconnaissance battle in the sector where the 1st Infantry and the U.K. 1st Armoured Divisions would enter Iraq. This included combat actions to destroy or repel the enemy's reconnaissance elements, denying the enemy commander any observation of the 1st Division's preparations in the breach sector.[16] It was essential that the Iraqi commander not know where the actual breach would take place. If he found out, he could place direct and indirect fire on the vulnerable, and valuable, combat engineer vehicles that were to clear gaps in the Iraqi defenses, as well as on the troop concentrations waiting to push through.

The second part of the brigade's mission was to conduct a demonstration in the sector to further confuse the Iraqis as to the direction of the main attack. Part of that effort would include cutting holes in the berm along the Saudi border, as the 1st Cavalry Division was doing to the east.[17] These lanes, however, were for the U.S. 1st Infantry and U.K. 1st Armoured Divisions and much of the logistics tail supporting the corps. If these gaps were not cut, the attacking brigades would have to negotiate two separate obstacle zones, slowing the pace of the assault.

The first task in moving the units forward was a leaders' reconnaissance, which the 1st Infantry Division's officers conducted on 12 February. Representatives from the cavalry squadron, who had now been in the area for almost a month, guided commanders to their sectors and helped them make final arrangements for the disposition of their units. Next, on 13 February, Task Force IRON's quartering parties, composed of representatives of each of the brigade's subordinate battalions, companies, and separate platoons, departed TAA ROOSEVELT.[18] Their mission was to thoroughly reconnoiter the new area, identify the specific location of units, and guide the units into their respective positions. The intent was to cause the main body the minimum amount of confusion on arrival in the new sector and to ensure that it was physically arrayed in the end formation the commander desired. The remainder of the 1st Infantry Division's quartering parties followed TF IRON's detachments into the new sector.[19]

On the fourteenth TF IRON led the 1st Infantry Division's movement to a forward assembly area called JUNCTION CITY. The massive administrative march provided the opportunity for a full-scale rehearsal of the tactical operations that would follow. For almost one hundred miles the division practiced changing battle formations and refueled. The force moved in a wedge formation with a front of about four kilometers and a depth of about five. Most of the combat service support elements would follow over the next two days.[20]

As the division main command post moved through the town of Hafar al Batin, a Scud missile exploded above the column. The questions were obvious: Had the Iraqis detected the corps' movement? Was it just a coincidence? Was it part of an effort to interdict the entire VII Corps while it was on the move? It was at least a close call—part of a warhead fell within one hundred-fifty meters of a shower point, potentially endangering the lives of twenty-five to one hundred



Troop Cantonment Area at JUNCTION CITY

men. After a short time, however, it became obvious that the Iraqis had not discovered the corps' movement, and there were no further attacks.[21]

The movement had been an excellent training exercise. The 1st Infantry Division found out it could maneuver and navigate and still not use as much fuel as anticipated. Commanders at division, brigade, and battalion practiced commanding their formations from the inside of M1 tanks and Bradley fighting vehicles, a difficult task for those not accustomed to working in such confined conditions. These commanders, many for the first time, practiced moving their entire organizations. It was a valuable experience for all concerned.[22] Within twenty-four hours of the Big Red One's start, it was aligned with TF IRON, the 3d Brigade, deployed along the Saudi-Iraqi border, and the 1st and 2d Brigades positioned from east to west several kilometers to its rear. The 1st Squadron, 4th Cavalry, now came under the operational control of Task Force IRON and the remainder of Combat Command Carter returned to the 2d Brigade.[23]

On the morning of 15 February, Colonel Weisman's Task Force IRON was arrayed about five kilometers south of the border, ready to move forward and cut the border berm. Tanks and Bradleys moved into positions where they could shoot across the berm to targets on the far side. Artillery fire-support vehicles moved forward also and scanned the distant horizon. Seventeen battalions of artillery prepared to provide both indirect fire support and counterbattery fire. Cobras and Apaches remained ready to intervene as the situation developed. Engineers from the 1st and 9th Engineer Battalions, the supporting engineers for the 2d and 1st



Saudi Border Berm Crossing Point

Brigades, respectively, moved their armored combat engineer vehicles forward. While they began tearing gaps in the earthen wall, the artillery fired at known and suspected targets. By noon there were twenty gaps in the berm through which the armor and infantry vehicles could pass into Iraq.[24]

Shortly after noon the rest of Task Force IRON began moving forward in battle formation. At the border berm, the battalions conducted standard defile drills and then moved forward in battle formation into Iraq.[25] As they advanced, on a front almost thirty kilometers wide, gunners identified Iraqi vehicles in front of them, but the enemy withdrew as the task force advanced. By nightfall the brigade had moved five kilometers into Iraq and was arrayed along the Division's Phase Line MINNESOTA.[26] That night the task force observed some Iraqi vehicles across the berm but did not engage. The 1st Infantry Division made physical contact with the 1st Cavalry Division on its right flank and informed them of TF IRON's new location.[27] The next day, the sixteenth, was spent clearing the sector and improving the posture of the brigade. This included the placement of ground surveillance radars in observation posts to cover mounted and dismounted avenues of approach.[28]

General Hamash, the Iraqi *VII Corps* commander, probably knew by now that something was afoot in his sector. From the Wadi al Batin to the west, there was enemy activity. Gaps had been torn in the berms, and unknown armored vehicles

had crossed over to his side of the border. His subordinate units were also receiving artillery fire and were now subject to precision air attacks. It was time for him to investigate and develop the situation. However, by 15 February the command and control capabilities of the *25th Infantry Division* had already been degraded by air attacks and artillery raids. Its reconnaissance assets no longer had the mobility to conduct activities that close to the berm. Most likely, therefore, Hamash directed his own reconnaissance battalion to develop the situation in the zone forward of the *25th Division* on 16 February.[29]

At 2151 hours TF IRON reported the movement of an approximate platoon, six vehicles, from the northeast. Whether by coincidence or by design, these vehicles were close to the boundary between the 1st Infantry and 1st Cavalry Divisions.[30] As the Iraqis were beyond the fire support coordination line, the graphic control measure that allows for unrestricted indirect fire beyond it, TF IRON prepared to engage them with artillery fire.

Twenty minutes later another three vehicles were observed six kilometers to the west. As the tanks cross-attached to the 1st Battalion, 41st Infantry, prepared to fire, the Iraqi vehicles disappeared from sight. At 2230 the task force reported to division headquarters that the vehicles appeared to be wheeled APCs, probably Soviet-made BTR–60s, accompanied by a tank. They had taken good hull-down positions and were now difficult to observe.[31]

In the division main command post, General Rhame sat alone in his battle center as he listened intently to the various radio nets. After receiving the last report from Colonel Weisman, he told him over the radio "not to let any of those tanks get away." Twenty minutes later the division G–3 reported that the 1st Cavalry Division, to the east, was involved with another reconnaissance force, possibly from the same unit, and was about to commence firing. Believing these reconnaissance efforts might presage a major attack, Rhame told Weisman to use artillery fire in support and alerted the Apaches of 1st Battalion, 1st Aviation, at 2320.[32]

For the next hour TF IRON fought a small series of battles with Iraqi reconnaissance elements that mimicked the tactics of a Soviet reconnaissance battalion. At 2340 the cavalry squadron, still on the western flank, spotted another group of vehicles moving from west to east toward the center of the task force's sector. At the same time, almost forty kilometers to the east, the 1st Battalion, 41st Infantry, engaged a group of vehicles it had spotted along the boundary with the 1st Cavalry Division.[33] It reported destroying one tank and engaging the remainder of the vehicles with artillery fire.[34] As expected, the difficulty of positively identifying friend or foe in the difficult terrain at night prevented a more vigorous action.

Into this fragile situation General Rhame introduced a new factor, the Apache. A platoon led by the 1st Battalion, 1st Aviation's battalion commander, Lt. Col. Ralph Hayles, took off soon after midnight on the seventeenth. The AH–64's night-fighting capabilities appeared ideal for the task at hand. The division tactical command post quickly ordered TF IRON to turn off all ground surveillance radars so they would not attract the aircraft's Hellfire missiles. At 0031 the flight passed over the 1st Battalion, 41st Infantry. The infantry battalion commander, Lt. Col. James L. Hillman, coordinated directly with Hayles to identify the friendly line of troops.

Nine minutes later, at 0040, Colonel Weisman shut off all artillery fire so the Apaches could move forward.

At 0055 an alarm warned Hayles that an unknown radar had momentarily acquired his aircraft. That signal possibly came from one of the American infantry's ground surveillance radars that had not yet been deactivated. Later the division determined that these radars triggered the same warning as a Soviet-built ZSU 23–4 antiaircraft system.[35] Hayles continued on his mission, now also concerned about his flight's receiving enemy fire. Moments later he reported sighting two vehicles about a half-mile north of the troop line. Weisman immediately ordered them destroyed. A moment later, with more emphasis, Weisman again ordered Hayles to destroy the target. The aviation commander drew a bead on the vehicles and at 0059 tried to engage them with his 30-mm. cannon, hoping to test the target vehicle's reaction. In the back of his mind was the concern that they might turn out to be American troops. The weapon jammed. Weisman again, with even more emphasis, ordered Hayles to destroy the targets he had acquired. At 0059, remarking "Boy, I'm going to tell you it's hard to pull this trigger," he personally fired a Hellfire at each of the two vehicles.[36]

Listening to the radio nets of both the infantry battalion and the division, General Rhame realized that Hayles' targets were 1st Infantry Division vehicles. The infantry's scouts immediately reported on the battalion net that two of its radar vehicles had just been destroyed. Troopers from the 1st Cavalry Division also sent the same report over the corps' radio net.[37] Rhame ordered the engagement to cease, sending the Apaches back to base; he later directed a formal investigation into the incident.[38] Previously, Rhame had made a point of telling his commanders: "Keep your hands off the trigger. Your job is to command and control your outfit. You have ample weapons and crews to do the killing. Get them to the right place...at the right time on the battlefield, and let them do their job."[39]

Hayles had violated Rhame's instructions, and within forty-eight hours Rhame relieved him of his command and returned him to the United States. The discussion and recrimination over the killing of two soldiers and wounding of six others would last long after the division returned to Fort Riley, Kansas.[40]

The stress of TF IRON's night across the border did not end with that engagement. For the next two hours, the Iraqis continued enemy-probing operations. Task Force IRON identified an Iraqi mortar position and subjected its crew to direct and indirect fires. Finally, soon after 0300 on the seventeenth, the Iraqi initiative ended.[41] That afternoon Franks ordered Task Force IRON south of the berm, as Central Command had become concerned that this much activity west of the Wadi could upset the overall deception plan.[42]

Now south of the berm, TF IRON observed the Iraqi nightly probes of its sector. For the next few days gunners watched through their thermal sights as wheeled reconnaissance vehicles and small units moved in front of them. Several times Iraqi mortars fired at their positions, wounding one American soldier with shrapnel. To add confusion to the situation, during the night one American vehicle lost its way and was temporarily thought to be Iraqi. Good fire discipline prevented a repetition of the previous night's mishap. Iraqi dismounted patrols also

continued to probe the division's sector. On the following day, 18 February, mortar fire wounded another soldier, while Iraqi vehicles and reconnaissance elements again continued to patrol their sector of the border.[43] On the nineteenth the task force spent another day receiving mortar fire and, after coordinating with the corps tactical operations center, returned fire with the divisional artillery. But Iraqi reconnaissance elements continued to probe the boundary between the 1st Infantry and 1st Cavalry Divisions.[44] Meanwhile, apart from these skirmishes, the VII Corps' air and artillery units were striking at the Iraqi defenses.

Aviation and Field Artillery Raids

In order to "prepare the battlefield," VII Corps began a series of raids by field artillery and aviation units. These operations had several purposes. First, the corps wanted to destroy the Iraqi artillery in the border sector and especially in the breach zone. Second, it wanted to neutralize communications facilities and command posts to disrupt the enemy's decision-making process and deny him the ability to develop targeting information. Breaking communications between the front-line troops and the operational and strategic reserves farther back was key. It would prevent Iraqi artillery from placing fire or dropping mines and chemicals on the units in the breach zone and, perhaps most important, any information from reaching the *Republican Guard* on the direction and size of the attack. Third, just as Franks insisted on a pre–G-day rehearsal for maneuver forces, he knew that the raids would provide the opportunity to shake out the fire support system. These weapons included counterbattery radar, jet aircraft, and helicopters, as well as rockets and cannon artillery. Finally, the massive artillery and air attacks would contribute to the demoralization of the Iraqi Army, signaling the end of the deception phase and the beginning of active ground-combat operations. At the same time the continuing air campaign and other artillery fire elsewhere along the coalition front would reduce the significance of the raids to the enemy.[45]

The concept of the artillery raid is rather recent and became possible only with the introduction of sophisticated fire-direction and targeting systems, as well as more mobile artillery. During the conflict in Vietnam, the 1st Cavalry Division Artillery pioneered the use of helicopters to carry artillery batteries quickly within range of a surprised enemy and to attack targets of opportunity or provide fire support to engaged infantry.[46] In the desert, each artillery raid was organized into two main groups: the firing units that would engage the preselected targets and the counterfire units that would respond to Iraqi units that returned fire. The corps artillery commander, Brig. Gen. Creighton W. Abrams, Jr., hoped to goad the Iraqis into returning fire so he could measure their capabilities. On several occasions, these raids were reinforced with Apaches, whose night attack capabilities enabled them to quickly move into the target areas, engage the enemy, and withdraw without being concerned with friendly ground units.[47]

The raids were staged in distinct phases. First, ground troops secured the firing areas. Then firing batteries moved forward from concealed assembly areas to previously selected firing positions near the border berm so they could engage tar-

gets out to their maximum range. Next the batteries would execute a short fire mission, fewer than thirty minutes; finally they would withdraw out of Iraqi counterbattery range. If the Q–37 or other counterbattery radar identified Iraqi attempts to return fire, the counterfire units would destroy the Iraqis. If attack helicopters were part of the package, then the plan was synchronized so the artillery fire would cease minutes before the aircraft crossed the line of departure. The helicopters would attack while the Iraqis were still recovering from the effects of the artillery. After about five minutes of combat, the Apaches would withdraw and the artillery could continue firing if required.[48]

Approximately twenty-two battalions of Iraqi artillery stood opposite VII Corps in the middle of February. Each battalion was organized into three batteries with six guns each. Almost all were towed pieces. Most common were the D–30 122-mm. howitzer with a range of 15,300 meters and the M46 130-mm. field gun with a range of 27,490 meters. They usually had dedicated air-defense support. Many of these battalions were in the VII Corps eastern sector, opposite the 1st Cavalry Division, near the Wadi al Batin. Not only did the Iraqis have more artillery available, but also their forces out-ranged the VII Corps' guns and rockets. These battalions, however, were poorly deployed with no camouflage or decoy positions. They suffered from poor logistical support and poor operator and organizational maintenance.[49]

In addition to the enemy artillery, there were other important targets whose destruction promised to blind the Iraqis to the ongoing corps movement and degrade their ability to defeat the breaching efforts. These included Iraqi command posts, air-defense systems, and other high-value targets. Satellite imagery located many of these targets, while Pioneer RPVs and manned Air Force reconnaissance aircraft further refined their locations.[50]

The initial field artillery raids were part of the 1st Cavalry Division's deception operation. On 13 February, as most of the VII Corps began its movement to the west, the 1st Cavalry Division Artillery began the raids in earnest. At dusk three MLRS batteries from the 42d Field Artillery Brigade and one from the 1st Cavalry Division moved up to the berm. At 1815 they shot hundreds of rockets that dropped thousands of bomblets on Iraqi artillery batteries. American Q–37 counterbattery radars waited for the Iraqis to return fire, with an MLRS battalion prepared to fire at any sign of an Iraqi reaction. As in most cases, the Iraqis failed to respond. Iraqi artillery had not been effective in a counterbattery role during the war with Iran, and it obviously had not improved.[51]

The biggest preliminary artillery action occurred in the 1st Cavalry Division's sector in the early morning of 16 February. It consisted of barrage by the 42d Field Artillery Brigade (VII Corps Artillery) and an aviation raid by the Apaches of 2d Squadron, 6th Cavalry, commanded by Lt. Col. Terrence Branham of the 11th Aviation Brigade. Around midnight five artillery battalions opened a two-kilometer-square corridor by saturating the Iraqi air defenses and field artillery positions with indirect fire. At 0059 the artillery shifted its fire to targets in the Iraqi rear and flanks.[52] At 0101 the attack-helicopter battalion crossed the line of departure. Five kilometers into Iraq, they fanned out into a line about fifteen kilometers wide, while



Multiple Launch Rocket System

artillery continued to pound secondary targets.[53] In the flat terrain, Branham's Apache crews were able to identify individual targets, including buildings, dug-in armor, and mortar positions, about ten kilometers from the objective. They held their fire until they reached a prearranged firing line two kilometers farther north. Then the squadron opened fire, moving forward at just under thirty knots and shooting continuously for nearly five minutes. Each troop worked its sector of the target area. After five minutes of combat, the Apaches broke for the border before the Iraqis could respond. They reported their egress complete at 0137.[54]

Generals Franks and Abrams observed the feint from the 1st Cavalry Division Artillery command post. Linked to the corps deep-battle cell and the 11th Aviation Brigade command and control aircraft by tactical-satellite telephone, the generals used the entire operation as a carefully rehearsed drill for later deep attacks. Just before the raid began, an orbiting electronic warfare aircraft hit on an active Iraqi antiaircraft radar directly in the planned path of the Apaches. A quick adjustment to the fire plan sent twelve MLRS rockets on their way to eliminate the target.[55] The "synchronized" or combined combat was the culmination of hundreds of hours of training, planning, and practice. While the modern combat systems employed (Apache, Q–37 radar, MLRS, and TACFIRE) gave the American crews a qualitative edge, it was their proficiency and teamwork that made them effective.

That afternoon the 1st Infantry Division Artillery, reinforced by the 75th and 42d Field Artillery Brigades, also conducted an artillery raid. These raids continued daily until the beginning of the ground offensive on 24 February. Each day



B–52 Stratofortress

artillery from the 1st Infantry Division, 1st Cavalry Division, U.K. 1st Armored Division, and supporting VII Corps Artillery executed these raids against the Iraqi front-line divisions. Enemy command posts and artillery units were pummeled by thousands of bomblets, conventional munitions, and on several occasions Apache Hellfire and other munitions. Occasional counterfire attempts were ruthlessly suppressed. There was no break for the Iraqi defenders until the 1st Infantry Division lifted its preparatory fires on the twenty-fourth and began breach operations.[56] Then it was too late to respond.

As G-day, the day designated for the ground offensive, approached, these artillery and Army aviation raids were often supplemented with air attacks. For example, on 23 February, while the Iraqi *26th Infantry Division* was attacked by Big Red One artillery and attack helicopters, the *48th Infantry Division* received the attention of three B–52 bomber missions, with three to four aircraft each, between 0200 and 0400. The massive air strikes could be seen by friendly and enemy soldiers over twenty miles away. In addition, several C–130 cargo aircraft dropped "Blu–82" 15,000-pound bombs on Iraqi trench lines. Later surveys indicated that these B–52 and C–130 strikes, while the least accurate of all the bombing used in the theater, had a demoralizing effect on the Iraqi forward ground troops. The blast waves, sound effects, and desert fireballs were terrifying, making the strikes one of the most important factors in pre–ground war desertions.[57]

The Iraqi *VII Corps*' tactical reserve was the *52d Armored Division*. Brig. Gen. Sakban Turki Mutlik, its commander, had unknowingly deployed his *52d Armored Brigade* in position to interfere with the VII Corps' breach. That unit, therefore, became the focus of the corps' prewar deep attack and was referred to affection-

ately by the VII Corps staff as the "Go Away Brigade."[58] Brig. Gen. Bassil Omar Al-Shalham, the *52d Brigade's* commander, soon knew that his unit had been singled out for special treatment, being attacked more than any other. By the time the British broke out of the breach, his brigade would be combat ineffective, with only 15 operable tanks out of 120. After the war Al-Shalham commented, "Sometimes I would look up at the A–10 [ground attack aircraft] as he made his run and ask aloud, 'Why don't you visit the 48th Division or the 80th Brigade?'"[59]

In addition to Army and Air Force air attacks, VII Corps fired over 14,000 rounds of artillery and over 4,900 MLRS rockets at the Iraqi *VII Corps* during their raids. Seventeen cannon batteries, three MLRS battalions, and six separate MLRS batteries participated in this devastating series of operations.[60] These attacks during the week of 17–23 February destroyed much of the Iraqi *VII Corps'* artillery, leaving almost nothing left to contend with the U.S. VII Corps ground attack. They also caused many of the front-line forces to desert their posts, leaving most of the forward brigades with less half of their soldiers on G-day.[61] The air campaign, most of which was focused elsewhere, did not break the will of the Iraqi defenders along the border. But two weeks of concentrated, deliberate Army combat operations made a major contribution.

Notes

[1]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 65.

[2]Baron de Jomini, *The Art of War*, trans. G. H. Mendell and W. P. Craighill (Westport, Conn.: Greenwood Press, n.d.), pp. 129–33.

[3]DOD, *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, D.C.: Government Printing Office, 1992), pp. 241–42; VII Corps Main CP (Plans), OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, pp. 31–32.

[4]VII Corps, FRAGO 85–91, Displacement of CS and CSS Backbone in Support of Phase I (Opns), 23 Jan 91.

[5]The squadron had prepared for this augmentation, receiving tank crews and intensive crew training prior to its departure from Fort Riley.

[6]Robert Wilson, "Tanks in the Divisional Cavalry Squadron," *Armor* 101 (May 1991):6–7.

[7]VII Corps, Sitrep 4, 21 Jan 91.

[8]VII Corps TAC, Staff Jnl, 14 Jan 91; Wilson, "Tanks," pp. 7–8.

[9]Interv, Thomas A. Popa with Robert Wilson, 28 Jul 91, CMH; Michael Robels, Sum of 1st Inf Div Comdr's Rpts, 30 Mar 91, entry for 2 Feb 91, author's files; VII Corps, Sitrep 4, 21 Jan 91.

[10]VII Corps Main CP, Comdr's Sitrep 17, 3 Feb 91; Interv, Thomas A. Popa with Michael Bracket, 23 Jul 91, Fort Riley, Kans.; VII Corps, FRAGO 107–1991, 2 Feb 91; VII Corps, FRAGO 110–91, TF CARTER Conducts Force Protection Mission, 4 Feb 91; David F. Gross, "History of 3d Battalion, 37th Armor, on Operation DESERT STORM," Unpubl Ms, Apr 98, pp. 30–32, author's files.

[11]Gross, "History of 3d Battalion," pp. 33–34.

[12]Interv, Popa with Bracket, 23 Jul 91; author's notes; Gross, "History of 3d Battalion."

[13]VII Corps, Sitrep 28, 14 Feb 91.

[14]Ltr, Thomas G. Rhame to Comdr, VII Corps, sub: Serious Incident Report, 14 Feb 91; VII Corps TAC, Staff Jnl, 15 Feb 91, entry 7; Gross, "History of 3d Battalion," pp. 51–52.

[15]The brigade's official name was 2d Armored Division (Forward).

[16]DA, FM 100–5, p. 65; VII Corps Main CP (Plans), OPLAN 1990–2, p. 15.

[17]Steve Vogel, "Hell Night," *Army Times*, 23 Sep 91, p. 14; VII Corps Main CP (Plans), OPLAN 1990–2, p. 15.

[18]Robels, Sum of 1st Inf Div Comdr's Rpts; Vogel, "Hell Night," p. 14; VII Corps, Sitrep 28, 14 Feb 91.

[19]Robels, Sum of 1st Inf Div Comdr's Rpts; VII Corps Main CP, Comdr's Sitrep 27, 13 Feb 91.

[20]Jim Tice, "'Coming Through': The Big Red One Raid," *Army Times*, 26 Aug 91, p. 18.

[21]Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 153; John C. Wirick, "The 1st Cavalry Division in the Battle of Ruqi Pocket," p. 5, in Swain Collection, Fort Leavenworth, Kans.; author's notes.

[22]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC.

[23]Robels, Sum of 1st Inf Div Comdr's Rpts; VII Corps Main CP, Comdr's Sitrep 31, 17 Feb 91.

[24]Interv, Thomas A. Popa with Stephen Hawkins, 26 Jul 91, CMH; VII Corps Main CP (Plans), OPLAN 1990–2, Opn DESERT SABER, an. D (Fire Spt), 13 Jan 91; Tice, "'Coming Through,'" p. 18; Vogel, "Hell Night," p. 14.

[25]A defile drill is a tactical procedure that allows a unit to negotiate a narrow passage such as a bridge, a pass through rough terrain, or other regions that favor an ambush or attack by the enemy. While most of the unit has its weapons trained on the far side of the defile, scouts cross to the other side and look for the enemy. Once they report it clear, the following units bound forward one at a time. When done correctly, the defile drill takes away the enemy's chance to surprise the crossing unit when it is most vulnerable.

[26]Vogel, "Hell Night," p. 15; Robels, Sum of 1st Inf Div Comdr's Rpts; VII Corps TAC, Staff Jnl, 15 Feb 91, entry 28; Telecon, author with Wesley B. Anderson, 1st Inf Div Eng, 2 Aug 94.

[27]VII Corps TAC, Staff Jnl, 15–16 Feb 91; 1st Cav Div, Chronology of 1st Bde, 1st Cav Div, p. B11; author's notes.

[28]Vogel, "Hell Night," p. 15.

[29] Interv, John Burdan with Michael Bills, 26 Aug 95. The intent or direction of the Iraqi reconnaissance effort in the VII Corps sector is still unknown. The weakened front-line divisions did not have the capability to conduct any substantial mounted patrol. The most likely explanation is that the Iraqi *VII Corps* commander, using his own reconnaissance assets, directed it. While VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], says little about the Iraqi tactical reconnaissance effort, it is obvious that there was one. The thermal sight capability of the M1s and M2s allowed the American soldiers on the border the opportunity to positively identify people and vehicles on the other side. The volume of reports in the duty logs indicates there were numerous patrols between the border and the front-line positions. Tab K of "100-Hour Ground War" and the 7th Engineer Brigade study also identify wrecked BRDMs and other recon-type vehicles near the border.

[30] Finding the boundary lines between divisions is an important mission of most reconnaissance operations. Unit boundary lines restrict movement and indirect fires of defenders. As such, they are potential weak zones in the defense and an opportunity for attacking forces to exploit.

[31] Author's notes, 16 Feb 91, entry for 2230. During this phase the author was the 1st Infantry Division G–3 (Operations) duty officer responsible for monitoring the engagement in the tactical operations center.

[32] VII Corps TAC, Staff Jnl, 16 Feb 91; author's notes, 16 Feb 91, entry for 2231.

[33] Control of combat operations is difficult under the best of circumstances. Richard Swain, who also studied this engagement, believes that in the confusion 1st Battalion, 41st Infantry, and 1st Cavalry Division units fired at each other rather than at Iraqi troops. While that may be possible, the intensity of the spot reports during the engagement and interviews with participants lead the author to conclude that Iraqi units were indeed probing the task force's sector. See Intervs, John Burdan with William L. Wimbish III, 28 Sep 93, with Bills, 26 Aug 95.

[34] 177th Armd Bde S–2, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), pp. 112–13; VII Corps TAC, Staff Jnl, 17 Feb 91; author's notes.

[35] Interv, Popa with Wilson, 28 Jul 91.

[36] VII Corps TAC, Staff Jnl, 16 Feb 91; author's notes; Vogel, "Hell Night," p. 15; Robert Johnson and Caleb Solomon, "Chilling Tapes Show How Soldiers Died in 'Friendly Fire,'" *Wall Street Journal*, 7 Nov 91, p. A1.

[37] Vogel, "Hell Night," p. 15; 1st Cav Div, Chronology of 1st Bde.

[38] Author's notes; VII Corps TAC, Staff Jnl, 17 Feb 91, entry 7.

[39] Gross, "History of 3d Battalion," pp. 54–55.

[40] HQ, 1st Inf Div, Chron Sum of Events, 26 Mar 91; Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), pp. 317–20, 541; Robert Johnson and Caleb Solomon, "Gulf War Casualty: 'Friendly Fire' Downs Career of a Gung-Ho Colonel," *Wall Street Journal*, 10 Sep 91, p. A1.

[41] VII Corps TAC, Staff Jnl, 17 Feb 91; author's notes.

[42] Vogel, "Hell Night," p. 15; Atkinson, *Crusade*, p. 320.

[43] VII Corps TAC, Staff Jnl, 17–18 Feb 91; author's notes.

[44] VII Corps TAC, Staff Jnls, 19 Feb 91, entries 8, 34, 36, and 21 Feb 91, entry 6.

[45] VII Corps, OPLAN 1990–2, 13 Jan 91, an. D; Intervs, Charles W. Robinson with Frederick M. Franks, Jr., 10 Nov 93, School of Advanced Military Studies, Fort Leavenworth, Kans., Thomas A. Popa with Michael Dodson, 24 Jul 91, Fort Riley, Kans.

[46] Boyd L. Dastrup, *King of Battle: A Branch History of the U.S. Army's Field Artillery* (Fort Monroe, Va.: U.S. Army Training and Doctrine Command, 1992), pp. 282–83.

[47] VII Corps, OPLAN 1990–2, 13 Jan 91, an. D; Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91: The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 2–25.

[48] VII Corps G–2, "100-Hour Ground War," pp. 37, 46; Ministry of Defense, *Operation DESERT Sabre*, pp. 2–25.

[49] 177th Armd Bde S–2, *Iraqi Army*, pp. 12–13; VII Corps G–2, "100-Hour Ground War," pp. 38–47, tab L; Scales, *Certain Victory*, p. 200; BCTP, *Iraq: How They Fight*, 3d ed. (Fort Leavenworth, Kans.: Battle Command Training Program, 1990), pp. 45–48.

[50] 1st Cav Div, Chron of the 1st Bde, p. A2; VII Corps, Sitrep 27, 13 Feb 91; VII Corps TAC, Sitrep 28, 14 Feb 91; Scales, *Certain Victory*, pp. 203–04.

[51] Scales, *Certain Victory*, p. 203.

[52] VII Corps TAC, Staff Jnl, 16 Feb 91, entry 4; VII Corps G–3, FRAGO 94–91, Conditional Plan (CONPLAN) RED STORM, 26 Jan 91.

[53] 1st Cav Div, Chron of the 1st Bde, pp. A2, B10–B11; Scales, *Certain Victory*, pp. 203–04.

[54] VII Corps TAC, Staff Jnl, 16 Feb 91, entry 7; Wirick, "Battle of Ruqi Pocket," pp. 6–7; Chandler C. Sherrel, "CONPLAN BUGLE: 2–6th Cavalry's Feint at the Wadi Al Batin," *U.S. Army Aviation Digest* (November/ December 1992):28–31.

[55] Scales, *Certain Victory*, p. 204.

[56] VII Corps, OPLAN 1990–2, 13 Jan 91, an. D; VII Corps TAC, Staff Jnl, 16–23 Feb 91; VII Corps G–2, "100-Hour Ground War," p. 66.

[57] Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, D.C.: Government Printing Office, 1993), p. 22; VII Corps, Sitrep 36, 21 Feb 91; VII Corps, Sitrep 37, 22 Feb 91; VII Corps G–2, "100-Hour Ground War," p. 62.

[58] During the planning phase, Franks had repeatedly pointed to the brigade's marker on the map, exclaiming "this unit must go away."

[59] Interv, Mace Carpenter with Frederick M. Franks, Jr., 23 Mar 94, School of Advanced Airpower Studies, Maxwell Air Force Base, Ala.; VII Corps G–2, "100-Hour Ground War," p. 97.

[60] Peter S. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for DESERT STORM," *Military Review* 72, no. 1 (January 1992):20.

[61] VII Corps G–2, "100-Hour Ground War," pp. 59–60.

9

To the Line of Departure

Although some commentators have criticized the U.S. Army for basing its military operations on ideas of attrition and firepower, maneuver also has played a prominent role. Operational maneuver, normally conducted by a large force, strives to change the nature of the battle by positioning the tactical forces, those that do the fighting, where they can have the greatest effect on the enemy.[1] Winfield Scott's flanking maneuver against Santa Ana at Cerro Gordo in 1847 is one of the best early examples. During the Civil War some generals employed large-unit flanking maneuvers to great success. Maj. Gen. William S. Rosecrans in Middle Tennessee (1863) and Maj. Gen. William T. Sherman in Georgia (1864) are two obvious examples of commanders who maneuvered for advantage as often as they fought. Before the Second World War, the Army's Command and General Staff College taught the importance of large-unit maneuver.[2] One instructor at Leavenworth in the 1930s, Lt. Col. Charles A. Willoughby, wrote an entire text on the subject.[3] Later, as General Douglas MacArthur's intelligence officer, Willoughby helped to plan operational maneuvers in the Southwest Pacific in World War II and the envelopment at Inch'on during the Korean War.

Despite the identification of operational maneuver with Napoleon and later with the German Army, many historical examples attest to its effectiveness and its role in the American way of war.[4] For example, in May 1863 Robert E. Lee discovered that the Union's Maj. Gen. Joe Hooker had maneuvered almost seventy-five thousand soldiers across the Rappahannock River and was about to attack him on his left flank. Threatened by this potentially decisive maneuver, Lee left a small covering force on the heights above Fredericksburg and conducted a movement toward the advancing Union forces. The two armies met near the small crossroads town of Chancellorsville, Virginia. After a sharp engagement with the Confederates, Hooker stopped his promising advance and began to prepare defensive positions. Taking advantage of the confused situation, Lee first sent out his cavalry to gather information on the Union dispositions. Then, once he found Hooker's exposed flank, he ordered Lt. Gen. Thomas "Stonewall" Jackson to maneuver his corps, which had about the same personnel complement as a 1990 Army division, to a position on the extreme western flank of the Union line. The movement of Jackson's force to a decisive position on the battlefield allowed Lee to defeat a force three times as large as his own. Jackson's vicious attack on Hooker's flank psychologically, if not physically, destroyed the Union Army's ability to continue its offensive.[5]

A more recent example is Lt. Gen. George S. Patton's attack to relieve Bastogne and sever the German penetration during the Battle of the Bulge in December 1944. As the German offensive was about to reach its culmination, Patton, commanding the U.S. Third Army, repositioned his command for an attack into the flank of the German *Seventh Army* that protected the southern portion of the "bulge." Transferring part of his sector to Lt. Gen. Jacob L. Devers' Sixth Army Group in the south, and leaving one corps in contact facing east, Patton conducted an operational movement of his other two corps to the north. Within six days of notification, they were at the line of departure and in position to slam into the weakly defended flank of the German offensive. Patton's rapid repositioning of approximately four infantry and three armored divisions, with over 826 tanks, caught the German forces by surprise. The U.S. III and VIII Corps relieved the besieged 101st Airborne Division at Bastogne, cutting off the Germans' offensive in the south and ensuring their ultimate defeat in the west.[6]

The 1954 edition of *Operations*, which bears the imprimatur of one of America's foremost soldiers, General Matthew B. Ridgway, describes the essence of operational maneuver: "By maneuver, the attacker seeks to create opportunities to increase the effect of his fire; to avoid terrain organized by the enemy for defense; and thereby to compel the enemy to defend in the open on terrain chosen by the attacker. Finally, the attacker maneuvers to close with and destroy the enemy."[7]

While American officers neglected the art of maneuver in the 1950s and 1960s, mobile warfare regained importance during the Army's doctrinal reappraisal after Vietnam. The 1976 edition of Field Manual 100–5, *Operations*, describes the importance of concentrating overwhelming combat power against the enemy: "The mobility of armored, mechanized, airborne and air mobile forces, and the flexibility of field artillery, Army aviation and tactical air power, permits the commander to redispose rapidly, mass at the last possible moment, and so achieve surprise."[8]

The idea of maneuvering for advantageous tactical position gained importance during the doctrinal debates of the late 1970s and early 1980s. By 1990 most combat arms officers believed it was essential to maneuver against an enemy before attacking. Graduates of the School of Advanced Military Studies (SAMS) examined both the theory and history of maneuver in war.[9] They learned how to plan, organize, and direct the massive movement of an army or corps prior to battle. The concepts studied at Leavenworth found their way into all levels of the Army's tactical and operational doctrine. The edition of *Operations* current at the time of DESERT STORM defined operational maneuver as:

> The movement of forces in relation to the enemy to secure or retain positional advantage. It is the dynamic element of combat—the means of concentrating forces at the critical point to achieve the surprise, psychological shock, physical momentum, and moral dominance which enable smaller forces to defeat larger ones.[10]

There are several characteristics of a well-executed operational maneuver. First, it must be done without the enemy's awareness. Second, it should place overwhelming offensive strength opposite a defender's exploitable weakness, forcing him either to fight at a great disadvantage or to withdraw from the positions

of his choice. Especially at the operational level, maneuver is "the means by which the commander sets the terms of battle, declines battle, or acts to take advantage of tactical actions."[11] Finally, maneuver results in the saving of friendly lives. Its difficulty, complexity, and skill in execution are invisible to most observers.

Unfortunately, well-executed maneuvers that cause the enemy to withdraw without a fight or bloodshed are often unnoticed. More well known, for example, are Ulysses S. Grant's capture of Vicksburg after much heavy fighting in 1863 and George Meade's defeat of Robert E. Lee in the bloody Battle of Gettysburg that same year. Less noted, but no less noteworthy was General Rosecrans' brilliant maneuver that same summer in eastern Tennessee. In the short Tullahoma Campaign, Rosecrans maneuvered Braxton Bragg's Confederates out of eastern Tennessee, opening the door to Chattanooga. During this campaign, the Union Army suffered few casualties. In a letter Rosecrans wrote to the chief of staff, Maj. Gen. Henry Halleck, he voiced his concern that his victory would not be recognized for what it was. "He hoped," wrote Rosecrans, "that the War Department may not overlook so great an event because it is not written in letters of blood."[12] Unfortunately for American history, Rosecrans' prediction was accurate. Few Americans today know of his brilliance at Tullahoma, while most know of the bloodbaths around Cemetery Ridge and Little Round Top.

Returning to DESERT STORM, the corps staff was preparing to execute its part of the Third Army's plan to shift most of its fighting power from the tactical assembly areas east of the Wadi al Batin into a sector away from the Iraqis' strong defenses, approximately 150 miles away. The biggest problem of this move, in addition to the sheer logistics of moving over 270,000 soldiers and thousands of tracked and wheeled vehicles in three days, was to keep the two corps from interfering with each other's movement. Since the XVIII Airborne Corps was using primarily Tapline Road and moving farther west than VII Corps, the Jayhawks would have to cross the road without interrupting.[13] Few alive had ever seen such an operation. While the corps and division staffs were veterans of Leavenworth's Battle Command Training Program, this generation of officers had little actual experience with cross-country maneuver of large units. Even graduates of the corps' School of Advanced Military Studies could only imagine what such a movement would entail.

Most battalion and brigade commanders were proficient at the movement of their headquarters in a desert environment, thanks to the extensive National Training Center (NTC) program in the Mojave Desert of California. Few headquarters above brigade level, however, had conducted large-scale, cross-country maneuver since the Korean War. The corps and division command posts and the large support commands had practiced such activities only on paper. Few division command posts had practiced cross-country maneuver, communicating with senior and subordinate headquarters while moving. Senior commanders had seldom experienced the problem of commanding their large organizations during rapid cross-country maneuver. The large-scale annual REFORGER (Return of Forces to Germany) exercises had been primarily road-bound and limited by the local civilian environment. Franks, therefore, saw the westward shift as an opportunity

to correct this significant training deficiency. His intent was to use the move as a training event as well as a precombat maneuver.[14]

The Planning Process

The idea of using the westward move as a rehearsal came to the corps commander in late December 1990. As Franks studied his operational maps, he realized that he had arrayed his forces so they could move from their assembly areas in exactly the same formation that they were going to use in the main attack. The 1st Infantry and U.K. 1st Armoured Divisions could move west, north of the Tapline Road, to their attack sector west of the 1st Cavalry Division. The 2d Cavalry would lead the 1st and 3d Armored Divisions toward the attack sectors, south of the Tapline Road. The crossing of this road could be a rehearsal for the corps' crossing of the border berm during the attack. With three days to conduct the move, Franks had enough time to practice his movement as well as to move into his attack position.[15]

The practice of units rehearsing prior to a combat operation had now become a standard Army technique. Years of NTC experience reinforced its value in the eyes of commanders. It was only natural to extend this practice from small- to large-unit operations. The corps could conduct an unprecedented full-scale practice of the movement to contact, with actual forces on ground almost identical to where they would soon fight. The commanders and staffs could actually test their command and control equipment and procedures. If they discovered problems, they had some time to make corrections prior to battle. Franks intended to make the most of the opportunity.[16]

By 15 February most of the corps' combat power had arrived at TAA JUNO, east of the Wadi al Batin. As mentioned earlier, the 1st Cavalry Division was located just west of the Wadi with two brigades on line and the 1st Squadron, 7th Cavalry, screening the division's front. They were positioned for the part they would play in the corps movement and were well along in executing their deception.[17] They would not move from their sector until after the beginning of the ground campaign. The 1st Infantry Division's Task Force IRON had relieved Combat Command Carter and was in position opposite the breach site.

The U.K. 1st Armoured Division was consolidated in TAA KEYES, to the southeast of the Wadi and behind the Joint Forces Command–North forces, especially the Egyptian 3d Division (Mechanized). The British were fully integrated into the VII Corps' organization and had liaison teams at the headquarters of both the corps and the 1st Infantry Division, with whom they were conducting training and preparing an upcoming exercise. Each of these liaison teams included extensive transportation and communications equipment.[18]

The 2d Cavalry was southwest of Hafar al Batin in FAA RICHARDSON, where the regiment had trained and rehearsed for the upcoming mission. Originally, Franks had wanted to move the regiment from east of the Wadi al Batin by heavy equipment transporters to a release point on Tapline Road, near the attack sector. However, there were not enough HETs, since they were being used in the move-



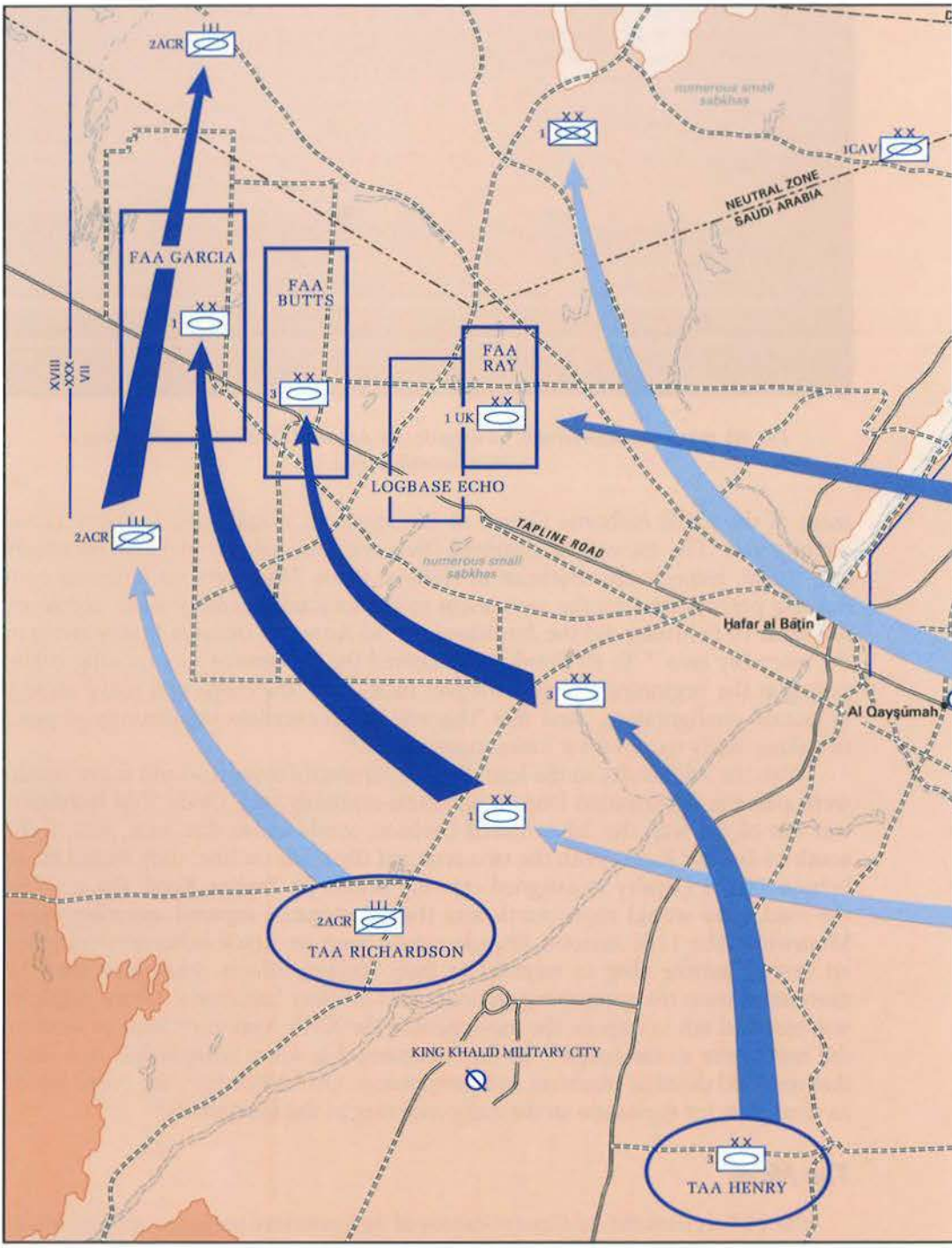
The 4th Battalion, 66th Armor, 3d Brigade, 1st Armored Division, moves toward a tactical assembly area.

ment of the XVIII Airborne Corps, so the regiment would have to move cross-country also. The 1st and 3d Armored Divisions were located in TAAs THOMPSON and HENRY, respectively, southeast of Hafar al Batin. They were training and conducting preparations for the movement to the forward assembly areas. However, not until 10 February did the 1st Brigade of 3d Armored Division finally arrive in the assembly area.[19] To all Franks emphasized the movement as a training event, noting at the beginning of the maneuver order that "the corps will move rapidly in tactical configuration," and that "this will be an excellent opportunity to practice those skills required for future operations."[20]

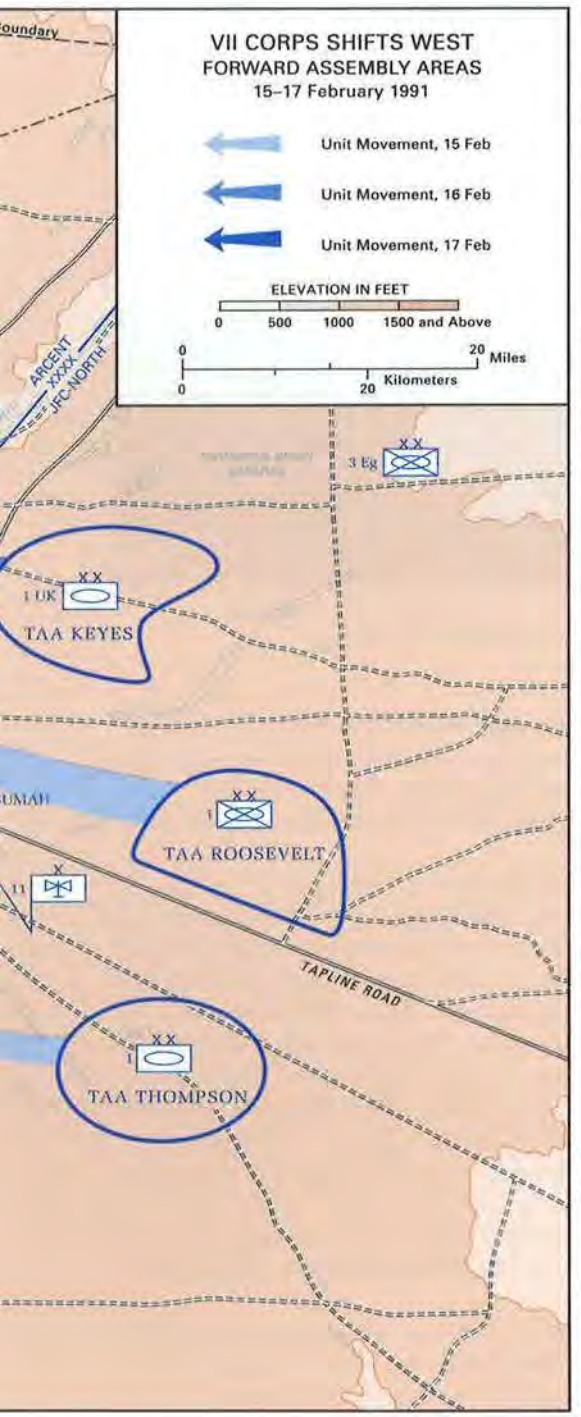
With the 2d Cavalry in the lead, the 1st Armored Division would move southwest, past the 3d Armored Division's tactical assembly area. Once "Old Ironsides" was out of the way, the 3d Armored Division would move due west, just to the south of Tapline Road. With the two armored divisions on line, they would move behind the 2d Cavalry to assigned crossing points on Tapline Road. Once across the road, they would move north into their designated forward assembly areas. Meanwhile, the 11th Aviation Brigade would keep an attack helicopter company on twenty-minute alert to respond to Iraqi spoiling efforts. Integrated into the movement were the supporting engineer and artillery battalions. All the while, it was essential not to impede the movement of the XVIII Airborne Corps or disclose the movement to the Iraqis.[21] By any measure, this was a complicated operation that required detailed planning and promptness. On 12 February the corps issued its final plan for execution in the early morning of the fourteenth.[22]

The Move

On 14 February the 2d Cavalry deployed its quartering parties to the attack sector and began detailed aerial reconnaissance of the border trace.[23] Two days later the


2ACR
1
1CAV
NEUTRAL ZONE
SAUDI ARABIA
FAA GARCIA
FAA BUTTS
FAA RAY
1 UK
XVIII
XXX
VII
LOGBASE ECHO
2ACR
TAPLINE ROAD
numerous small sabkhas
Hafar al Bāṭin
Al Qaysūmah
3
1
2ACR
TAA RICHARDSON
KING KHALID MILITARY CITY
3
TAA HENRY

MAP 12



rest of the regiment left FAA RICHARDSON and began moving cross-country to the west. As the corps commander directed, Col. Leonard D. Holder, the 2d Cavalry commander, used this movement as a maneuver rehearsal, and for over 125 kilometers the regiment practiced communications and reporting, maintaining formations and orientation in a barren desert, and sustaining a consistent speed so the following divisions would not be left behind. At the Tapline Road, the regiment simulated crossing the border berm, essentially a defile drill, which if not done correctly could lead to disaster. At 1340 the regiment reported "set" in its forward sector.[24]

On 15 February, once the 1st Infantry Division cleared the Wadi al Batin, the U.K. 1st Armoured Division followed it to FAA RAY. Following the corps commander's guidance and General Smith's desire to prepare his soldiers, the British division conducted what amounted to a rehearsal of the actual attack it would perform during the campaign. The "Desert Rats" moved westward, using the same series of brigade-level maneuvers over essentially the same distance that it would use later when it broke out of the breach and went east. By 1600 on the sixteenth, all of the U.K. 1st Armoured Division had "fought" its way into FAA RAY.[25]

Meanwhile, the U.S. 1st Armored Division had deployed its quartering parties forward on 14 February. The next day the division moved in a "desert wedge," one brigade up and two brigades back, along the southern portion of the movement axis toward FAA GARCIA. This formation was over twenty-five kilometers wide and almost eighty kilometers deep and moved as one solid, controlled mass. While the division was under way,



The 1st Armored Division advances toward the Iraqi forces.

Maj. Gen. Ronald H. Griffith commanded this huge force from his helicopter, giving instructions to the brigade commanders on the ground or the tactical command post or Jump TAC when they were set in position. After remaining on the south side of Tapline Road on 16 February, the division crossed the road the next day and moved into FAA GARCIA.[26]

At 0600 on 16 February, the 3d Armored Division left TAA HENRY en route to its forward assembly area. As planned during the first days of the campaign, the division began moving in a column of brigades with the 2d Brigade in the lead. The division's initial move required that it cross paths with the trail elements of the 1st Armored Division and assume its position on the right flank of the corps axis. By 1350 the 2d Brigade was crossing Tapline Road, the 1st Brigade was in the middle of the axis, and the 3d Brigade was preparing to cross the Hafar al Batin–KKMC road. The total length of the division column was almost one hundred kilometers. That night the 1st and 2d Brigades arrived in FAA BUTTS, while the 3d Brigade waited on the south side of Tapline Road and crossed on the morning of 17 February. Throughout, the division commander, Maj. Gen. Paul E. Funk, remained in his command vehicle on the ground. Using his mobile subscriber equipment to communicate with his subordinate commanders, he had little problem commanding his division.[27]

General Franks also used the movement to rehearse his own command and control procedures. He initially tried to command the move from an M113 armored personnel carrier and moved along with the tactical command post of the 1st Armored Division. While it was possible to command a brigade or even a divi-

sion from a tank or APC, it was quickly obvious that a modern corps commander could not control such a large element on the ground. The weather was wet, and a sandstorm made it difficult to communicate with short-range "whip" antennas. Even using the bulky, more powerful 524 antenna, it was difficult to talk. Franks' worst nightmare was having the lead 2d Cavalry engaged, with him not able to conduct efficient two-way communications and give his four divisions any orders. The frustrated commander found himself "approaching a pork chop [hand mike] throwing situation."[28]

After some reflection, Franks decided that commanding the corps from a moving tracked vehicle was impractical. Instead, he would run the corps out of the Jump TAC or the tactical command post. From these locations, which he would use depending on the tactical situation, he could communicate with the division commanders and his chief of staff at the corps main command post. For face-to-face communication with his commanders and to assist him in gaining an actual picture of battlefield, he would need helicopter transport.

During the movement rehearsal Franks established the method of command he would use for the rest of the war. His Black Hawk helicopter moved him around the corps area to discuss, face-to-face with commanders, their units' situations. He communicated with the rest of the corps and its command posts using his TACSAT radio. During the course of the battle he planned to avoid visiting the corps main or rear command posts. When he needed information from the main command post, he intended to call back and direct certain staff officers to fly forward and bring along the intelligence and deep operations situations. Then, they would plan and direct the campaign from the corps tactical command post. When flying, he took his aide, Maj. Toby Martinez, and a communications NCO. When the helicopter was on the ground, the NCO would set up a portable antenna, hook up his TACSAT phone, and communicate with anyone in the corps or theater.[29]

Franks hoped these procedures would ensure that he was aware of the conditions on the battlefield and the true status of his command. He did not rely only on staff officers and reports when making decisions, but spoke directly with the commander on the scene. Honest and frank appraisals from his commanders allowed him to understand the battlefield dynamics and friction that his commanders faced. Of course, commanding forward meant that he would be away from his comprehensive communications network.

The keys to the success of this command network were Col. Stanley F. Cherrie, the VII Corps operations officer, and Brig. Gen. John R. Landry, the chief of staff. Cherrie, directing the tactical command post, would translate Franks' guidance and directives into operations orders for the combat divisions. Landry, at the main command post, would coordinate operations with Third Army and the XVIII Airborne Corps.[30] A weakness in this system was that with Franks forward neither of these two officers could monitor and act upon the regular personal conversations that the corps commander could be expected to have with General Yeosock at Third Army. A rapidly moving situation would simply not allow it within the given Army tactical command structure.

The Shape of the Battlefield

With the movement to the west complete, thousands of tanks, armored fighting vehicles, and self-propelled artillery were in position to strike the strategic and operational weaknesses of the Iraqi military. To the far west, the XVIII Airborne Corps was prepared to turn the flank of the Iraqi defenses, having a clear route to the gates of Baghdad if it chose to head in that direction. The VII Corps was prepared to envelop the Iraqi forward defenses and confront the Iraqi operational center of gravity, the *Republican Guard*, with almost all its fighting power on line. This was one of the largest operational maneuvers in the U.S. Army's history.

After the divisions arrived in the attack sectors, Franks called for a formal after-action review (AAR) with his senior officers. The AAR had been instituted at the combat training centers in the late 1980s. The staff and commanders used the AAR as a forum to reenact an event, discuss its problems and successes, and learn from each other. In this meeting, the commanders discussed what they had learned and what changes they were making in their command and control procedures.[31] Division commanders were thankful that they had been able to practice moving their entire commands, with all their attached engineers, artillery, and other support. They now understood firsthand how much fuel they would consume and how long it took to refuel. They also gained a great appreciation for how much terrain they would occupy in the desert. General Smith remarked that he "had no idea how his division would fit in his [assigned] space" until the rehearsal.[32]

If they had time to reflect on the last few weeks—and with so much activity few did—they could feel well pleased with their contributions to the corps' effort. As though executing a REFORGER or BCTP scenario, they had deployed to the theater of war, linked up the soldiers with their equipment, and moved to the assembly areas. They collected intelligence, planned, and rehearsed. They conducted tactical and operational movements. They executed deception operations to confuse the enemy.

The achievements of the commanders and their staffs are more significant in light of some of the other events of the previous few weeks. They had quickly incorporated the latest technology into their arsenal—such adaptation is not always the case. In 1870, for example, French commanders did not know how to employ their new *Mitrailleuse*, an early example of the machine gun, against the Prussians. Like the "tank" in World War I, it and many similar innovations had been kept so secret that little thought had been given to how to employ such new devices most advantageously.[33] In 1990, in contrast, American and British commanders were quick to adopt and adapt a whole new range of equipment in their operations. The ATACMS, RPVs, TACSATs, ACEs and, most important, the MLRS were integrated into the spectrum of operations. Equipment still in development, such as the Joint Surveillance and Target Attack Radar System, was rushed forward and used by the theater commander to support the air and ground troops. Civilian equipment, such as the handheld GPS, was pressed into service to prevent units from getting lost in the trackless desert. Altogether, it was an excellent example of adaptability and flexibility.

Now, just like a training exercise, the plan progressed. Commanders and staff officers checked their event matrix and executed their plans. The events went off like clockwork, and the Iraqis did nothing to stop the clock. The VII Corps G–2, Col. John C. Davidson, believed this was an intelligence failure.[34] However, the Iraqi national leadership knew of the massive shipments of vehicles and personnel into the theater. Their army knew there was activity near the Wadi al Batin. At some point, any military organization would need to find out just what the enemy was planning. Moreover, the Iraqi capability to interfere with the VII Corps movement was still significant, yet their political leadership *chose* not to interfere. There were no commando raids down the Wadi al Batin. Iraq essentially conceded the counterreconnaissance battle and surrendered the berm crossings with almost no fight. There were no ambushes on the Tapline Road, and there were no artillery strikes from FROG or ASTROS missiles. While militarily the VII Corps movement would have gone on and the coalition would probably have prevailed, politically the situation could have changed. The buildup might have taken longer. The news media would have had the chance to report longer casualty lists back to the United States and England. The American political leadership might have attempted to change the commander's plan at the beginning, as it would at the latter stages of the campaign. It was the last time the Iraqi military had the capability to defeat the VII Corps' operational plan and an opportunity Iraq would surely regret foregoing in the week to follow.

Notes

[1]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 12.

[2]Command and General Staff College, *The Principles of Strategy for an Independent Corps or Army in a Theater of Operations* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1936), pp. 38–51.

[3]Charles Andrew Willoughby, *Maneuver in War* (Harrisburg, Pa.: Military Service Publishing Co., 1939).

[4]This is not the place to re-fight the maneuver debate of the 1970s and 1980s. While some argue that *The American Way of War*, to use the title of a book by Russell F. Weigley [Bloomington: Indiana University Press, 1977], was attrition based, there is sufficient evidence, both doctrinal and historical, of a maneuver component. By 1982 the role of operational maneuver was an essential element of a campaign victory.

[5]Herman Hattaway and Archer Jones, *How the North Won* (Urbana: University of Illinois Press, 1983), pp. 380–84.

[6]E. A. Metheny, *History of the Third United States Army, 1918–1962* (Fort McPherson, Ga.: Third U.S. Army, 1967), pp. 84–85; Hugh M. Cole, *The Ardennes: Battle of the Bulge*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1965), chs. XX, XXI; Charles B. McDonald, *A Time for Trumpets: The Untold Story of the Battle of the Bulge* (New York: William Morrow and Co., 1985), pp. 629, 636–38.

[7]DA, FM 100–5, *Field Service Regulations: Operations* (Washington, D.C.: Department of the Army, 1954), pp. 74–75.

[8]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1976), p. 4–4.

[9]School of Advanced Military Studies, *Syllabus for AY 86–87* (Fort Leavenworth, Kans.: Command and General Staff College, 1986), course 1, lessons 17–19. Maneuver examples are contained throughout the year-long course. For example, course 4, lesson 7, discusses von Manstein during the Kharkov Campaign of February–March 1943.

[10]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 12.

[11]Ibid., p. 175.

[12]W. S. Rosecrans, "Letter to E. M. Stanton, 7 July 1863," in *War of the Rebellion: A Compilation of the Official Records of the Union and Confederate Armies*, vol. XXIII, pt. 2 (Washington, D.C.: Government Printing Office, 1898), p. 518.

[13]VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, pp. 7–8.

[14]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC; VII Corps, OPLAN 1990–2, Opn DESERT SABER, an. C (Opns), app. 2, (Movement to FAA Order), 13 Jan 91.

[15]Interv, Kindsvatter with Franks, 5 Apr 91.

[16]Ibid.

[17]J. Paul Scicchitano, "Night Strikes: The Secret War of the 1st Cavalry Division," *Army Times*, 23 Sep 91, p. 15; VII Corps, Sitrep 18, 4 Feb 91.

[18]Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91: The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 1–11.

[19]K. Weber and J. Aiello, "History of the Ready First Combat Team: First Brigade, Third Armored Division, November 1990–22 March 1991," Unpubl Ms, Iraq, [1991].

[20]VII Corps, OPLAN 1990–2, an. C, app. 2, 13 Jan 91, p. C–2–2.

[21]Ibid.

[22]VII Corps, FRAGO 119–91, Preparation for Movement to Attack Position, 12 Feb 91.

[23]VII Corps, Sitrep 29, 15 Feb 91.

[24]VII Corps TAC, Staff Jnl, 16 Feb 91.

[25]Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps TAC, Staff Jnl, 16 Feb 91; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), p. 70.

[26]Interv, Kindsvatter with Franks, 5 Apr 91; 1st Armd Div, Old Ironsides Briefing Slides, n.d.; Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), p. 172; VII Corps, Sitreps 28, 14 Feb 91, and 29, 15 Feb 91.

[27] Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps TAC, Staff Jnl, 16 Feb 91.

[28] Interv, Kindsvatter with Franks, 5 Apr 91.

[29] Ibid.

[30] Steven Zotti, "Mailed Fist or Pursuit Operations: An Operational Analysis of VII Corps During the Gulf War," Unpubl Ms, U.S. Army Command and General Staff College, Fort Leavenworth, Kans. (hereafter cited as CGSC), 1997, p. 62.

[31] Peter S. Kindsvatter, "VII Corps in the Gulf War: Deployment and Preparation for DESERT STORM," *Military Review* 72, no. 1 (January 1992):16.

[32] Peter S. Kindsvatter, VII Corps Historian's notes, 16 Feb 91, author's files.

[33] Michael Howard, *The Franco-Prussian War* (London: Routledge, 1961), p. 36. Howard points out: "It was an excellent and ingenious weapon, but such secrecy surrounded its manufacture that training in its use was almost out of the question, and no useful discussion was possible about how it should be employed."

[34] VII Corps G–2, "The-100 Hour Ground War: The Failed Iraqi Plan," [Mar 91], pp. 32–36, in VII Corps AAR, Fort Leavenworth.

10

Final Preparations

On 23 February 1991, the U.S. Army began a campaign against a major power for the first time in over twenty years. The Army's record in its *First Battles*, to use the title of a book popular at the time of DESERT SHIELD, was not a matter of pride. For example, forty-eight years earlier, Maj. Gen. Lloyd R. Fredendall's II Corps had faced a supposedly exhausted German *Afrika Corps* on the eastern edge of North Africa's Atlas Mountains. In a space of fewer than ten days, the attacking German Army killed, wounded, and captured over 6,500 American soldiers and destroyed over 180 tanks, 100 half-tracks, and 200 artillery pieces. The theater commander, General Dwight D. Eisenhower, fired Fredendall and two combat command (brigade) commanders and returned them to the United States. Had the German Army the reserves available, it might have transformed a tactical success into an operational victory. Fortunately, the Germans had no such reserves and had to turn to face the British Eighth Army advancing across Libya in the east. The American public forgot about Kasserine Pass as the Army ran up a string of operational and tactical victories in Italy, France, and Germany. Many were possible only because Eisenhower had the time to make changes in his command's leadership, equipment, and organization.[1] In the post-Vietnam era of televised journalism, mistakes such as Fredendall's would be hard to hide and would probably be an instant embarrassment to the Army and the government.

The prospect of attacking the defenses of a veteran army further concerned the VII Corps leadership. They still considered the Iraqi Army a tough opponent, although weakened by weeks of aerial bombardment. Earlier Iraq had demonstrated its fighting skills to the soldiers of the 1st Cavalry Division in the Ruqi Pocket. The corps leadership did not subscribe to the idea that the weight of the aerial bombardment would be enough to cause the Iraqis to surrender when attacked. Students of military history, scattered among the thousands of corps officers, could cite examples of bombardments having little effect on the enemy. The heavy casualties Americans suffered in World War II in places like Tarawa and Iwo Jima, both of which had been subjected to massive preinvasion bombardments, were only two of many such precedents.

Estimates from various contemporary sources suggested that initial American losses against the Iraqi forces would be high. Trevor N. Dupuy, a well-known student of war casualties, predicted that American losses in this war would be over 1,200 dead. Other experts suggested an even higher toll of U.S. dead and wound-

ed.[2] Even Third Army's Personnel Command estimated that the corps would take 20,000 casualties in the first five days.[3] With the potential for such high casualties and America's historically poor performance record in opening battles, it is no wonder that the corps staff planned the initial attack in serious detail. The plan and execution were deliberate, rather than audacious. Ultimately, the plan was also successful. With very few casualties, the VII Corps attack destroyed the front-line units of the Iraqi *VII Corps*, positioned the U.S. VII Corps to the rear of the remaining Iraqi defenses, and set the stage for the U.S. maneuver toward the Iraqi *Republican Guard*.

On the Eve of the Ground War

The corps mission remained the same since the publication of Third Army's Operation Plan 001, *DESERT STORM*, on 5 January. Tersely, it read "Conduct main attack in zone to penetrate Iraqi defenses and destroy RGFC forces in zone."[4] The first task was to penetrate the Iraqi forward defenses. Fortunately, the VII Corps and Third Army staffs, without Iraqi interference, had placed the largest armored corps in American history opposite the weakest portion of the Iraqi defenses. Only Lt. Gen. Gary E. Luck's XVIII Airborne Corps in the west, which completely "turned," or bypassed, the Iraqi defenses, would face less opposition.[5] While Luck's corps attacked toward objectives on the Euphrates River, the Jayhawk Corps attacked an elusive target. Rather than seizing terrain features or strategic crossroads, its only objective was the *Republican Guard* itself. The problem with such a mission is that much of its success depends on the maneuver or posture of the enemy.

Before VII Corps could fight the *Republican Guard*, however, they had to break through the front-line defenses. The Iraqi *VII Corps' 26th Infantry Division* was the unlucky unit charged with defending that portion of the sector. It defended a front almost forty kilometers wide and over fifty kilometers deep. Its right, or western, flank was essentially unprotected. Even a full-strength Iraqi division could not defend that large a sector against the U.S. VII Corps, and the *26th* was at less than 50 percent of its authorized strength after weeks of air and artillery bombardment. Two of the *26th Infantry Division*'s infantry brigades, the *110th* and *434th*, were on the border to cover the most obvious avenue of approach, a dirt road that ran north from the Saudi border. Fifty kilometers to the rear, with no hope of supporting the front line, was the *806th Infantry Brigade*. Its role was to protect against any coalition attempts to outflank the Iraqi line and block the southwestern approach to the Iraqi *VII Corps'* logistics dump at Al Busayyah.[6]

Bridging the huge gap between the forward brigades and the *806th Brigade* was the division's mobile force, a lone battalion of T–55 tanks. The division commander deployed the battalion's companies on a series of small hills that ran along the western edge of the *26th Division* sector. From these positions they could overlook the road between Hafar al Batin and the village of Al Salman, 100 kilometers to the west. Unfortunately for the Iraqis, these companies were too far apart to provide for mutual support and observation. A second mission for this battalion,

according to Iraqi doctrine, was to counterattack in the forward area. If needed in such a role, the battalion could use the north-south trail that ran behind the tank companies and led directly into the rear of the *110th Brigade*'s position. The *26th Infantry Division* also had six artillery battalions deployed primarily along the border.[7] In reality, the division had little ability to move out of its positions. Its only real course of action was to delay an attacking force and warn the *VII Corps* command of an attack in that sector. Since the Iraqis assumed the direction of the coalition's attack was up the Wadi al Batin approach to the east, these soldiers were probably not overly concerned until just before the ground offensive began.

The two forward brigades of the *26th Infantry Division* prepared defensive systems that differed markedly from Iraqi doctrine, which prescribed a complex triangular formation designed for all-around defense. Instead, they had chosen a standard "two up and one back" formation familiar to most American officers. The brigade commanders dug their units into the open terrain. The ground they defended sloped northward and was dominated by a ridge that ran southwest to northeast. The *110th Brigade* "refused" its right flank by curving it about five kilometers to the north, while the *434th Brigade* tied directly into the Iraqi unit on its left, or eastern, flank. In the immediate vicinity of the front-line positions, the brigades each had a battalion of Soviet-made D–30 towed artillery in direct support, as well as gun and missile air defenses. The enemy also positioned 120-mm. mortars immediately to the rear of its forward positions. Events proved that the Iraqis had selected good firing positions. Despite an intense counterbattery effort, some Iraqi artillery was still supporting the defense when the Americans attacked. Each Iraqi platoon also fielded two 73-mm. recoilless rifles and numerous rocket-propelled grenades. Such defensive deployments had been effective in the Iran-Iraq War and, if properly manned and supported, could be effective against the attacking U.S. 1st Infantry Division.[8] Since the *26th Infantry Division* was understrength and would also have to fight the remainder of the U.S. VII Corps attacking on its flank, it had no chance at all.

The Iraqi *VII Corps*' tactical reserve was the *52d Armored Division*. Its three brigades, the *52d* and *80th Armored* and the *11th Mechanized*, were arrayed behind the forward-deployed divisions in the Wadi al Batin sector. With an authorized strength of 245 tanks and 195 armored fighting vehicles, the *52d Armored Division* had the potential to blunt the attack if it could be repositioned to meet it.[9] This division, however, suffered from severe organizational problems. Recently organized by combining independent brigades from different corps, the *52d*'s inexperienced divisional command and control elements were probably ineffective in executing any maneuver other than a frontal assault. Like the rest of the Iraqi forces, the *52d Armored Division*'s focus was on the Wadi. Its mission was to support any forward brigade that came under attack and to repel invaders with a "linear attack."[10] The one unit of the *52d Division* that could quickly affect the VII Corps' attack was the *52d Brigade*, located behind the *48th Infantry Division*, just east of the breakthrough zone. As the "go away" brigade, it had already received especially heavy air and artillery attacks directed by the VII Corps' fire support element.[11]

The U.S. VII and XVIII Airborne Corps operated under the direction of the Third Army commander, Lt. Gen. John J. Yeosock. Not since the Korean War, almost a half-century earlier, had any American commander directed multiple corps in the attack. Like Franks, Yeosock was a cavalry officer who understood the decentralized nature of modern mechanized warfare. His unit experience from cavalry troop leader through command of the 1st Cavalry Division gave him a view of the role of the senior commander. Yeosock concluded that it would be a mistake to micromanage units during rapid operations. He believed, according to the Third Army command historian, that large units were unlikely to be as responsive as small organizations "to rapid changes in direction or focus."[12]

During the 1970s and 1980s the Army had wrestled with the problem of command of large organizations. Army leaders, studying the lessons of prior wars, discovered that corps and divisions do not respond to rapid changes in orders and direction. They are too large and complex. They rely on the efforts of too many interrelated systems, such as fuel and maintenance, that must be synchronized to bring combat power to bear at the decisive place and time. These units depend on the collective efforts of tens of thousands of soldiers, all trying to accomplish their individual missions. Each unit, made up of soldiers, tries to accomplish its assigned mission in the best way possible. The combat potential and battlefield rewards of this huge synergistic effort are great. When it is properly harnessed, the result can be an overwhelming victory. However, a senior commander can with the best intentions diffuse and misdirect this energy by rapid and poorly thought out "improvements" to the plan. The trick was to balance the competing demands of battlefield control and individual initiative.

With the introduction of AirLand Battle Doctrine in 1982, Army trainers adapted two concepts that were applicable at all levels of command but were especially important at the large-unit level: explicit statement of the commander's intent and mission orders.[13] A commander's intent expresses "his vision of the end conditions, why those end conditions are necessary, and how the [unit] will achieve those results."[14] Success requires a commander to think through that concept from beginning of the operation to the end. His subordinates have to understand both their commander's intent and their senior leader's definition of success. Once developed, the expression of intent has to be clear and unambiguous. It is a definitive statement of "what the boss wants done" that soldiers two or three levels down the chain of command can understand.

The second concept was the mission order. During the Vietnam War, many small-unit leaders believed that senior commanders were placing too much emphasis on the *control* part of the command and control process. Layers of helicopters transported senior commanders, who supervised platoon, company, and battalion commanders as they struggled to accomplish their assigned missions in terrain with difficulties not easily perceived by those overhead. Junior officers had little room either for error or for improving the conduct of the operation, because their senior commanders greatly limited their freedom of action. These junior officers in the post-Vietnam era looked for a solution to minimize control but still ensure the accomplishment of the mission. The German philosophy of mission

orders greatly appealed to such reform-minded officers: "An order shall contain all that is necessary for the lower commander to know in order for him to execute independently his task. It should contain no more.... The commander must never fail to place himself in the position of the receiver."[15]

By 1990 many U.S. officers had accepted these ideas and believed that the ultimate result of relinquishing some control would be to unleash the initiative of their subordinates. A change of personality, however, could cause a break in this understanding. From November 1990, when the VII Corps was alerted, through the middle of February, General Franks understood his commander's intent. On 14 February this relationship changed as General Yeosock was hospitalized for pneumonia. Doctors soon discovered a gall bladder condition that required immediate surgery, and he was evacuated to Germany for an operation. General Schwarzkopf turned command of the Third Army over to Lt. Gen. Calvin A. H. Waller.[16]



General Waller

Waller's background was primarily in the Chemical Corps with many additional assignments in the Armor Branch. But he had led units at all tactical levels, culminating in his command of the 8th Infantry Division (Mechanized) in Europe and I Corps at Fort Lewis, Washington.[17] With Yeosock on the operating table, General Waller took command of the Third Army with every expectation that he would command it in battle. His recent assignment as Schwarzkopf's deputy gave him an excellent window on both the situation in the theater and his boss' vision of how the campaign should be run. It is understandable, therefore, that there were some changes as to how Waller wanted the Third Army fight to proceed.

On the eighteenth Waller discussed his concept of the operation with Franks at his headquarters. The new army commander wanted a quick move to Objective COLLINS, an area in the desert 100 kilometers north of the border and 35 kilometers east of Al Busayyah. Here, Waller expected the VII Corps to rearm and refit, then turn east to find and attack the *Republican Guard*'s heavy divisions. He warned Franks that units should focus on safety and prevent incidents of fratricide. The recent destruction of friendly vehicles by an Apache in the 1st Infantry Division and an Air Force engagement of a Marine armored personnel carrier in another area at the beginning of the month were very much on his mind.[18]

Waller also implemented his own philosophy of command during the week before the offensive. It was apparent to Franks and his staff that the new Third



U.S. M3 Bradley Destroyed in a Fratricide Incident

Army chief was an activist who wanted to be well forward once the battle began and would command from his mobile command post.[19] It was also apparent that Waller intended to impose much more control over his two corps than did Yeosock. On the twenty-first, for example, Waller ordered the corps to coordinate all preattack ground operations of "company size or larger" through "Lucky TAC"(Third Army's tactical command post) in advance.[20] He also continued to emphasize his concern over fratricide, underlining his view that wasting American lives was the cardinal sin of battle leadership.[21] Nevertheless, by all accounts Waller and his corps commanders were ready for the fight that was about to begin.

On 23 February, as the corps and divisions made their last-minute preparations, the command situation changed again. Yeosock returned to Schwarzkopf's command post and demanded reinstatement. Schwarzkopf, after observing him for two days, acceded.[22] It was one of the most important decisions of the ground campaign. Yeosock, looking tired and still recovering from his operation, was a clear contrast to an active, confident Waller.[23] The former's relationship with Schwarzkopf, never good, could only have been worse as he no longer had the stamina to stand up to his commander's demands. As events were to show, he was unable to escape his command post in Riyadh and move forward to coordinate the operations of his two army corps.[24] Both senior commanders thus became hostage in the Saudi capital. Neither could make decisions based on an accurate assessment of the combat situation.

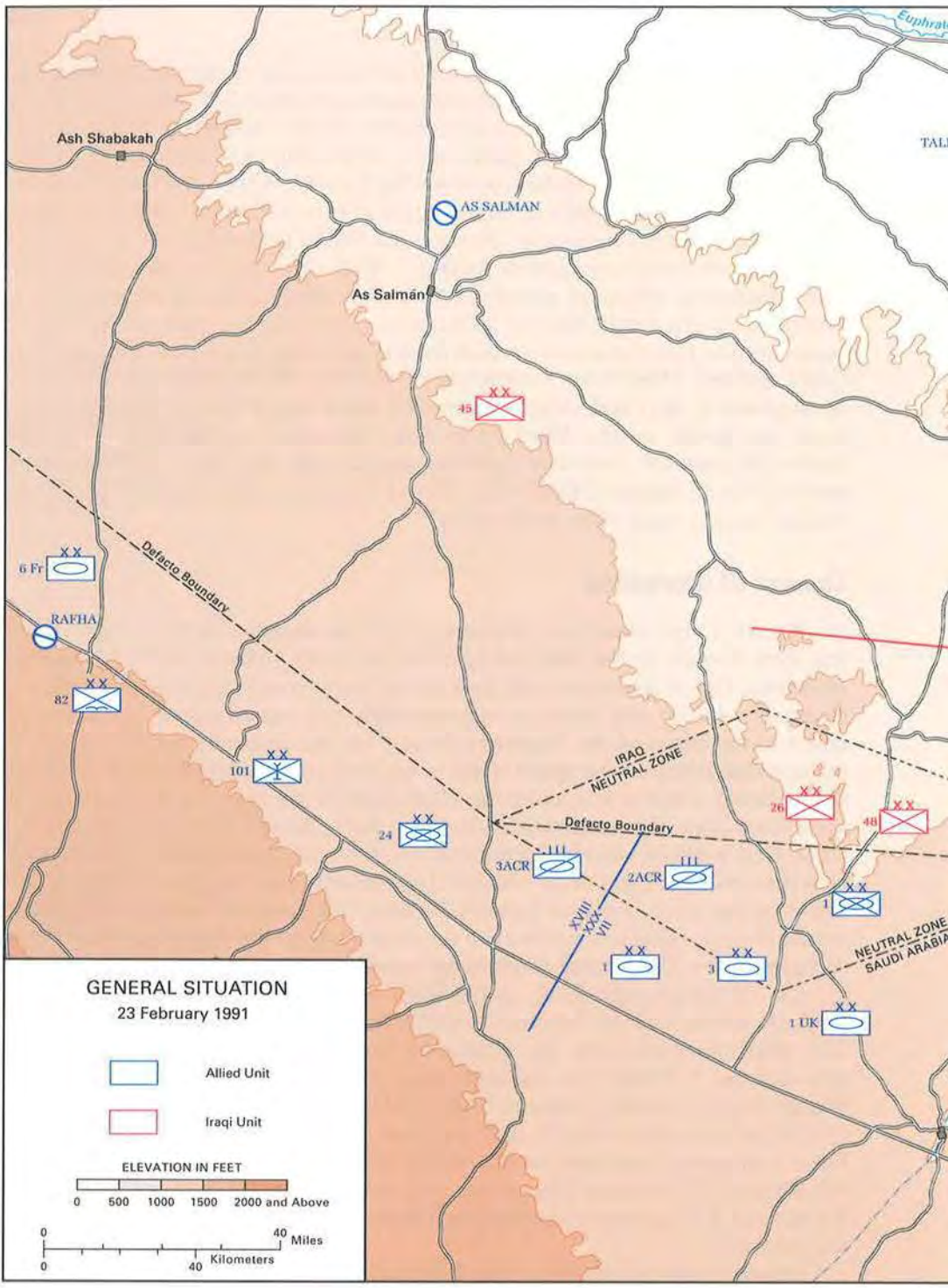
As a final comment on the command situation, one must also question the process by which the Third Army commanders were selected. Neither Yeosock nor Waller had ever served as a corps commander. Neither had the practical experience and responsibility of simultaneously coordinating tactical operations, planning and executing deep operations, directing logistics support, and providing the essential vision to keep such an organization always in motion toward its objective. While extremely competent, Yeosock and Waller lacked the practical, tactical experience an Army commander needed.[25] With three heavy corps in the U.S. Army, there was a pool of veteran commanders who could have brought their experience to the battlefield. Yet such moves could not be made without good cause, and the time for action on such matters had long past. On 22 February VII Corps received Third Army Fragmentary Order 44, which confirmed that G-day (ground-attack day) and H-hour (execution time) was 0100, 24 February. Still, there was doubt, as the Third Army order reminded commanders: "Without notice, the national command authority may change this date.... Commanders must be able to execute OPORD 001, DESERT STORM, on time, but must be able to hold all actions upon short notification."[26]

Concept of Operations

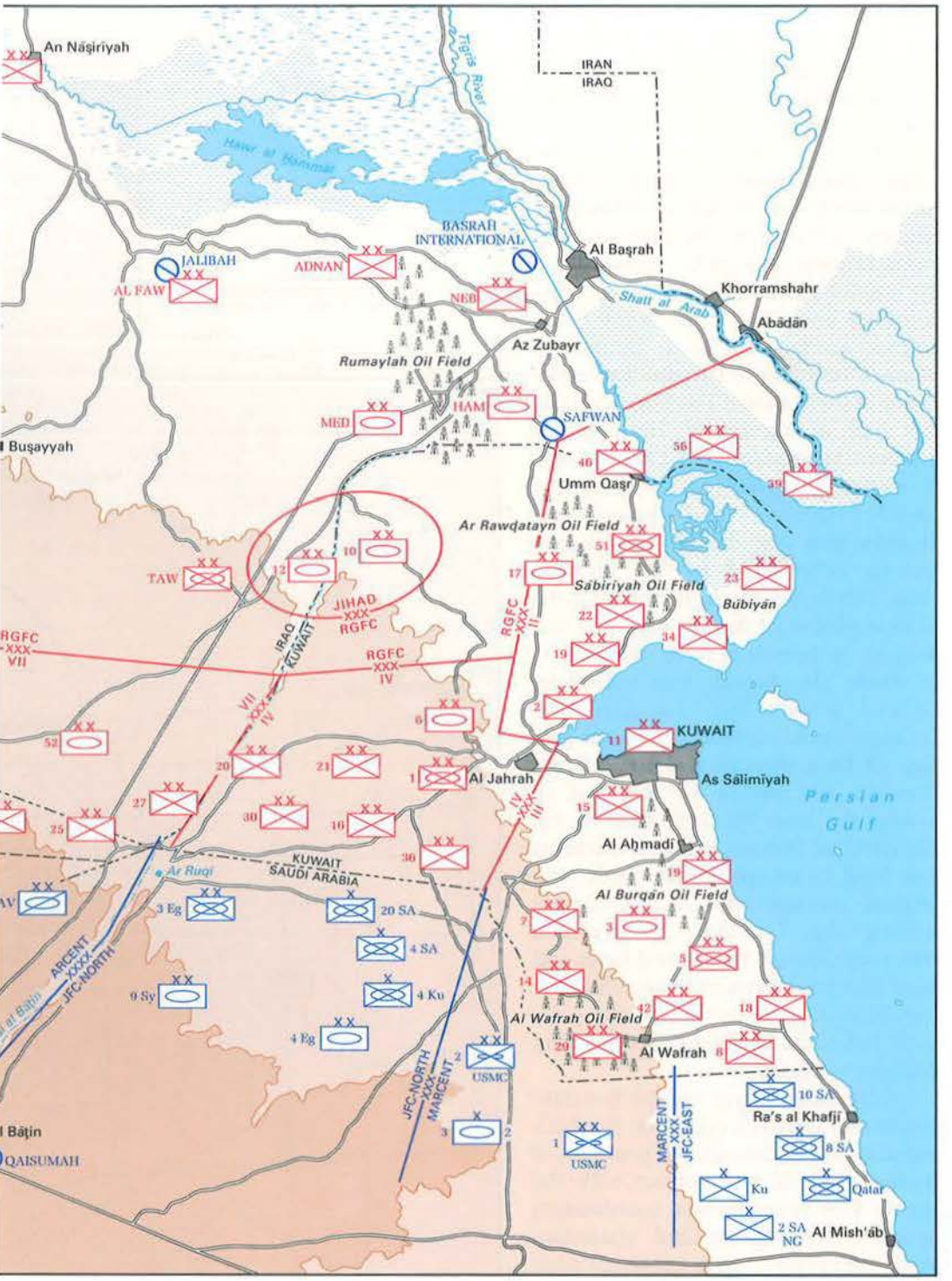
The VII Corps' attack was of course part of the overall coalition effort to eject Iraq from Kuwait. To the west, the light but fast XVIII Airborne Corps had several objectives. First it was to turn the flank of the Iraqi Army in the Kuwait Theater of Operations (KTO) and penetrate approximately two hundred-sixty kilometers of desert to the banks of the Euphrates River. This was generally a terrain-oriented mission that relied on the speed of the corps armor and helicopters in a relatively empty desert. Once it was along the south bank of the river, Luck's corps would sever Iraqi lines of communication between Baghdad and the Iraqi forces in the KTO. Next it would assist in the destruction of the Iraqi forces in the area and prevent their reinforcement of the theater of operations. Once in place, the heavy elements of this corps, the 24th Infantry Division (Mechanized) and the 3d Cavalry, would be in position to contribute to the destruction of the *Republican Guard* near Al Basrah if the Third Army commander required.[27]

On VII Corps' right flank, in the Wadi al Batin sector, was the 1st Cavalry Division, which had now reverted to theater reserve under Third Army direction. The division could not be employed without the approval of General Schwarzkopf.[28] Farther to the east, Joint Forces Command–North (JFC-N), Marine Forces Central Command (MARCENT), and Joint Forces Command–East (JFC-E) would attack directly into the Iraqi defenses in Kuwait. The two joint forces commands contained mostly coalition Arab forces.[29] In addition, the U.S. 4th Marine Expeditionary Brigade would conduct a series of feints off the coast of Kuwait and Iraq to ensure that the Iraqi high command had to consider defending the coast.[30]

During Franks' initial visit to Saudi Arabia in November 1990, he had received briefings from the Third Army G–2, Brig. Gen. John F. Stewart, Jr. He and his staff


Euphrat
TAL
Ash Shabakah
AS SALMAN
As Salmán
45
6 Fr
Defacto Boundary
RAFHA
82
101
IRAQ
NEUTRAL ZONE
24
Defacto Boundary
26
48
3ACR
2ACR
XVIII
XXX
VII
1
NEUTRAL ZONE
SAUDI ARABIA
3
1 UK
GENERAL SITUATION
23 February 1991
Allied Unit
Iraqi Unit
ELEVATION IN FEET
0 500 1000 1500 2000 and Above
0 40 Miles
0 40 Kilometers

MAP 13

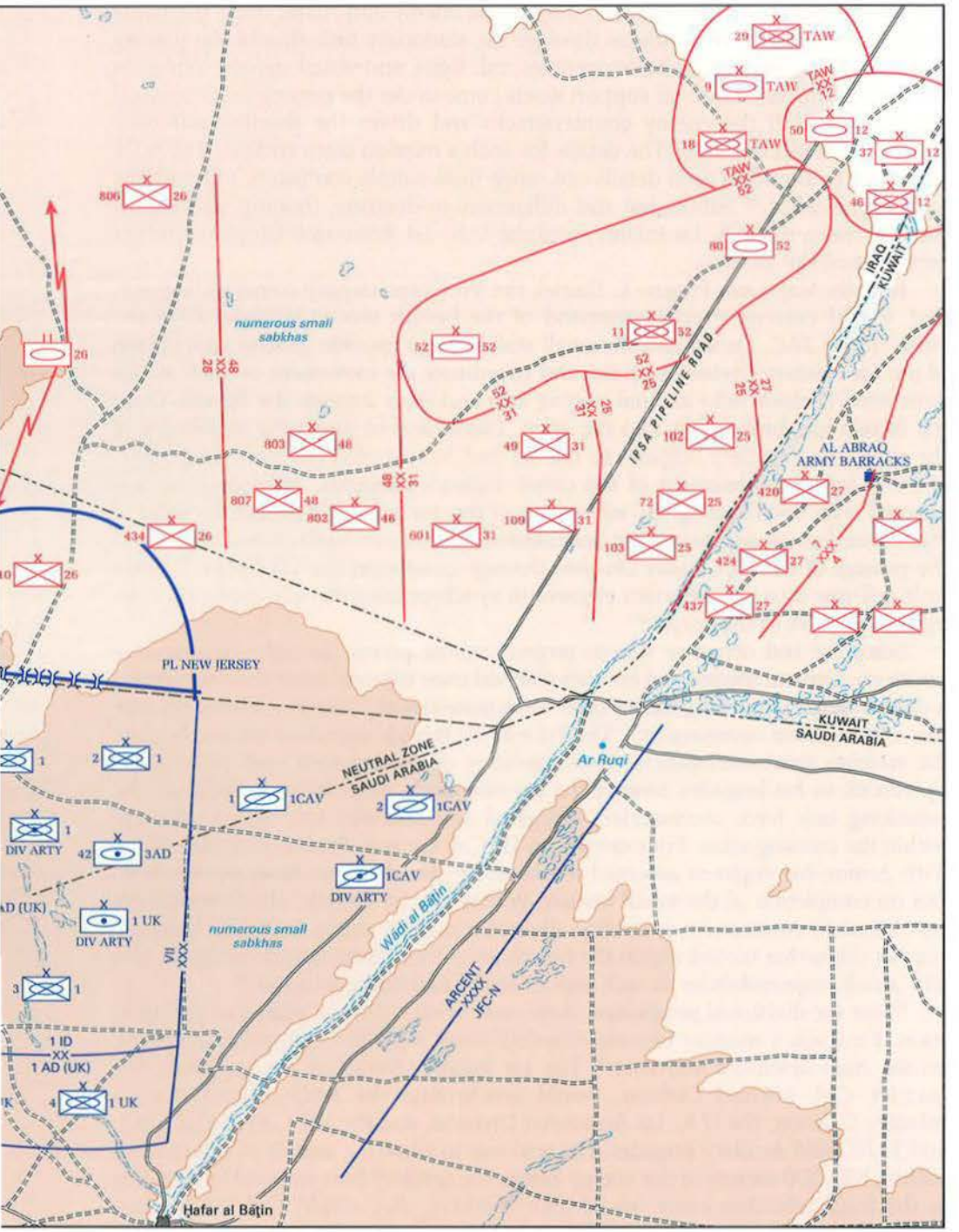

An Nāṣirīyah
Tigris River
IRAN
IRAQ
Hawr al Hammar
BASRAH INTERNATIONAL
Al Baṣrah
JALIBAH
AL FAW
ADNAN
NEB
Shatt al Arab
Khorramshahr
Abādān
Az Zubayr
Rumaylah Oil Field
HAM
MED
SAFWAN
Umm Qaṣr
Ar Rawḍatayn Oil Field
Sabiriyah Oil Field
Būbiyān
TAW
JIHAD
RGFC
IRAQ
KUWAIT
KUWAIT
As Sālimīyah
Al Jahrah
Persian Gulf
Al Aḥmadī
Ar Ruqi
KUWAIT
SAUDI ARABIA
Al Burqān Oil Field
3 Eg
20 SA
4 SA
9 Sy
4 Ku
4 Eg
Al Wafrah Oil Field
Al Wafrah
USMC
JFC-NORTH
MARCENT
JFC-EAST
10 SA
Ra's al Khafjī
8 SA
Ku
Qatar
2 SA
NG
Al Mish'āb
QAISUMAH

told Franks that the Iraqis could extend their barriers and defensive network completely across the VII Corps sector. The only way, therefore, to project the corps' combat power to the *Republican Guard* would be through an initial penetration of the front-line defenses. The corps' original concept for breaking into the interior of Iraq thus assumed a solid defensive line along much of the Saudi Arabian border. Maj. Gen. Thomas G. Rhame's 1st Infantry Division had experience at the National Training Center in this type of operations. His assistant division commander, Brig. Gen. William G. Carter III, knew the fine points of breach doctrine and procedures. Rhame's unit was the obvious choice, and he volunteered for the mission. From November through February, the planning focus of the Big Red One was thus on the breach of these defenses.[31]

Once the breach was complete, General Smith's U.K. 1st Armoured Division would conduct a forward passage of lines through the 1st Infantry Division and attack to the east to destroy the Iraqi *VII Corps* reserve, the *52d Armored Division*, and any elements that tried to escape to the north. The original concept had the 2d Cavalry leading the 1st and 3d Armored Divisions through the cleared lanes and deep into Iraqi territory in search of the *Republican Guard*. In the revised plan, these last units would bypass the Iraqi defenses altogether.[32]

A forward passage of lines is a dangerous and complex operation in which one unit passes through the positions of another directly into contact with the enemy. It requires intense coordination between the passing and stationary units. Seemingly simple questions must be answered in great detail. When




29 TAW
9 TAW
18 TAW
TAW XX 12
TAW XX 52
50 12
37 12
46 12
806 26
80 52
IRAQ
KUWAIT
numerous small sabkhas
11 26
52 52
11 52
52 XX 25
52 XX 31
26 XX 31
48 XX 31
48 XX 25
27 XX 25
IPSA PIPELINE ROAD
803 48
807 48
802 46
49 31
601 31
109 31
102 25
72 25
103 25
AL ABRAQ
ARMY BARRACKS
420 27
424 27
437 27
434 26
10 26
PL NEW JERSEY
KUWAIT
SAUDI ARABIA
NEUTRAL ZONE
SAUDI ARABIA
Ar Ruqi
1 1CAV
2 1CAV
DIV ARTY
42 3AD
1CAV
DIV ARTY
AD (UK)
1 UK
DIV ARTY
Wadi al Batin
numerous small sabkhas
VII XXX
3 1
1 ID
XX
1 AD (UK)
4 1 UK
ARCENT
XXXX
JFC-N
Hafar al Batin

MAP 14

should the stationary unit stop shooting at the enemy and "hand over" the battle to the passing unit? What routes through the stationary unit should the passing unit use? What are each unit's frequencies, call signs, and visual signals? When do the indirect-fire and close-air support assets come under the passing unit's control? What happens if the enemy counterattacks and drives the passing unit back toward the stationary unit? The details for such a mission seem endless. The price for failing to attend to such details can range from simple confusion, to fratricide, to outright defeat.[33] Subtle, but real differences in doctrine, training, and equipment between the U.S. 1st Infantry and the U.K. 1st Armoured Divisions further complicated the mission.

Initially, Maj. Gen. Eugene L. Daniel, the VII Corps' deputy commanding general, would exercise overall command of the breach sector. Working from the corps' Jump TAC, Daniel and his small staff were to provide general supervision of the 1st Infantry Division's breach and coordinate the movement of the U.K. 1st Armoured Division into its final staging area and then through the breach. Once the British had broken out into the open, Daniel was to direct the movement of the supporting artillery brigades to the 1st and 3d Armored Divisions and supervise the forward movement of the corps' logistics elements. Thereafter, he was charged with coordinating the movement of the 1st Infantry Division forward to Phase Line SMASH, approximately one hundred kilometers north of the breach, and the passage of the 1st Cavalry Division through to support the VII Corps. Daniel's little cell was thus an important element in synchronizing the movement of a significant portion of the corps.[34]

Since the real objective was to project combat power through the defensive positions, General Rhame and his staff planned their mission using the doctrine for a deliberate river crossing rather than for a penetration.[35] General Carter became the crossing force commander.[36] The 1st and 2d Brigade executive officers became the crossing area commanders. Each executive officer assumed responsibility for operations in his brigade's zone of the crossing force (breach) area. Similarly, the assaulting task force commanders delegated responsibility for various activities within the crossing areas. For example, in Lt. Col. Gregory Fontenot's 2d Battalion, 34th Armor, his engineer assumed responsibility for the lanes from the northern exit on completion of the initial breach. Within the 1st Brigade, the forward support battalion commander controlled all service support assets, including battalion combat trains that moved within the breach area. Thus, commanders assigned specific attack responsibilities to each unit to limit battlefield confusion.[37]

From the divisional perspective there were several distinct phases of the operation. First was a massive two-and-one-half hour, 90,000-round preparation fire on the Iraqi defensive positions.[38] The 1st Infantry Division's fire support commander, Col. Michael Dodson, would synchronize the artillery from the 1st Infantry Division, the U.K. 1st Armoured Division, and the VII Corps' 42d, 75th, and 142d Field Artillery Brigades. His goal was to allow the assault troops to close within 200–300 meters of the enemy before the artillery fires stopped falling. Just as the Iraqi defenders came out of their bunkers, they would find the Big Red One's infantry and armor on top of their positions.[39]



Briefing in the President's Residence Office. Left to Right: *Richard B. Cheney, Secretary of Defense; General Powell; General Brent Scowcroft, U.S. Air Force (Retired), Assistant to the President for National Security Affairs; John Sununu, White House Chief of Staff; President Bush; Vice President Dan Quayle; and Marlin Fitzwater, Presidential Press Secretary.*

Second, two brigades would conduct a penetration of the Iraqi defenses while a third brigade prepared to follow and exploit the success of the initial attack.[40] In a zone only six kilometers wide, the 1st Infantry Division would mass most of its 334 M1A1 tanks, 224 M2A2 Bradley fighting vehicles, and 3 battalions of combat engineers. They would strike at the same location the artillery had pulverized only seconds before. The synergistic effect of indirect fire, massive direct fire, and maneuver should cause all but the most determined survivors to surrender quickly.[41] Once the brigades were on top of the Iraqi defensive positions, they would send battalions to the right and left to attack the other positions from the flanks. This technique, given the German term *Aufrollen*, or rolling out, would ensure that the attackers hit the linear defenses where they were the weakest.[42] During the Iran-Iraq War, Iranian attackers usually attacked dismounted in almost World War I–like infantry assaults. The Big Red One would not be so accommodating. Its commander planned to conduct both the penetration and *Aufrollen* mounted, using the protection, firepower, and mobility of the M1 tank, the M2 infantry fighting vehicle, and the M9 armored combat earthmover to clear the Iraqi fighting positions.[43]

When the initial task forces cleared a zone in the enemy positions, each brigade's follow-on task force would pass through and continue the penetration in depth.[44]

When Rhame was satisfied with the assault force's progress, he would launch the 3d Brigade into the center of the breach between the 1st and 2d Brigades. Clearing this area would ultimately create the maneuver space on the far side of the breach to allow the British to form up after passing through the lanes marked by the 1st Infantry Division's engineers. The engineers would plow these lanes, clear them of mines and obstacles, and mark them so following units could use them safely. Each unit posted guides to assist the British and the artillery in their passage.

When the passage lanes and the final breached line (Phase Line NEW JERSEY) were secure and held by the three brigades abreast, the final phase could begin. Daniel and Carter would then move the U.K. 1st Armoured Division through the marked lanes and into forming-up points on the far side of the lanes.[45] The crossing force commander (the brigade executive officer) would retain control of the passage and the passing units until they moved through these lanes. Then the 1st Armoured Division would conduct another passage of lines through the forward brigades of the 1st Infantry Division and swing east toward the Iraqi tactical reserves mentioned earlier.[46]

What should be apparent is the complexity and difficulty of the operation. In a rather small space, many dangerous actions were to take place. Hundreds of armored vehicles and thousands of friendly troops would be shooting at Iraqi soldiers, who would be returning fire. Other units would be trying to pass through the numerous obstacles and firefights to attack objectives farther to the rear. During the *Aufrollen* process, friendly troops would move and shoot toward each other, especially along the inside brigade boundaries. Units would call indirect fire on presumably enemy positions, but Iraqi signal troops could try to interfere with the attackers' radio communications. Each unit would be navigating through Iraqi mines and other obstacles. To add to the potential battlefield friction, the 3d Armored Division and a squadron from the 2d Cavalry would also be attacking along the western flank of the breach area. Add the normal first-battle jitters, reduced vision, and confusion to the process, and the dangers become even more obvious.

Although the initial main effort along with most of the artillery support would go to the 1st Infantry Division in the breach sector, VII Corps arrayed most of its ground combat power to the west. On a very narrow sector, less than forty kilometers wide, Franks concentrated the greater part of his mailed fist. At the same time the 1st Infantry Division attacked, most of VII Corps would envelop the entire Iraqi defense line. The 2d Cavalry led the movement of this force in a classic covering force role.[47] Once the situation was clear and the *Republican Guard* located, Franks intended to pass the two U.S. armored divisions plus one other division, either the 1st Infantry or the 1st Cavalry, through the 2d Cavalry and move to engage the *Republican Guard* divisions.[48]

Initially, the two heavy armored divisions moved behind the cavalry regiment. They shared a narrow sector that permitted each division to move its brigades across the berm and northward. The 1st Armored Division, commanded by Maj. Gen. Ronald H. Griffith, was the westernmost unit of the corps. Once across the berm it would deploy into a "division wedge" with the 1st Brigade forward and the

other two brigades on the right and left. This formation gave the division commander the most combat options if he met the enemy while on the march. As the 2d Cavalry moved ahead to the northeast, the 1st Armored Division would continue to head due north toward its initial objective, an Iraqi supply base at the crossroads at Al Busayyah, almost one hundred-fifty kilometers north of the border. From there, the division would move toward the east on VII Corps' left flank.[49]

To Griffith's right, Maj. Gen. Paul E. Funk's 3d Armored Division would move through an even narrower zone of attack. At first, the Spearhead Division would follow the 2d Cavalry and maintain a solid front between the 1st Armored and 1st Infantry Divisions. It would initially move as a column of brigades, passing north of the breach zone. The potential for accidental contact between the two converging divisions was high, and constant coordination between them was imperative. When Franks was sure of the *Republican Guard's* location, he would direct General Funk to move north of the 2d Cavalry, striking out directly toward the Iraqi formation.[50] During this phase, the 1st Armored Division would be on Funk's left and the 2d Cavalry on his right.

Finally, Franks wanted a third heavy division to join his attack. That lineup would give him at least one armored or mechanized division to send against each of the *Republican Guard's* three heavy divisions. This three-division fist was, in his view, what he needed for a knockout blow. Anything less would contribute to the corps' delay and additional casualties.[51] He had two possible units for this task, the 1st Infantry Division, which would be available depending on its losses in the breach, and Schwarzkopf's reserve, the two-brigade 1st Cavalry Division.[52] Franks' vision of how he wanted the battlefield arrayed on contact, an armored cavalry regiment in front and three divisions following on line, revealed how he expected to fight the battle.

Battlefield Preparation

One of the major changes to U.S. Army doctrine since the Vietnam War was the development of Intelligence Preparation of the Battlefield, or IPB. This process took the old *Intelligence Estimate of the Situation* and made several important improvements.[53] The IPB analyzes the enemy's doctrine, along with the weather and terrain, to determine how the enemy might fight in a given time and place.

Key to the IPB process is the idea of "templating." A template is nothing more than a graphic portrayal of the enemy forces. There are three types: The doctrinal template portrays how the enemy says he will fight. To develop this template the G–2 placed the enemy forces, in this case the *26th* and *48th Infantry Divisions* and the *52d Armored Division*, on the map. The intelligence officers arranged subordinate units according to Iraqi defensive doctrine. They incorporated all assigned and available units, including those not yet identified or located, down to brigade and artillery battalion. Simultaneously, each of the corps' divisions similarly located the Iraqi battalions and each brigade identified possible Iraqi company positions. The final result was a corps-wide picture of how the Iraqi forces possibly intended to fight.

The G–2 next applied what was known about the enemy and the terrain to the doctrinal template, creating a situation template. It included all the reconnaissance and intelligence information gathered so far. As with doctrinal templates, staffs develop situation templates at all levels of a U.S. command. That was a constant procedure, and intelligence officers strained to verify these templates from all possible sources, adjusting and refining their picture of the enemy defenses as new information arrived. During DESERT STORM, the cumulative result of this IPB process was a comprehensive evaluation of the front-line positions down to individual platoons and crew-served weapons. In the case of the Iraqi front line, the American appraisals were often more accurate than the Iraqi commander's own knowledge of his forces.[54]

Finally, each command prepared decision support templates and integrated them into the unit's concept of operations.[55] Commanders and staffs constantly analyzed the decision support template and used it to refine their plans. From these templates, they also developed terrain models and mock-ups to examine, evaluate, and rehearse courses of action. For example, the 1st Brigade, 1st Infantry Division, developed a three-dimensional model of the entire zone of attack. The brigade used it to wargame its attack and think through its battle plan.[56] The intelligence and operations planners transformed these templates into detailed event matrices, outlining specific actions to take at decision points and portraying to the commanders and staffs some of the options.[57]

This IPB process sounds dogmatic, stilted, and inflexible. In general, it was not. Its intent was to ensure the detailed planning for that first encounter. It was important, for example, that the U.K. 1st Armoured Division knew exactly when, where, and how to pass through the 1st Infantry Division. It was essential that the commanders of the supporting field artillery brigades knew exactly when to stop supporting the 1st Infantry Division and shift their support to the new main effort. It was essential that logisticians at all levels knew when and where to deliver the fuel and ammunition. From the operational perspective, this process helped to identify the operation's culmination point.[58]

The process did, however, have its dangers. While a useful tool for commanders and staffs, the IPB had the potential to erode the quality of the command's operation. For example, the process could become an end in itself. Staff officers could ignore other options and opportunities as they continued to refine the existing templates with which they were comfortable. In addition, constant emphasis on "worst case" capabilities and ideal enemy doctrine could lead to the command's over-preparation. In the case of the U.S. VII Corps against the Iraqi *26th Infantry Division*, probably the most analyzed enemy unit in American history, both conditions were present.

In the aftermath of the war, however, it is easy to forget that the U.S. Army was not, like the Iraqi force, a veteran army. Its last major effort under fire, in Vietnam, had ended in a strategic defeat. The corps' leaders wanted no bloody noses in their first battle. Their goal in developing the plan was to predict what could be predicted, rehearse what could be rehearsed, and remain flexible to fight a live and aggressive enemy. The fact that the Iraqis turned out to be less aggressive than

expected does not invalidate this planning process. However, more effective Iraqi resistance would have more thoroughly tested the accuracy and effectiveness of this process. Another question is how well this headquarters-intensive ritual would work during a period of rapid tactical maneuver.

Rehearsals continued as G-day, 24 February, the start of the ground campaign, approached. Now they were more detailed and conducted with a greater sense of urgency. All aspects of the operation from combat assault to medical evacuation were rehearsed to assure that everyone understood the plan and contingencies. Wherever possible, units developed standard operating procedures (SOP) and battle drills. Small units practiced such tasks as medical evacuation from a damaged vehicle to the unit aid station and how to dismount from a combat vehicle and clear an Iraqi position on foot. Battalions and brigades practiced unit-breach operations. Senior commanders talked through the battle plan in formal and informal wargame seminars, using maps and sand tables.[59]

Commanders shared their last-minute information with their soldiers. Few armies in history have gone into battle with their front-line fighters so well informed about the enemy. In some units, leaders showed their soldiers videotapes made by RPVs flying over the enemy front-line trace. In spite of the pounding the Iraqis had taken, the tapes provided chilling evidence that Iraqi soldiers still occupied those trenches in force. Soldiers saw the Iraqi infantrymen walking about and moving in and out of bunkers; they also saw that the picture of the Iraqi positions their leaders had given them was accurate.[60] Throughout the corps, there was an air of anticipation and quiet professionalism as H-hour approached.

The Final Moments

On the eve of G-day, the 1st Infantry Division occupied the VII Corps' front line in the east and the 2d Cavalry the sector in the west. To the east of the Big Red One was the 1st Cavalry Division. On the morning of 23 February the 1st Cavalry Division again became the theater reserve with a mission to continue its deception operations. Throughout the day it continued to conduct artillery raids and reconnaissance operations along the border berm.[61] To the west of the 2d Cavalry was Col. Doug Starr's 3d Cavalry, XVIII Airborne Corps. Early on the morning of 22 February, two days before the official G-day and while the VII Corps conducted its field artillery raids, the regiment had fired a short artillery prep at Iraqi targets across the border. At 0700 it crossed into Iraq as engineers began to tear gaps in the border berm.[62] At 0910 they reported their location to the 2d Cavalry as ten kilometers into Iraq.[63]

On 23 February the 1st Infantry Division was set, with Task Force IRON north of the border berm screening the gaps previously cut on the fifteenth. During the day the division conducted more artillery raids against Iraqi targets.[64] Behind them, the U.K. 1st Armoured Division was in FAA RAY, ready to follow the Big Red One through the breach.

On 23 February (G minus 1) the VII Corps' 2d Cavalry, still south of the border berm, was also ready to move. Its mission that day was to conduct a zone

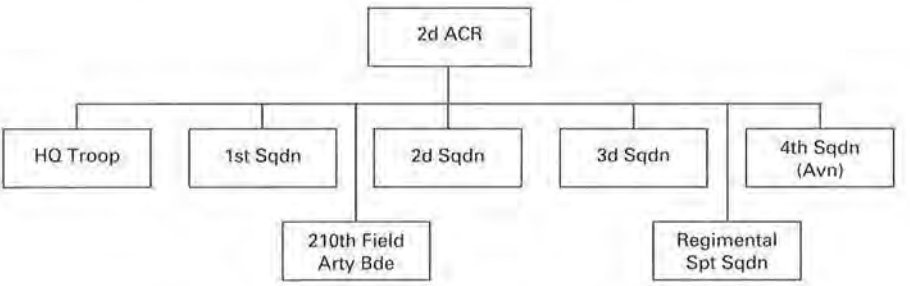


Loading an M102 Towed Howitzer for a Heavy Artillery Barrage Demonstration

reconnaissance forward of the berm and clear lanes through it for the two following American armored divisions. The regiment's radio nets came alive at 1310, when, for the first time since May 1945, the oldest mounted unit on continuous active service in the U.S. Army began moving in battle formation. Twenty minutes later the 210th Field Artillery Brigade conducted a preparatory fire with two 155-mm. battalions, an MLRS battery, and the regiment's howitzer batteries. At 1339 the fire mission was complete. Ten minutes later two troops from the 4th Aviation Squadron flew nine kilometers across the berm to cover the crossing of the ground squadrons. They reported that the area across the berm was clear, with no sign of the enemy. At 1353 Troop E from the 2d Squadron crossed the berm and moved into Iraq.[65] Soon after the remainder of the 2d and 3d Squadrons was across and deployed with scouts forward and tanks in overwatch. Behind this force, engineers from the 84th Engineer Battalion began cutting more and larger gaps in the berm. By the end of the day, forty-three gaps had been created for the 1st and 3d Armored Divisions.[66]

The 1st Squadron moved behind the 3d Squadron in the east, while the Support Squadron followed the 2d Squadron in the west. There was no serious opposition, and possibly the movement was never even reported to the Iraqi command. At 1430 hours Troop O replaced the other two aviation troops screening forward of the regiment's ground troops. By 1530 all the regiment's long-range surveillance units were extracted from their observation locations north of the berm to move them out of the way of the assaulting armored forces.[67] The 2d

CHART 9—2D ARMORED CAVALRY REGIMENT, JANUARY 1991



Source: Col. Leonard D. Holder, Comdr, 2d ACR, "Second Armored Cavalry Regiment, Operation DESERT STORM 1990–1991," Troop Handout, 1 Mar 91.

Cavalry and the 1st Infantry Division established physical contact that afternoon at a contact point north of the border berm. This linking of the two units meant there were no gaps in the Third Army's front line.

As the regiment moved forward, it suffered its first casualties. At 1628 an unexploded DPICM (Dual-Purpose, Improved Conventional Munitions) round injured two soldiers supporting the 2d Squadron. These shiny metallic balls, each a little larger than a golf ball, were tempting acquisitions for novice souvenir hunters. They looked harmless and attractive but were extremely dangerous. When a soldier, unaware of the danger, tossed one into his M3 Bradley, ostensibly to save and bring home, it exploded, and two soldiers were wounded. These little bomblets continued to kill and maim long after the war was over.[68]

The 2d Cavalry spent the remainder of the night forward of the berm and ready to execute the attack on order. Later that evening the 3d Squadron reported enemy infantry moving on its right flank, but no serious action was reported in the regimental sector for the rest of the evening. Farther east, the 1st Infantry Division conducted one more Apache raid on the night of the twenty-third. The raid targeted the forward positions of the Iraqi *110th Infantry Brigade*. There was little contact, although assault helicopters did discover some fresh defense entrenchments in the penetration zone. Several sorties of B–52 bombers attacked these trenches soon after the 1st Division's Apaches departed.[69] With the VII Corps' advance elements across the border berm, the stage was set for the coalition's ground offensive scheduled for early the next morning, 24 February, G-day.

Notes

[1]Martin Blumenson, "Kasserine Pass, 30 January–22 February 1943," in *America's First Battles, 1776–1965*, ed. Charles E. Heller and William A. Stofft (Lawrence: University Press of Kansas, 1986), pp. 260–61; George P. Howe, *Northwest Africa: Seizing the Initiative in the West*, U.S. Army in World War II (Washington, D.C.: U.S. Army Center of Military History, 1957), pp. 475–500.

[2]T. N. Dupuy, "Forcasting Battle Attrition," *Parameters* 22, no. 2 (Summer 1992):96–97; James Blackwell, *Thunder in the Desert: The Strategy and Tactics of the Persian Gulf War* (New York: Bantam Books, 1991), p. 103.

[3]Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 205.

[4]ARCENT, OPLAN 001, DESERT STORM, 5 Jan 91.

[5]DA, FM 101–5–1, *Operational Terms and Symbols* (Washington, D.C.: Department of the Army, 1985), pp. 1–73. A turning movement is a variation of an envelopment in which the attacking force passes around or over the enemy's principal defensive positions to secure objectives that are deep in the enemy's rear.

[6]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], tab L, in VII Corps AAR, Fort Leavenworth, Kans.

[7]2d ACR, Opn DESERT STORM, 2d ACR, Op Sum, 23 Feb–1 Mar 94; VII Corps G–2, "100-Hour Ground War," pp. 17, 90–92, an. L. There are several different appraisals of Iraqi composition and disposition in print. This account relies primarily on the VII Corps G–2's detailed analysis contained in "The 100-Hour Ground War." Unit reports and journals are used to put this information into context and to elaborate on the equipment that was found on the battlefield. Because of their own communications and organizational breakdown, it is probable that no one in the Iraqi Army knew exactly what they actually had in the Kuwaiti Theater of Operations and where it was deployed.

[8]Lon E. Maggart and Gregory Fontenot, "Breaching Operations: Implications for Battle Command and Battle Space," *Military Review* (February 1994):25; David W. Marlin, *History of the 4th Battalion, 37th Armored Regiment, in Operation DESERT SHIELD/STORM* (Carlisle Barracks, Pa.: U.S. Army War College, 1992), p. 310; David Gross, "History of the 3d Battalion, 37th Armor," Unpubl Ms, Apr 94, pp. 41–43.

[9]S–2,177th Armd Bde, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), pp. 22–24.

[10]VII Corps G–2, "100-Hour Ground War," pp. 19–20, an. L; S–2,177th Armd Bde, *Iraqi Army*, p. 98.

[11]VII Corps G–2, "100-Hour Ground War," p. 96.

[12]Swain, *"Lucky War,"* p. 197; Carla Anne Robbins and Peter Cary, "Top Guns of DESERT STORM," *U.S. News and World Report*, 11 Feb 91, p. 44; "The Army Commanders," *Army* (March 1991):49–50.

[13]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1982), pp. 2–7.

[14]DA, FM 100–15, *Corps Operations* (Washington, D.C.: Department of the Army, 1989), p. 4–0.

[15]German General Staff, "Truppenführing," 1933 (trans. 1936), Unpubl Ms, CGSC, para. 73.

[16]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 507–08.

[17]"The Army Commanders," p. 49.

[18]Swain, *"Lucky War,"* p. 205.

[19]John M. Kendall, "The Closed Fist: VII Corps Operational Maneuver in Operation DESERT STORM," Unpubl Ms, AWC, 1994, p. 9.

[20]VII Corps TAC, Staff Jnl, 21 Feb 91, entry 2.

[21]Interv, Richard Swain with Stanley F. Cherrie, 29 Aug 91; Swain, *"Lucky War,"* pp. 204–05.

[22]Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 517; John M. Kendall, note to author, 15 Jul 97. Colonel Kendall, who was Yeosock's primary assistant during the conflict, believes the Third Army commander was "fully functional during the ground war."

[23]Swain, *"Lucky War,"* pp. 204–05.

[24] Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), p. 301; Bernard E. Trainor, "Schwarzkopf and His Generals," *Proceedings* (June 1994):46.

[25] Swain, *"Lucky War,"* pp. 19–21. In most cases, successful corps command was a requirement for Army command.

[26] VII Corps, FRAGO 135–91, Execution Order: Phase II, 22 Feb 91.

[27] 24th Inf Div (Mech), Discussion Paper, sub: 24th ID(M) Attack Plan DESERT STORM, 21 Feb 91; DOD, *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, D.C.: Government Printing Office, 1992), pp. 260, 285.

[28] John C. Wirick, "The 1st Cavalry Division in the Battle of the Ruqi Pocket," pp. 12–13, in Swain Collection, Fort Leavenworth, Kans.

[29] DOD, *Conduct of the Persian Gulf War,* p. 259.

[30] Ibid., pp. 218–21.

[31] Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 2 Apr 91, TRADOC.

[32] VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, pp. 8–9.

[33] DA, FM 100–15, pp. 7–15 to 7–16.

[34] VII Corps, OPLAN 1990–2, an. C (Opns), app. 3 (Breach Plan), tab A (Opns Sketch), 13 Jan 91; Interv, Kindsvatter with Franks, 2 Apr 91.

[35] DA, FM 71–100, *Division Operations* (Washington, D.C.: Department of the Army, 1990), pp. 6–12 to 6–15; 1st Inf Div G–3, 1st Inf Div (M): Opn DESERT SHIELD/STORM Briefing, 7 Aug 91. A river crossing differs from a penetration in its emphasis on moving large follow-on forces across an obstacle. River-crossing doctrine prescribes the various levels of command, graphics, and responsibilities of key personnel. Its procedures are much more specific.

[36] The 1st Infantry Division used river-crossing terminology in their order, especially terms such as "crossing area" and "crossing force." In all cases, they apply to the breach area.

[37] Maggart and Fontenot, "Breaching Operations," p. 28.

[38] A preparation fire is an intensive volume of indirect artillery fire delivered in conjunction with an assault. Its intent is to stun, demoralize, and destroy enemy elements in the assault area.

[39] Interv, Thomas A. Popa with Michael Dodson, 24 Jul 91; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 226; VII Corps, OPLAN 1990–2, an. D (Fire Spt), 13 Jan 91, p. D–2.

[40] A penetration is an attack that seeks to break through the enemy's defensive position, widen the gap created, and destroy the continuity of his positions. DA, FM 101–5–1, pp. 1–55.

[41] VII Corps Main CP, G–3, Relative Combat Power Rpt, 24 Feb 91.

[42] Maggart and Fontenot, "Breaching Operations," pp. 26–30; Ferdinand Otto Miksche, *Attack: A Study of Blitzkrieg Tactics* (New York: Random House, 1942), p. 17.

[43] Jim Tice, "Coming Through: The Big Red One Raid," *Army Times,* 26 Aug 91, p. 18.

[44] Maggart and Fontenot, "Breaching Operations," p. 30.

[45] Interv, Thomas A. Popa with Thomas G. Rhame, 26 Jul 91, CMH.

[46] DA, FM 71–100, pp. 6-12 to 6-15.

[47] A covering force operates forward of the main body, in this case the 1st and 3d Armored Divisions. It destroys enemy reconnaissance and security forces in its sector. It tries to gain contact with the enemy main force. When it does, the cavalry regiment develops the situation, identifies the main enemy positions, and destroys those in its security zone. DA, FM 101–5–1, pp. 1–64; VII Corps, OPLAN 1990–2, pp. 8–9.

[48] Interv, Richard Swain with Frederick M. Franks, Jr., 6 Mar 92, Swain Collection.

[49] Scales, *Certain Victory,* pp. 242–43; VII Corps, OPLAN 1990–2, pp. 8–9.

[50] VII Corps, OPLAN 1990–2, pp. 8–9.

[51] Interv, Kindsvatter with Franks, 11 Apr 91.

[52] VII Corps, OPLAN 1990–2, pp. 16, 22; Interv, author with Frederick M. Franks, Jr., 8 Sep 95.

[53] DA, Staff Officers' FM 101–5, *Staff Organization and Procedure* (Washington, D.C.: Department of the Army, 1972), p. C–18.

[54] Interv, Thomas A. Popa with Terry Ford, 23 Jul 91, CMH; DA, FM 100–15, pp. 4-11 to 4-13; Maggart and Fontenot, "Breaching Operations," pp. 23–26.

[55]A decision support template (DST) identifies areas where the enemy should be attacked (called targeted areas of interest, or TAIs) and where specific decisions (decision points, or DPs) must be made in support of the commander's concept of the operation. DA, FM 100–15, pp. 4–12.

[56]Maggart and Fontenot, "Breaching Operations," pp. 24–25.

[57]1st Armd Div, DESERT STORM 1990–1991, Briefing Slides, n.d., Scales Papers.

[58]The place where the strength of the attacker no longer significantly exceeds that of the defender and beyond which continued offensive operations therefore risk over-extension, counter-attack, or defeat. DA, FM 100–5, p. 181.

[59]Maggart and Fontenot, "Breaching Operations," pp. 27–28.

[60]Ibid., p. 30.

[61]Wirick, "Battle of Ruqi Pocket"; 1st Cav Div, Chron of the 1st Bde, 1st Cav Div.

[62]Sean D. Naylor, "Home of the Brave," *Army Times*, 27 Jan 92, p. 15.

[63]2d ACR, Op Sum, entry for 23 Feb.

[64]VII Corps, Sitrep 38, 24 Feb 91.

[65]Leonard D. Holder, "Second Armored Cavalry Regiment," Unpubl Ms, 13 May 91, Scales Papers; 2d ACR, Op Sum.

[66]2d ACR, Op Sum; Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 18; Holder, "Second Armored Cavalry Regiment."

[67]2d ACR, Op Sum. Long-range surveillance units (LRSUs) were small, dismounted teams positioned forward of the ground troops. Their mission was observing and reporting. While used throughout the corps' sector before G-day, they were of limited value. Because of commanders' fear of unnecessary casualties, they were hesitant to use these units to their full capabilities.

[68]2d ACR, Op Sum; Vogel, "A Swift Kick," p. 18.

[69]VII Corps, Sitrep 38, 24 Feb 91; VII Corps Main CP, G–3, Staff Jnl, 24 Feb 91, entry 2.

11

Initial Moves

Once the results of the first battle are known, the events of the battle and what led up to it are seen in a new perspective; if the military outcome was decisive, the blunders of the defeated and the brilliance of the victor shape the postbattle inquiry, while a stalemate draws attention to the misguided optimism and mistaken predictions of both sides, perhaps to lost opportunities as well. In any case, the actual experience of the first battle—the perceptions, problems, calculations, decisions and actions—is distorted by knowledge of the outcome.

—John Shy[1]

In the west, the XVIII Airborne Corps' French 6th Light Division and U.S. 101st Air Assault Division struck at dawn, 24 February, toward objectives deep in Iraq. The French, reinforced by the 2d Brigade of the 82d Airborne Division, crossed the border unopposed. By noon they had captured Objective ROCHAMBEAU, ninety miles beyond the border on the road to As Salman, destroying a brigade from the Iraqi *45th Division*. That same morning the 101st Air Assault Division attacked deep to seize an objective that became the division's Forward Operating Base (FOB) COBRA, 165 kilometers into Iraq and halfway to the Euphrates River.[2]

Farther to the east, on the coast, Joint Forces Command–East, consisting of troops from Qatar and Saudi Arabia, attacked at 0800. They made excellent progress through the Iraqi obstacle belt. To their west, the 1st and 2d Marine Divisions, supported by the 1st ("Tiger") Brigade of the 2d Armored Division, attacked into the teeth of the strongest Iraqi defenses in the theater. Their progress was excellent and would profoundly affect the VII Corps' operation.[3]

Franks' divisions were not scheduled to participate in the initial coalition attack on G-day. Their role was to make contact with the Iraqi defenses, get as much of their combat units as possible across the berm, with its actual attack scheduled to start at dawn on 25 February, or G plus 1. The specific unit tasks were different on the corps' breach sector on the right (1st Infantry and U.K. 1st Armoured Divisions) and the envelopment sector (1st and 3d Armored Divisions and 2d Cavalry) to the east. However, because of the coalition's success along the coast, General Schwarzkopf would ask the Jayhawks to change their plans and attack much earlier than anticipated.

The Breach Sector

It was a rainy morning in the VII Corps sector on 24 February. The showers continued until about 1000 hours. As the day went on, the visibility continued to decrease from unrestricted at dawn to less than 200 meters later in the day. Blowing sand, fog, and occasional showers all helped to limit unaided observation. Winds were fairly strong with gusts up to twenty-five knots during the day. Morning light could be detected in the eastern sky at 0531 and sunset was to come at 1753 hours.[4]

On the right flank, the 1st Cavalry Division, still the theater reserve, continued to play its part in General Schwarzkopf's plan. In order to give him the ability to employ his reserve quickly, the division staff had developed a series of contingency plans called Six Shooter Plus. These options allowed the division to attack quickly, defend, or reinforce the success of the attacking coalition forces. Ultimately, it executed the option called DESERT STORM 1, projecting the 1st Cavalry Division through the VII Corps breach to participate in the destruction of the *Republican Guard*.[5]

Meanwhile, the 1st Cavalry Division continued to execute deception operations. These feints, which began on 24 February, were intended to confuse the Iraqis as to the direction of the main attack and reinforce the impression of a general offensive across the entire Kuwaiti border and up the Wadi al Batin.[6] That morning the division fired an artillery raid against Iraqi artillery in the *27th*, *25th*, and *31st Divisions*' sectors. The 1st Cavalry Division's counterfire radar had acquired these targets the day before. At 1326 the artillery fired a SEAD (suppression of enemy air defense) mission, preparing the way for a raid by the cavalry's aviation brigade that crossed the line of departure shortly afterward. That raid struck a series of bunkers, reinforced by T–55 Tanks, in the Iraqi *25th Division's* defensive zone.[7]

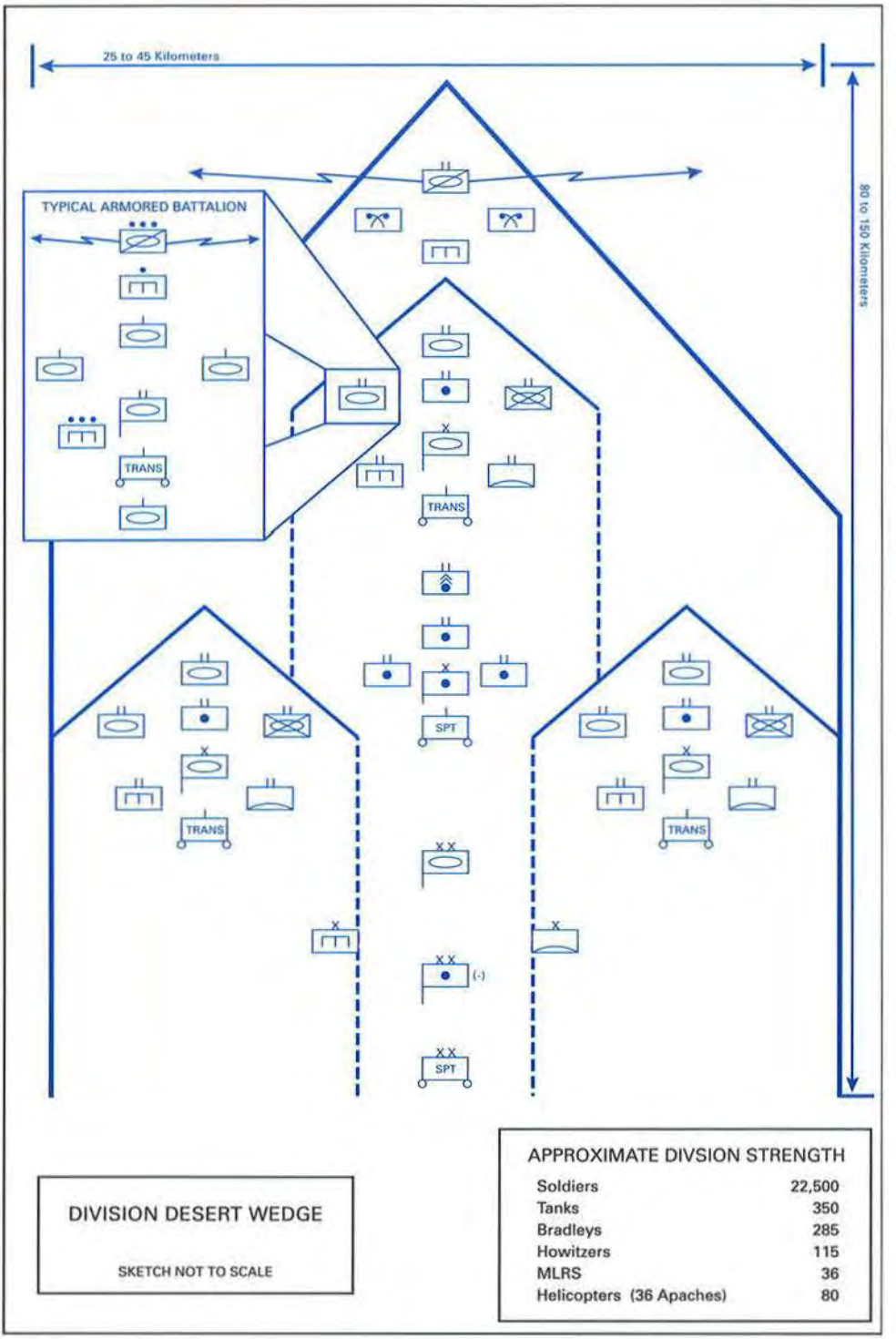
While the 1st Brigade and 1st Squadron, 7th Cavalry, secured the western part of the 1st Cavalry Division's sector, Brig. Gen. John Tilelli launched Col. Jonathan House's 2d Brigade on a "reconnaissance in force" against the *25th Division*. Unlike the previous operation on the twentieth, this was a full brigade attack. Operation QUICK STRIKE, as it was called, focused on identifying weaknesses in the Iraqi defensive belt. If the Iraqi defenses were penetrated, the division could execute another of the Six Shooter Plans, OPLAN MILES, and attack north into Iraq. At 1638 on 24 February the 2d Brigade crossed the line of departure in a brigade wedge with the 1st Battalion, 5th Cavalry, an infantry task force, at the point; the 1st Battalion, 32d Armor, in the west; and the 1st Battalion, 8th Cavalry, an armored task force, in the east. Soon they ran into enemy minefields, bunkers, and other defensive obstacles. By 2200 the brigade was in a hasty defense fifteen kilometers north of the border. Throughout the night it fought a battle with the Iraqi defenders, using tanks, Bradleys, and artillery fires to destroy enemy bunkers and vehicles.[8]

Shortly after 0530 on 24 February, the 1st Infantry Division moved forward to clear a zone between the border berm (Phase Line VERMONT) and a line just out



A mechanized unit moves through breach lanes marked by the 1st Infantry Division.

of direct-fire range of the enemy front-line trenches (PL KANSAS). Col. Lon E. Maggart's 1st Brigade, reinforced by the 1st Squadron, 4th Cavalry, 1st Cavalry Division, advanced on the left, while Col. Anthony Moreno's 2d Brigade moved on the right. Col. David Weisman's 3d Brigade remained south of the border prepared to exploit the breach. By 0535 scout platoons from both brigades were north of the berm and into the Iraqi *26th Infantry Division*'s security zone, which consisted of isolated outposts and patrols.[9] The advancing brigades quickly destroyed them and began capturing prisoners. During this phase of the advance, there was also a brief exchange of gunfire between two adjacent battalions, giving an early indication of the potential for "friendly fire" engagements.[10] Gaining physical contact with the enemy's main line of resistance provided space to deploy the field artillery units scheduled to fire in support of the division's assault on the Iraqi defense lines the next day. After the zone was clear to Phase Line KANSAS, around 0900, General Rhame ordered his supporting artillery brigades to start moving into their firing positions across the border in Iraq.[11] The lead brigades assumed a hasty defense for the night. The scale of this artillery movement was unprecedented in the post–Vietnam War U.S. Army. Almost five full brigades of self-propelled artillery and multiple rocket launchers moved through or up to the berm. Once in place, this massive artillery force, essentially an artillery division, would fire the prep and support the breach operation that the division planned to conduct the next day (G plus 1).[12]


25 to 45 Kilometers
80 to 150 Kilometers
TYPICAL ARMORED BATTALION
TRANS
TRANS
TRANS
TRANS
SPT
(-)
SPT
DIVISION DESERT WEDGE
SKETCH NOT TO SCALE
APPROXIMATE DIVSION STRENGTH
Soldiers 22,500
Tanks 350
Bradleys 285
Howitzers 115
MLRS 36
Helicopters (36 Apaches) 80

MAP 15

Meanwhile, the ground units executed the plan they had practiced and rehearsed. By 1000 hours the division's forward units were along a ridge just short of Phase Line WISCONSIN, north of PL KANSAS and in direct-fire range of the Iraqi defenders.[13] As the 1st Brigade swept to the top of that ridge, they found themselves in direct-fire range of the enemy positions about 1,200 meters north.[14] While this move could have been extremely dangerous, the Iraqi reaction betrayed the weariness of their front-line units. It also showed their level of surprise. Most of their front-line trenches had been used to move between fighting positions and were extremely shallow, often only twelve to eighteen inches deep. Nor were their fighting positions as sophisticated as those the 1st Cavalry Division had encountered in the Wadi al Batin sector a week before. Vehicle revetments were unreinforced sand mounds and relatively easy to destroy. There were no fire trenches or sophisticated wire barriers, even though unused concertina wire lay within the defensive sector.[15] Almost immediately, some of the Iraqis began leaving their positions to surrender. This created a tense situation in which those who wanted to give up were mixed with those who still intended to fight. Surprisingly, the more bellicose Iraqi soldiers did not fire at their acquiescent comrades, including a handful of officers. After a few moments in contact, the 1st Brigade's forward units moved to the back side of the slope and out of sight of the Iraqi positions. By 1030 both brigades were refueling and preparing to continue the mission.[16]

The Envelopment

In the enveloping sector, the 2d Cavalry's G-day mission was to move ten kilometers farther into Iraq to allow the trail squadron to cross the berm and the following divisions to move up to the border.[17] Almost as soon as the regiment began moving, it made contact with Iraqi infantry. Cobras engaged Iraqi vehicles on the western flank of the sector as the 3d Squadron began a series of small engagements with units on its flank. Throughout the day the squadron had many small skirmishes with Iraqi units. Troop L alone fought nine engagements along its eastern boundary. These enemy units from the Iraqi *110th Infantry Brigade* were caught between the enveloping regiment and the advancing 1st Infantry Division. In most cases, the engagements were uneven firefights between armored Bradleys and dismounted infantry, although the troopers also destroyed a few Iraqi tanks and armored personnel carriers. At 0703 the regiment's supporting 82d Engineer Battalion began the process of turning over the berm lanes to the follow-on divisions. The corps was slowly moving from its tightly compressed staging area, northward into Iraq.[18]

Initially the enemy forces offered only limited resistance. From 0910 to 1118 the 2d Cavalry received some artillery fire on its western flank and quickly responded with counterbattery fire. Most fighting, however, took place on the right. The vise of the 2d Cavalry and 3d Armored Division was slowly squeezing the same Iraqi brigade the 1st Infantry Division had attacked. Even before the main attack began in the afternoon this unlucky brigade was forced to fight against attacks from three separate directions.[19] Before noon hundreds of Iraqi soldiers

began to surrender. In a scene that was repeated hundreds of times during the war, they were searched and disarmed, given food and water, and left for follow-on units to direct them to the corps' enemy prisoner of war (EPW) holding area.[20] Meanwhile, the 4th Aviation Squadron started a running battle with the northern company of T–55 tanks that the Iraqi *26th Infantry Division* commander had placed on his flank. Using helicopter-launched TOWs and Air Force close air support, the squadron destroyed most of the vehicles in this unit, while the remainder of the Iraqi battalion fought all day against the 2d Cavalry's 3d Squadron and later the 3d Armored Division. When the 1st Infantry Division attacked the trench lines, these tanks were thus unavailable to support the Iraqi defenders.[21]

By 1000 hours both the 1st and 3d Armored Divisions were moving up to the border. The first units out of the assembly areas were the divisional cavalry squadrons. With cavalry fighting vehicles and scout helicopters, they acted as the eyes and ears of the division commander. Although the Army of Excellence changes to the organizational tables had placed these squadrons under control of the aviation brigades, few armor commanders accepted the loss; most division commanders persisted in considering them separate units in their traditional cavalry role. During this initial movement, the squadrons were to lead the combat brigades across the border berm and then maintain contact with the 2d Cavalry to the front and the units on their flanks.[22]

Following the cavalry squadrons moved the three brigades of each division. By 1990 a U.S. Army heavy brigade was more powerful than any World War II division. Each had 2 or 3 battalions of M1A2 Abrams tanks (58 tanks per battalion), and 1 battalion of M2A2 infantry fighting vehicles (54 each). In addition to their tanks or Bradleys, each battalion had a scout platoon, a mortar platoon, and a complement of fuel, ammunition, and maintenance vehicles. From other units in the division they were augmented with a package of additional systems that included a fire support team, Stinger air defense teams, and engineer platoons. The tank and infantry battalions exchanged companies with each other, so most of them were combined-arms task forces. Such cross attachments allowed the capabilities of the tanks to complement those of the Bradleys with their TOW antiarmor systems and infantry. Often one of the tank battalions remained "pure" and had a primary role as a reserve-counterattack-exploitation force. Then the commander relied on the tanks' protection, speed, firepower, and shock action to change the situation on the battlefield.[23]

Advancing with the brigade was the direct support artillery battalion. Its commander had two separate roles. First, he was the commander of a battalion organized into three firing batteries. Along with the twenty-four M109A2 155-mm. self-propelled artillery systems, this battalion contained over two hundred-fifty other vehicles including fire support team vehicles (FISTVs), command tracks (M577), ammunition trucks, fuel trucks, and tracked ammunition carriers. The actual tactical direction of this large organization was usually in the hands of the unit executive officer, because the battalion commander's second role was even more important. He was the brigade commander's key to the division's fire support system. Not only could he call for his own battalion's fires, but



Small Emplacement Excavator; below, *Small Emplacement Excavator and Armored Combat Earthmover* (Left) *Used To Dig Protective Positions for Vehicles and Equipment*



could quickly channel fires from all the other division and corps artillery units if available.

Traveling as a separate division element was the force artillery, controlled by the division artillery commander. This collection of artillery batteries, battalions, and brigades was a potent combat element. Since World War II the Army had developed a comprehensive hierarchical system of controlling artillery by giving it direct support, reinforcing, general support–reinforcing, and general support missions.[24] The result was an extremely sophisticated, mobile, and responsive field artillery system. For DESERT STORM each of these divisions had, in addition to its direct support battalions with the brigades, at least one MLRS battery as the divisional general support artillery and usually one field artillery brigade of three assorted battalions.[25]

Dispersed throughout various parts of the division formation were the other combat support elements. These included an aviation brigade with two battalions of AH–64 Apaches, a company of Black Hawks, and a platoon of the modern OH–58D Scout helicopters. While the support vehicles would move with the division, most of the aircraft would leapfrog from FAARP (forward area arming and refueling point) to FAARP. This brigade was the division commander's real reserve that he could use to influence the battle anywhere in the division sector.

There were several engineer battalions with an incredible assortment of equipment from simple dump trucks and backhoes to combat engineer vehicles (CEVs) with dozer blades and 165-mm. guns to the M9 armored combat earthmovers. In most divisions, the assigned engineer battalion joined engineer battalions provided by the corps in a provisional engineer brigade. This mission-based engineer brigade, or E Force, grouped under one commander all the mobility and countermobility units in the division. For example, the 3d Armored Division formed a provisional engineer regiment under Col. John Morris. It reorganized its 12th and 23d Engineer Battalions into three engineer task forces that could support the maneuver brigades as the mission required.[26]

There were also signal, intelligence, air defense, chemical, and military police units attached or assigned to the division.[27] Incorporated at every level of command, in every moving formation and trailing the entire division, was the huge combat service support organization. Each battalion had its own maintenance organization with M113 armored vehicles, M88 tank retrievers, and maintenance trucks. There were medical platoons with M113 ambulances, support platoons with dozens of heavy expanded mobility tactical trucks and five-ton trucks, and mess teams with field mess trailers. At brigade these elements formed the forward support battalion that had the sophisticated equipment to support the high-tech combat vehicles in use. At division they were organized into a main support battalion augmented by assets drawn from the corps support command. Each unit had medics and aid stations to support the complex triage evacuation system that terminated, in the corps, at the mobile hospital (MASH). Often overlooked by commentators on modern war, the service support system was the muscle that provided the power for the combat units of the division.

If the service support system was the muscle, the division's nervous system consisted of the communications that connected a complex series of command



Artillery Ammo Vehicle on the Move; below, *M978 HEMTT (Fuel Truck)*



posts. Each division had a tactical command post (TAC), about the size of a brigade command post with several M577 command tracks and a miniature staff. Usually headed by the assistant division commander for maneuver (ADC-M), the TAC provided forward control of the close battle.

Farther to the rear was the large main command post with its critical tactical operations center (TOC). Of varying sizes, consisting of a mixture of expandable five-ton trucks and smaller vans, the TOC was a small city in itself. During combat, it monitored the close battle, controlled the deep battle, planned future operations, and directed service support operations. In fast-moving operations, the TOC would break off a van, often the chief of staff's van, and move it forward while the rest of the main command post prepared to reposition. This "jump-TOC" had representatives from each staff section and could act as a temporary headquarters.

The rear command post was directed by the assistant division commander for support (ADC-S). Usually collocated with the division support command post, the ADC-S directed all combat service support activities, with a limited capability to control the battle in case of emergency. Moving as needed were the commanding general (CG) and his command group, officers the CG had selected to remain with him at all times during the battle. While the makeup of this group depended on the commander's personality and command style, it usually included his aide, the G–3, an intelligence officer, a communications specialist, and a fire support officer. Transportation ranged from Black Hawk helicopter, such as used by the 1st Armored Division's General Griffith, to M1A1 tanks, used by the 1st Infantry Division's General Rhame.[28]

A "heavy" division on the move occupied a huge amount of desert, with frontages of 25–45 kilometers and depths of 80–150 kilometers. It had over 22,000 soldiers and over 1,940 tracked vehicles, including tanks, infantry fighting vehicles, and artillery. There were well over 7,234 wheeled vehicles assigned or attached. Hundreds of other corps and miscellaneous vehicles moved with the unit. In addition, over 129 divisional and hundreds of other aircraft could be seen in the unit's skies. Each of these dangerous moving cities acted on the order of one man, the division commander.[29]

Franks knew that what really made the corps come together that morning was the training and proficiency of the individual soldiers and the officers' common understanding of both the unit's mission and the commander's intent. As they donned their NBC-protective clothing, took their nerve agent antidote pills, and moved to the line of departure, they all expected that they were going to test their mettle against the best Iraq had to offer.[30]

Adjustments

Early on 24 February it was obvious that the offensive all across the theater front had been enormously successful. Iraqi units began to surrender en masse along the coast, as resistance seemed to be crumbling in the Marine Central Command and Joint Forces Command–North sectors. General Schwarzkopf, back



Support Vehicles Ready To Move

in Riyadh, was encouraged by the impression that the Iraqi Army was on the run. He also learned that the Iraqis were destroying facilities in Kuwait City and appeared to be preparing an evacuation. Now the timing of the VII Corps attack was about to receive a sudden jolt. Schwarzkopf called Yeosock, who was also in Riyadh, a little before 0900 and asked if he could accelerate the time schedule and launch the VII Corps that day, rather than the next day as planned. Yeosock called his corps commanders for recommendations.[31]

Franks received his call from at 0912. Yeosock's question was simple: Could the corps be ready to launch its main attack early? Yeosock had already talked to the XVIII Airborne Corps commander, Lt. Gen. Gary E. Luck, who said that he could attack on two hours' notice. Franks gave a tentative "yes" to this same schedule, pending consultation with his commanders.[32] The corps G–3 immediately issued a warning order, requiring that lead units be prepared to attack on two hours' notice. Franks believed that an attack around noon would cause little disruption and would maintain the momentum the corps had already developed. At that moment his biggest challenge was in the 1st Infantry Division sector. Artillery batteries had to move forward and occupy firing positions. Simultaneously, large amounts of artillery ammunition had to be brought forward and placed in local ammunition supply points. At almost the same time the U.K. 1st Armoured Division had to move forward to its forward staging area.[33] Given the state of the Iraqi defenses, however, the need for a prolonged preparatory fire seemed less immediate.

To confirm his impression that the corps was ready to attack, Franks called his two lead commanders, Col. Leonard D. Holder and General Rhame. Both officers, one a traditional armored cavalryman and the other a modern mechanized infantryman who commanded his division from an M1 tank, said they would be ready in two hours.[34] Franks called back to Third Army around 1000 and told Yeosock they would be ready to attack by noon. At 1030 Franks received a formal warning order to prepare to attack in two hours. By 1130 the corps was moving forward, expecting to launch its attack within the hour.[35]

General Rhame, executing the most complex element of the corps plan, was receptive when Franks called him and asked if he could attack sooner. At 1115 the corps commander flew to the 1st Infantry Division's command post to discuss the details. While Rhame hoped to start the formal assault around 1300, his main concern was with the artillery that was already hurrying into position. Because of the opportunities in a rapid advance, he agreed to shorten his preparatory fire from the original two-and-a-half-hours to one-half hour. Rhame agreed with Franks that it was best to maintain the attack's momentum.[36]

This incident also illustrated a trademark of Franks' style of command that he was to display throughout the campaign. Conducting frequent face-to-face meetings with commanders was his way of ensuring that his intent was fulfilled. It also meant that he understood the conditions his subordinates faced. In the next four days he would nearly wear out his Black Hawk, flying from divisional command post to his tactical command post and out to other units. The corps' leaders knew that a needed decision or conference was only a radio call away—these frequent meetings increased the mutual trust and confidence among the VII Corps commanders and staff officers. However, Franks' constant motion may have limited his ability, according to a marine who studied this campaign, to "see the whole battlefield, think of the future, and influence and shape the battle to achieve the decisive victory he desired."[37]

After Yeosock's original call, shortly after nine in the morning, Franks began to review his attack options. He also called the 3d Armored Division commander, General Funk, and the 2d Cavalry commander, Colonel Holder, to the corp's tactical command post. On a sheet of butcher paper Franks sketched out the possibility of attacking more shallow with the 3d Armored Division. This change would place the 2d Cavalry between the two armored divisions, with the 3d Armored Division sweeping due east across the front of the 1st Infantry Division. The move could have increased the pace of the attack, since it would take a good deal of time to bring the British through the breach to attack the Iraqi *VII Corps*' tactical reserves. After reviewing the options, Franks rejected the plan, primarily because in his estimation it gave the corps insufficient combat power to deal with the *Republican Guard*. For better or worse, he stuck with his original plan and waited for the order to execute.[38]

By early afternoon the corps had pushed against the main defensive zone of the Iraqi *26th Infantry Division*. The 1st Infantry Division was ready to sweep the trench lines only a few thousand meters away. As the 2d Cavalry and following armored divisions moved farther into Iraq, it was also engaging the western flank



M88 Maintenance and Recovery Vehicle; below, *Medical M113 APC*



of the *26th Division*.[39] Shortly before 1300 the corps received a warning order to prepare to attack at 1500, *two hours later*. Franks spoke to Yeosock, confirming his receipt of the order. The new time was almost fifteen hours ahead of the originally scheduled attack at dawn. However, the high command's delays had wasted a half-day of precious daylight that would have been valuable during the breach of the Iraqi defenses.[40] The delay was frustrating. Nevertheless, Franks called Colonel Holder and told the 2d Cavalry to start their attack at 1430 hours, so the following divisions could clear the berm quickly. At 1415 Holder sent his Cobras and scout helicopters of the aviation squadron into Iraq and began moving his 119 M1A1 tanks and 124 Bradley cavalry fighting vehicles fifteen minutes later.[41] The VII Corps' attack had formally begun.

The change of the offensive time placed the VII Corps in a difficult situation. Essentially, the assaulting units were now being asked to accomplish their mission in the dark, a task for which they had not adequately prepared. From the tactical perspective, unit commanders would have welcomed an order to attack at 1130. Now there was a delay that wasted daylight.[42]

This waste of daylight became a sore point after the war. Franks believed that those four extra hours would have allowed the 1st Armored Division the daylight they needed to seize the crossroads and supply base at Al Busayyah before the end of the twenty-fourth. In this scenario, the 2d Cavalry and the 3d Armored Division would have been in position that evening for a wheel the next morning toward the *Republican Guard*. The 1st Infantry Division would have secured its bridgehead, allowing the British armored division to move to its staging area for an early passage through the breach. While we will never know if Franks was right, we do know that neither he nor his subordinates sensed that Schwarzkopf and Yeosock were in a hurry to close with the *Republican Guard*. If they were, why delay the operation until 1500?[43]

The formal attack order came at 1330, thirty minutes after the informal warning order. The corps staff quickly confirmed the former, a standard procedure and an example of how commanders tried to make their communications systems "reliable, timely and redundant."[44] The leader's responsibility, especially in large organizations, is to ensure that the order is both received and understood. If necessary, the senior should require his junior to explain how he intends to accomplish the mission and correct him if there is a misunderstanding.[45]

If time is available, leaders may give full briefings and presentations. The staff supports the commander through its own communications network by ensuring that the orders are received and understood. The senior staff contacts its counterparts at lower command levels and tells them of the order and explains how it affects the staff process and procedure.[46] This complex process overcomes the normal friction that exists in a complex, hostile environment. The leader who received the first verbal order could be distracted—tired, sick, or concerned for his own safety. To ignore redundant communications and depend on *one* command, and no subordinate feedback, is to invite disaster.[47]

In this case thirty minutes, over a quarter of the time remaining, passed before the corps received the formal order to attack. Because Franks had anticipated the

order and acknowledged it, there was no case of misinterpretation of the mission. Everyone in the corps was ready, and the mission had already been planned and rehearsed. Yet Franks may have misunderstood Schwarzkopf's intent. The commander in chief was demanding an exploitation of, from his perspective, the crumbling Iraqi defenses. Franks, however, detected no sense of urgency in the instructions he received from Yeosock.

A short time after 1400 the fire support officer from the 2d Battalion, 34th Armor, 1st Brigade, 1st Infantry Division, adjusted the individual rounds fired from its direct support artillery battalion, 1st Battalion, 5th Field Artillery.[48] The 2d Brigade and 2d Cavalry fired similar missions. At exactly 1430 the massive preparatory fire began.[49] It was an amazing display of firepower that none of the participants had ever seen before, nor expected to see again.[50] For the first time in over fifty years, the Jayhawks were on the attack.

Notes

[1]John Shy, "First Battles in Retrospect," in *America's First Battles, 1776–1965*, ed. Charles E. Heller and William A. Stofft (Lawrence: University Press of Kansas, 1986), p. 328.

[2]DOD, *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, D.C.: Government Printing Office, 1992), p. 260; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 216–21.

[3]DOD, *Conduct of the Persian Gulf War*, pp. 265–67.

[4]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. G–1–3, in VII Corps AAR, Fort Leavenworth, Kans.; Richard M. Swain *"Lucky War": Third Army in Desert Storm* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 229.

[5]John C. Wirick, "The 1st Cavalry Division in the Battle of Ruqi Pocket," in Swain Collection, Fort Leavenworth, Kans.; 1st Cav Div, Chron of the 1st Bde, 1st Cav Div.

[6]DA, FM 101–5–1, *Operational Terms and Symbols* (Washington, D.C.: Department of the Army, 1985), pp. 1–31. A feint is an offensive operation intended to draw the enemy's attention away from the area of the main attack, which induces the enemy to move his reserves or to shift his fire support in reaction the feint. Feints must appear real; therefore, some contact with the enemy is required.

[7]VII Corps G–2, "100-Hour Ground War"; Wirick, "Battle of Ruqi Pocket"; 1st Cav Div, Chron of the 1st Bde.

[8]Wirick, "Battle of Ruqi Pocket"; 1st Cav Div, Chron of the 1st Bde; VII Corps G–2, "100-Hour Ground War," p. 95; 1st Cav Div, Chron of 1st Bde.

[9]1st Bde, 1st Inf Div, TAC, Staff Jnl, 24 Feb 91; 2d Bde, 1st Inf Div, TAC, Staff Jnl, 24 Feb 91; Lon E. Maggart and Gregory Fontenot, "Breaching Operations: Implications for Battle Command and Battle Space," *Military Review* (February 1994):30–31.

[10]1st Bde, 1st Inf Div, TAC, Staff Jnl, 24 Feb 91, entry 131; David E. Gross, "History of 3d Battalion, 37th Armor, in Operation DESERT STORM," Unpubl Ms, Apr 98, pp. 88–89; Maggart and Fontenot, "Breaching Operations," pp. 30–31; Jim Tice, "Coming Through: The Big Red One Raid," *Army Times*, 26 Aug 91, p. 13.

[11]1st Bde, 1st Inf Div, TAC, Staff Jnl, 24 Feb 91.

[12]VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, an. D (Fire Spt), p. 2.

[13]Phase lines are nothing more than lines drawn on a map to help commanders and staffs control the battle. The problem is that each level of command adds additional lines to those provided by the senior commander, making reference to them confusing. In this book, minor control measures are ignored and location is presented by referring to the most important control measures.

[14]Maggart and Fontenot "Breaching Operations," pp. 30–31.

[15]VII Corps G–2, "100-Hour Ground War," p. 71; Gross, "History of 37th Armor," p. 97.

[16]1st Bde, 1st Inf Div, TAC, Staff Jnl, 24 Feb 91, entry 132; Maggart and Fontenot, "Breaching Operations," p. 31.

[17]Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 18.

[18]2d ACR, Op Sum, 23 Feb–1 Mar 91; Vogel, "A Swift Kick," p. 18; VII Corps Main CP, G–3, Staff Jnl, 24 Feb 91, entries 18, 41, 50.

[19]VII Corps G–2, "100-Hour Ground War," p. 91.

[20]2d ACR, Op Sum.

[21]Ibid.; VII Corps G–2, "100-Hour Ground War," p. 92.

[22]Scales, *Certain Victory*, pp. 242–43; 3d Armd Div, Chron of 3d Armd Div, Opn DESERT SPEAR, 24–28 Feb 91.

[23]1st Armd Div, "Old Ironsides DESERT STORM" (Briefing Slides), n.d.

[24]A direct support (DS) mission requires a force to support another specific force and authorizes it to directly answer the supported force's requests for fire support. It is the most responsive fire support a maneuver unit can have. The DS artillery commander coordinates his own artillery fires, as well as the fires from units reinforcing his. Also available to the DS artillery commander are the fires of general support (GS) units and units that may be available under certain circumstances, called general support–reinforcing (GSR) units. Other than the DS artillery unit, which is incorporated into the

brigade's staff system and sends fire support teams (FISTs) down to maneuver battalion and company, these arrangements can be changed by a simple radio message.

[25] DA, FM 101–10–1/1, *Staff Officers' Field Manual: Organizational, Technical, and Logistical Data* (Washington, D.C.: Department of the Army, 1987), pp. 1–166; DA, FM 71–100, *Division Operations* (Washington, D.C.: Department of the Army, 1990), pp. 2–2 to 2–3; "Old Ironsides DESERT STORM."

[26] Brian A. Hatheway, note to author, 29 May 98; Eric T. Mogren, note to author, 31 May 98.

[27] DA, FM 71–100, pp. 2–2 to 2–3; "Old Ironsides DESERT STORM."

[28] DA, FM 71–100, pp. 3–2 to 3–6; "Old Ironsides DESERT STORM"; author's notes.

[29] Scales, *Certain Victory*, p. 239; "Old Ironsides DESERT STORM."

[30] 2d Bde, 3d Armd Div, "Operation DESERT SHIELD," Unpubl Ms, n.d.

[31] H. Norman Schwarzkopf and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p. 523; Swain "*Lucky War*," pp. 230–32.

[32] Frederick M. Franks, Jr., "Message: Fighting a Five Armored Division Corps," 31 Mar 91, pp. 1–2, in VII Corps AAR; Interv, Richard M. Swain with John J. Yeosock, 27 Jun 91.

[33] VII Corps Main CP, G–3, Staff Jnl, 24 Feb 91, entry 23; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 11 Apr 91, TRADOC.

[34] Franks, "Fighting a Five Armored Division Corps," p. 2.

[35] Interv, Kindsvatter with Franks, 11 Apr 91; Vogel, "A Swift Kick," p. 18; VII Corps, Sitrep 39, 24 Feb 91.

[36] Interv, Thomas A. Popa with Thomas G. Rhame, 26 Jul 91; Tice, "Coming Through," p. 20; Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* 72, no. 2 (February 1992):22–23.

[37] Stephen Zotti, "Mailed Fist or Pursuit Operations: An Operational Analysis of VII Corps During the Gulf War," Unpubl Ms, CGSC, 1997, p. 149.

[38] Franks, "Fighting a Five Armored Division Corps"; Interv, author with Frederick M. Franks, Jr., 8 Sep 95, CMH.

[39] VII Corps Main CP, G–3, Relative Combat Power Rpt, 24 Feb 91.

[40] VII Corps Main CP, G–3, Daily Staff Jnl, 24 Feb 91, entry 51; Kindsvatter, "Ground Offensive," p. 23.

[41] 2d ACR, Op Sum; Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps TAC, Daily Staff Jnl, 24 Feb 91, entry 28.

[42] James G. Burton, "Pushing Them Out the Back Door," *Proceedings* (June 1993):39; Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 524–29.

[43] Interv, author with Franks, 8 Sep 95; Donald Holder as cited in Zotti, "Mailed Fist or Pursuit Operations," p. 92.

[44] DA, FM 71–100, p. 3–2.

[45] DA, FM 22–100, *Military Leadership* (Washington, D.C.: Department of the Army, 1983), pp. 185–202.

[46] DA, Staff Officers' FM 101–5, *Staff Organization and Operations* (Washington, D.C.: Department of the Army, 1984), p. 1–6.

[47] There were redundant channels of communication. These included commander to commander, ARCENT Main CP to VII Corps Main CP, tactical CP to tactical CP, liaison officers from one headquarters to another, and tactical satellite from the president down to the division commander, if required. The VII Corps and ARCENT logs indicate that too often the command channel was not backed up by timely use of staff channels.

[48] Maggart and Fontenot, "Breaching Operations," p. 32.

[49] 2d ACR, Op Sum.

[50] Tice, "Coming Through," p. 20.

12

Into the Breach

At 1500 on 24 February the two lead brigades of the Big Red One lunged forward. The 1st Brigade, in the west, attacked with the 2d Battalion, 34th Armor, on the left and the 5th Battalion, 16th Infantry, on the right. The 2d Brigade, in the eastern zone, struck with the 3d Battalion, 37th Armor, on the left and the 2d Battalion, 16th Infantry, on the right. All four battalions were organized as combined-arms task forces. To the defending Iraqis, they must have appeared as a solid wall of fire and iron. The assaulting battalions began the move with 120-mm. volleys from their tank platoons. Tank- and Bradley-mounted machine guns poured rounds into all possible positions, while smoke rounds marked assault sectors and isolated Iraqi positions from each other.

As the lead elements closed with the trenches along Phase Line IOWA, the Iraqis could see that many of the tanks pushed plows and mine rakes forward in front of them. Combat engineer vehicles with their short-but-lethal 165-mm. guns and plows headed for trenches and bunkers. The new armored combat earthmovers worked to plow lanes through the obstacle belt. Behind this 6,000-meter-wide wall of iron came the remainder of the battalions, especially the Bradley infantry fighting vehicles, with soldiers ready to fire from the ports on the side and rear. In the turrets, the gunners prepared to engage with 7.62-mm. coaxial machine guns and 25-mm. Bushmaster automatic cannon. Five hundred meters south of the trench line, the assaulting task forces dropped their plows from their carry position. They continued north at fifteen kilometers per hour, firing coaxial machine guns and 120-mm. cannon into the trenches. Trailing the four maneuver and two engineer task forces were the three exploitation battalions: the 1st Squadron, 4th Cavalry, and 1st Battalion, 34th Armor, from the 1st Brigade and the 4th Battalion, 37th Armor, from the second. Both tank battalions were "pure," in other words without infantry attachments.[1]

Although enemy resistance was generally limited to uncoordinated small arms, rifle-propelled grenades (RPGs), artillery, and mortar fire, the Iraqis did not simply quit. In the 1st Brigade sector, Lt. Col. Gregory Fontenot, the 2d Battalion, 34th Armor, task force commander, and one of his teams were forced off a low ridge by Iraqi artillery. The 5th Battalion, 16th Infantry, task force took fire from an Iraqi platoon and used concentrated coaxial machine-gun and Bushmaster fire to capture the position and its twenty-five survivors.[2] In the eastern part of the sector, the 2d Brigade's movement went faster and met little sustained resistance. Iraqi



Iraqi Wire Obstacles; below, *Iraqi Trench Lines*



soldiers continued to fight from their trenches and bunkers, obviously expecting a friendly counterattack to drive off the attackers. Mounted fire from approaching American armored vehicles was not enough to defeat the defending Iraqis.[3]

Finally, the attacking battalions reached the trench lines. The Iraqis probably anticipated dismounted American soldiers assaulting their ground positions. But the 1st Division had no intention of playing by Iraqi rules. Once across the trench, tanks equipped with menacing multitoothed plows turned either right or left. With blades down, these tanks moved along the back of the trench lines, filling them in as they went. Behind the Abrams tanks were mechanized infantry, and the soldiers dismounted only to gather the Iraqis who poured from the positions with hands high in the air. Some Iraqis tried to run away, but were either killed or captured by the following American assault elements. A few fought to the death. The 1st Division's soldiers did not, however, dismount. It was an unequal battle, as tanks pushed the sand back on top of the resisting Iraqis. When RPG and small-arms fire bounced off the tanks, most Iraqis realized they had no choice but to surrender. The U.S. infantry dismounted and gathered prisoners according to the drills they had practiced since they came into the Army. Then the grisly process of filling in the trench line, burying those who resisted, continued. Probably fewer than two hundred members of the *110th Infantry Brigade* chose this method of martyrdom. Most were content with surrender and removal to the EPW cage in the rear.[4]

At 1530 Franks flew forward and met with Rhame to assess how the breach was progressing and how rapidly the lead forces were moving. He also wanted to see how hard the Iraqis were fighting. The division commander's report of weak resistance with lots of prisoners reassured him that the attack was on track and moving with a satisfactory operational tempo.[5] Once the leading Big Red One troopers were through the first trench belt, the artillery shifted its fire farther north against other positions. By 1615, forty-five minutes after the attack began, the lead battalions had lanes cleared through the first trench line, and the following battalions were passing through the open lanes and attacking the *26th Infantry Division*'s positions farther to the rear. By 1600 the 1st Infantry Division reported that the lead elements had cleared sixteen lanes through the forward positions.[6]

By 1630 all combat elements of the 1st Infantry Division were either moving or fighting. The exploiting 1st Squadron, 4th Cavalry, destroyed three antitank guns and a Panhard reconnaissance vehicle, taking over one hundred prisoners in the process. On the cavalry's right, the 1st Battalion, 34th Armor, overran the *110th Brigade*'s command post, capturing the commander and generally wreaking havoc in the rear area. Meanwhile, the 5th Battalion, 16th Infantry, continued to clear the trenches, seizing over one hundred-sixty prisoners.[7] The 2d Brigade fight was as quick. Passing through its lanes, the 3d Battalion, 37th Armor, attacked and destroyed an Iraqi D–30 artillery battery and many trucks and bunkers in the Iraqi rear area.[8]

As darkness began to fall, the Iraqis continued to resist, firing artillery and mortars at the lanes cleared through the forward positions. Now the loss of those hours of daylight became critical. Evening found the 1st Brigade still in the process of clearing the Iraqi fighting positions on the western part of the objective. The 2d



Iraqi Fighting Position

Brigade had cleared its sector on the eastern side and had reached Phase Line COLORADO, allowing for the commitment of the 3d Brigade. Just after dark a soldier either stepped on a mine or detonated one of the many shiny, unexploded, DPICM rounds on the ground.[9] His death added to Rhame's concern about continuing to clear the Iraqi positions at night. The 1st Division still had much to do, but clearing the Iraqi trench system would be more dangerous at night. Meanwhile, American engineers still had to mark lanes for the following U.K. 1st Armoured Division and move the 3d Brigade into the battle zone to expand the breachhead to Phase Line NEW JERSEY. Rhame, however, hesitated to employ the brigade at night this way. The 3d Brigade was the same force that had formed the core of Task Force IRON and had suffered the casualties from the Apache strike. It had little real experience in night combat operations. Without those three hours of precious daylight, Rhame was uneasy about continuing the attack.[10]

Later, General Rhame would argue that those additional hours of daylight were critical, and with them the 1st Infantry Division could have secured all of Phase Line COLORADO. His 3d Brigade was in position and could have quickly exploited the assaulting brigades' success to Phase Line NEW JERSEY, the battle hand-over line to the U.K. 1st Armoured Division, by nightfall. While the 3d Brigade was opening the door at NEW JERSEY, the 1st and 2d Brigades could have consolidated and completed clearing the lanes for the British and thousands of the corps' support vehicles.[11] But by the end of the day the 1st Infantry Division had taken only about two-thirds of the objective and over one thousand enemy prisoners of war. Friendly casualties amounted to one dead and one wounded; the anticipated casualty rate had been more than 40 percent.[12]

During the 1st Infantry Division's attack, the U.K. 1st Armoured Division had been preparing to move its two combat brigades, the 7th and 4th, to the breach zone. The British division staff had planned to use heavy equipment transporters to move their armor from FAA RAY to a staging area near the breach. General Smith was concerned over any delay that would hamper his ability to position his troops for the breakout from the breach. Rather than risk being out of position, he ordered his 4th Brigade to begin moving forward that night.[13]



Iraqi prisoner (Notice his look of fear: The author believes the prisoners thought they would be killed.)

To the west, at 1500 the 2d Cavalry's 3d and 4th Squadrons continued their series of engagements with the westernmost elements of the *110th Infantry Brigade* and the remnants of the *26th Infantry Division*'s tank battalion that lay near the low hill marked "1381" on the 1:100,000 maps. Continued advances required the regiment's jump TOC to take control of the radio net at 1500 as the main command post moved forward.[14] By 1700 the regiment had advanced over forty kilometers into Iraq, meeting only scattered resistance, while capturing several hundred prisoners from the Iraqi *26th Infantry Division*, whose main defenses the 2d Cavalry had essentially bypassed to the west. The regiment maintained contact with the 3d Cavalry from the XVIII Airborne Corps, attacking on its left flank. On its right flank, according to Lt. Col. Scott Marcy, the 3d Squadron commander, the biggest problem was coordination with the 1st Infantry Division fighting in the breach. It was hard to keep track of the location of the division's front lines. Troop L, which had to shoot across those imaginary boundaries to



Iraqi Prisoner; below, *Processing Iraqi Prisoners*



engage the Iraqis, controlled its fires closely to avoid hitting the 1st Infantry Division soldiers in the assault.[15]

Behind the cavalry regiment, the 2d Brigade of the 3d Armored Division crossed into Iraq at 1500, with the aviation brigade's 4th Squadron, 7th Cavalry, screening the division's right flank. At 1621 the 1st Brigade crossed the berm.[16] The movement illustrated what could happen during such a maneuver even in daylight and not under fire. Some lead company commanders became confused because they approached the berm passing lanes at the wrong angle and missed the lane marker signs. Poor weather made visibility difficult, and some lane-marker signs were either not visible or had been moved or demolished during the earlier crossings. Some units missed their military police guides, who had not been told of the changes in times and were not at their posts. The 1st Brigade's after-action report later noted that these problems "in effect snowballed causing follow-on elements to quickly accept whatever lane they came to first."[17] They passed through their lanes and emerged on the other side to reassemble in their combat formations. In the long run, all was well. But to the leadership of the division and the corps who had to helplessly watch the platoon, company, and battalion commanders sort out the confusion on the scene, it was a prime example of the "friction" of war at work.

Farther west, the 1st Squadron, 1st Cavalry Division, led the 1st Armored Division across the border berm at 1500. Behind came the armored brigades in their desert wedge formation.[18] The 2d Brigade was echeloned to the left and the 3d Brigade to the right behind the 1st Brigade.[19] The boulder-strewn terrain past the border berm forced tanks to sometimes travel in column. In addition, there were large *sabkhas*, or dry lakes, which recent rains had made soft and sandstorms were making hard to see. Several M1s became stuck in the two-to-three feet of wet sand. Each time a vehicle became mired, the progress of the unit would slow as drivers and track commanders searched the ground ahead to avoid the fate of their stalled comrades.[20]

The Command Gap

In the three hours of daylight remaining on the twenty-fourth, VII Corps had done quite well. General Yeosock was pleased with its progress, as was General Schwarzkopf.[21] Unfortunately, the differences between the reality on the ground and the image at the senior headquarters began to grow. Time and space make the role of theater commander difficult, especially in a fast-moving situation. The theater headquarters in Riyadh was over three hundred miles from the VII Corps area of operations.

In addition, General Schwarzkopf's information and orders were filtered through Third Army's commander and staff. General Yeosock, who was at his own headquarters across town, gathered some of his information on the battlefield directly from the subordinate commanders. Other data came from his liaison officers at each of the corps. Still other reports arrived through staff channels from Yeosock's own tactical headquarters at King Khalid Military City. After a period of

time, maps posted in each of these command posts (Central Command, Third Army, and VII Corps) began to take on a life all their own.[22] All too soon the reality of conditions on the ground, inclement weather, the dynamics of combat, fatigue, and combat service support problems were subordinated to the illusion portrayed by the location of a unit sticker on the map.

Some theater commanders have successfully tackled these information problems. For example, during the American Civil War, Lt. Gen. Ulysses S. Grant sent Maj. Gen. William T. Sherman on a generally unsupervised operation toward Atlanta, while he personally rode with Maj. Gen. George G. Meade in Northern Virginia. During the Second World War, General Dwight D. Eisenhower worked to coordinate the efforts of General Omar N. Bradley, Lt. Gen. Jacob L. Devers, and Field Marshal Sir Bernard L. Montgomery and rarely interfered in the tactical affairs of their corps. When he did, it was to take decisive action, such as the relief of the XIX Corps commander, Maj. Gen. Charles H. Corlett, or to direct the allocation of resources as in the case of the defense of the Ardennes in December 1944.[23]

Other theater commanders have been notably ineffective in transcending the barriers of time and space. General Robert G. Nivelle, for example, during the First World War, lost all sense of perspective during the offensive of 1917, which resulted in a mutiny by the French Army and severe demoralization across the front.[24] Theater commanders can also let great opportunities pass by not personally taking control of the campaign. For example, Field Marshal Gerd von Rundstedt's halting of General Heinz Guderian's assault toward the Channel beaches in May 1940 allowed the British Army to escape.[25] Early in the European Campaign, Eisenhower was unable to coordinate the armies of Bradley and Montgomery after the breakout from Normandy, allowing the Germans to escape through the Falaise Pocket.[26]

One solution to the problem of theater command is simply to exit the command post, leaving details to trusted subordinates, and to move forward to coordinate with engaged commanders directly. Given the high-speed transportation assets available to a Gulf War–era senior commander, there were few reasons to remain tied to a fixed installation. There is no substitute for personal communication between the boss and the subordinate. It is also imperative that the senior go forward to meet with the subordinate, not the other way around.[27]

The issue of senior commanders visiting the front lines is important to an understanding of how the Americans prosecuted the ground campaign. Not once during the entire conflict did Schwarzkopf or Yeosock go forward to meet either corps commander. The trip from Riyadh to the forward area was a little over two hours by Black Hawk. These could have been productive visits, making the offensive more effective and preventing some of the recriminations that developed later.[28] Moreover, principal staff officers never came forward to meet with General Franks *on the front lines* for an appraisal of the true situation on the ground.[29] By relying solely on long distance communications, the army and theater commanders became prisoners of their map boards and their perceptions. Working out of a bunker without windows, they lost the perspective of night combat. Converging

arrows drawn on a map board are harmless but belie the situation on the battlefield. As one commentator on the war noted, "Yeosock might have just as well been in Washington."[30]

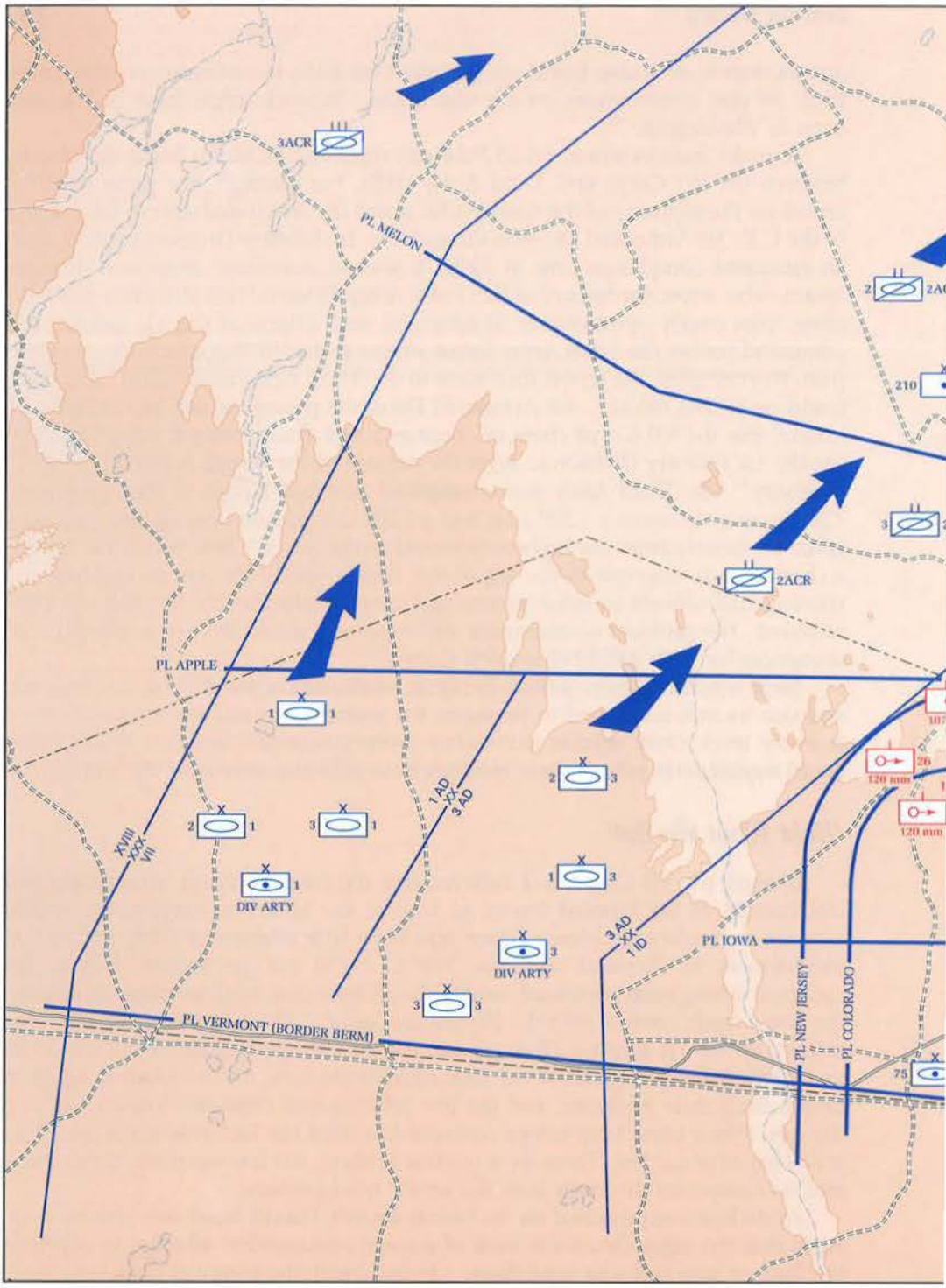
To make matters worse, on 25 February reporting problems began developing between the VII Corps and Third Army staffs. For example, the army situation report for the morning of the twenty-fifth noted the *anticipated* start of the passage of the U.K. 1st Armoured Division through the 1st Infantry Division as 0800, with an estimated completion time at 1200. It was an inaccurate projection. Richard Swain, who wrote the history of the Third Army, believed that this error probably came from overly optimistic or ill-informed staff officers at the VII Corps main command post or the Third Army liaison officer at the VII Corps tactical command post. Nevertheless, the report then went to the Third Army mobile and main command posts that the U.K. 1st Armoured Division's passage would be complete by noon.[31] But the VII Corps chain of command had already issued orders instructing the 1st Infantry Division to *begin* the passage of the British before 1200 on 25 February.[32] The Third Army main command post had a copy of that document. The disparity between a 1200 start and a 1200 completion time should have triggered an inquiry from the higher command to the lower. There was none. "It was a characteristic example of the fog of war which, for all the Army's emphasis on training staff officers to value precise and correct information, has still not been removed. The problem of inaccurate staff reporting would later have painful consequences for both ARCENT and VII Corps."[33]

Such reporting discrepancies between headquarters are difficult to eliminate, and this friction continued to permeate the entire command and control process at every level. Only regular face-to-face communications between commanders could significantly reduce these hindrances to effective command and control.

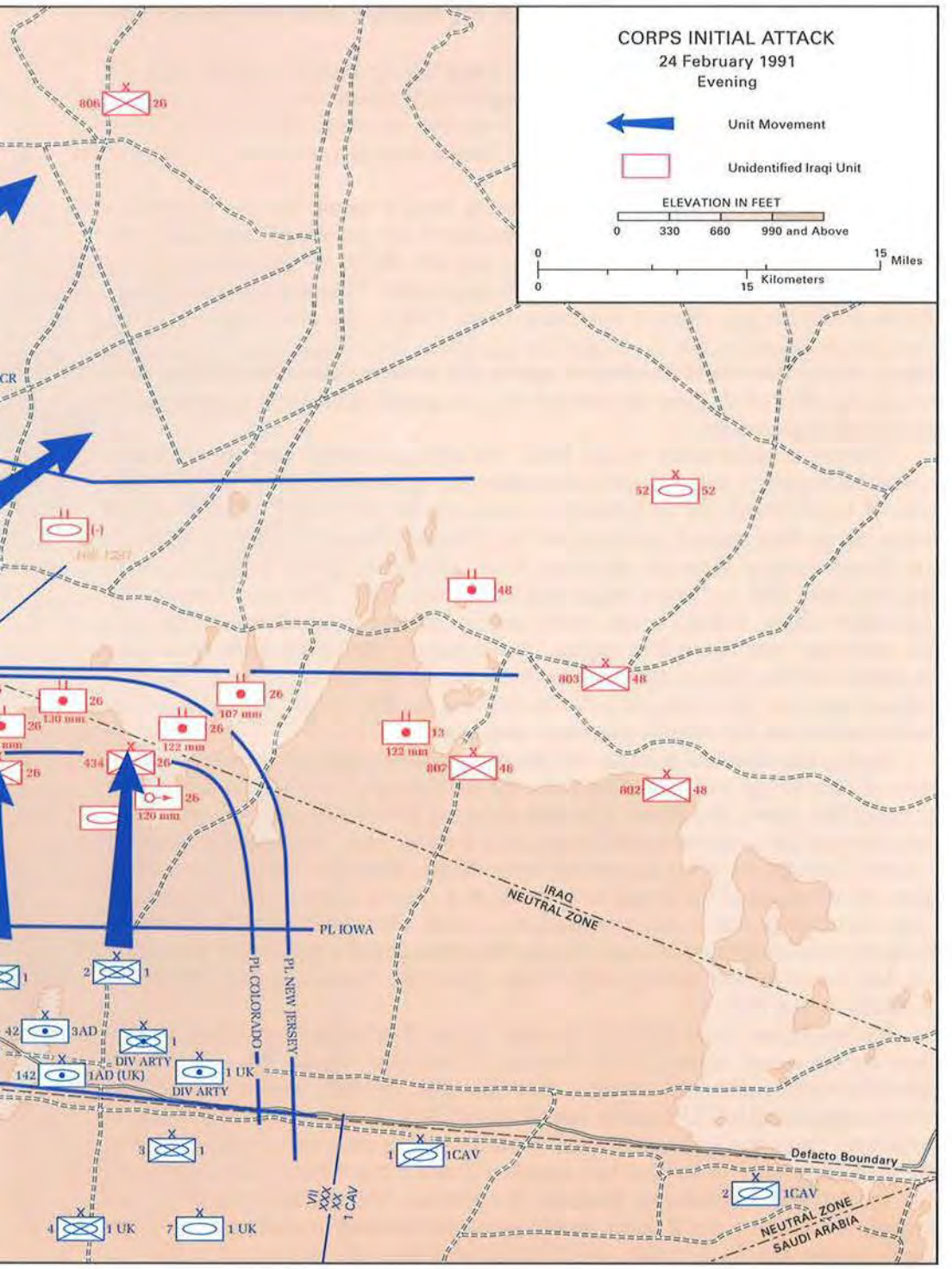
"Hold What We Got"

By dark the VII Corps G–2 believed that the Iraqi *VII Corps* commander had lost control of his forward forces, as well as the ability to employ his mobile reserves in a coherent defense. There had been little effective artillery fire and no employment of chemical weapons. The G–2 did not yet declare victory, but expected strong Iraqi resistance only at the Al Busayyah logistics depot and when the corps made contact with the *Republican Guard*.[34] Three hours of concentrated attacks by the 1st Infantry Division and the 2d Cavalry had destroyed the *110th* and *434th Infantry Brigades* of the *26th Infantry Division*. Its T–55 tanks had been driven from their positions, and the few vehicles that remained had retreated to the east. While some Iraqi troops continued to resist the Jayhawk attack, they had little chance of success. There were too few soldiers, too few weapons, no reserves, and no competent direction from the senior headquarters.

As darkness approached on the twenty-fourth, Franks faced one of those decisions that rest squarely on the back of a corps commander: whether to continue the fight or stop and wait until dawn. On one hand, the plan was ahead of schedule and the Iraqis appeared to be withering before the combined effects of the


3ACR
PL MELON
2ACR
PL APPLE
XVIII
XXX
VIII
DIV ARTY
1 AD
XX
3 AD
DIV ARTY
3 AD
XX
1 ID
PL IOWA
PL VERMONT (BORDER BERM)
PL NEW JERSEY
PL COLORADO
120 mm
120 mm

Map 16


CORPS INITIAL ATTACK
24 February 1991
Evening
Unit Movement
Unidentified Iraqi Unit
ELEVATION IN FEET
0
330
660
990 and Above
0
15
Miles
0
15
Kilometers
806
26
52
52
48
803
48
802
48
807
46
434
26
26
130 mm
26
107 mm
26
122 mm
26
120 mm
13
122 mm
IRAQ
NEUTRAL ZONE
PL IOWA
PL COLORADO
PL NEW JERSEY
42
3AD
142
1AD (UK)
DIV ARTY
1 UK
DIV ARTY
1 UK
1CAV
Defacto Boundary
2
1CAV
VII
XXX
XX
1 CAV
4
1 UK
7
1 UK
NEUTRAL ZONE
SAUDI ARABIA

main and supporting attacks. On the other hand, the command faced the prospect of trying to continue the breach and passage at night of one U.S. armored brigade and one British Army division through both the American lines and the Iraqi infantry that were still fighting. In his gut, Franks wanted to continue to press the enemy.

Franks had considerations other than the breach sector. He was hesitant to meet the *Republican Guard* with the elements of his command separated. The Iraqis demonstrated during the Iran-Iraq war the ability to counterpunch and deliver some punishing blows against their opponents.[35] Recently, the 1st Cavalry Division had run into effective opposition in the Ruqi Pocket area. Franks believed that if the Iraqis were able to reorient the *Republican Guard* and move their artillery into position, they could be effective against the attacking corps. He did not want to lose the effect of his three-division fist by a piecemeal, strung-out series of uncoordinated engagements.[36]

Further, a night move would have virtually guaranteed that enemy forces would be bypassed, and still-untouched elements of the Iraqi *26th Infantry Division* were in front of both the 1st Infantry Division and the 2d Cavalry. These bypassed forces might have caused problems for the critical follow-on logistics echelons.[37] He did not want to allow the remaining small units of the *26th Infantry Division* to interfere with fuel and ammunition trucks moving north. The objective was the *Republican Guard*, and the corps would need a full load of supplies once the battle with that elite force had begun. Furthermore, the corps' right flank was exposed until the British were able to break out to the east and destroy the Iraqi tactical reserves. There was no sense in allowing the VII Corps to be significantly weakened before the main engagement took place.[38]

Franks also doubted whether the British would be ready to execute their passage of lines in the early morning if the 1st Infantry Division was forced to fight through the night. The Desert Rats had been set 60–80 kilometers south of the breach when the corps received the early attack order. They had originally planned to come forward on heavy equipment transporters. With the change in the attack plan, which required the British to be ready to go fifteen hours earlier than scheduled, this transportation was not available. Smith, after the change, had decided to move cross-country. Although Franks knew the British commander was doing the best he could and moving with all due speed, he feared that they would not be ready at first light.[39]

As Franks had done earlier in the day, he met face-to-face with his commanders on the scene, starting with Generals Rhame and Smith. The 1st Infantry Division commander had several concerns. First, he had serious reservations about committing his 3d Brigade into the breachhead at night and attacking to its objective. There was still a lot of small-arms fire taking place in the area cleared by the lead brigades. The division had already suffered a major fratricide incident and the theater was emphasizing fratricide prevention. The introduction of a third brigade into such a small space would guarantee another friendly fire incident. Furthermore, the 3d Brigade's night-fighting abilities were questionable. The 1st and 2d Brigades were recent veterans of night operations at the National Training

Center, but the 3d Brigade came from Germany. Rhame believed they would be asking for trouble by directing a mission for which the unit had not trained or planned and which might not be absolutely necessary. General Rhame recommended that Franks continue at first light. General Smith concurred and agreed that it would be best to pass his division through at 1200.[40]

The potential for fratricide was more acute during this phase of the operation than at any other time of the offensive. Not only was there potential within the breach, but it soon became obvious that the problem could exist between the two attacks. As the 3d Armored Division advanced in the west, the possibility was sufficient for the corps to place a five-kilometer buffer zone between the armored division's advance units and the 1st Infantry Division. Some of the Iraqis within this zone were spared further attacks that night, and the coalition would need to eliminate them later.[41]

The corps commander next flew to Col. Leonard D. Holder's command group in the western sector. Franks relied on the regimental commander for more than a simple appraisal of the current situation. Don Holder was one of the best armor tacticians in the Army. A tough graduate of Texas A&M University, Holder had been the operations officer of the 2d Cavalry under the flamboyant and innovative Col. Robert Wagner in the early 1980s. Holder was one of the key authors of the current edition of *Operations* and the former director of the School for Advanced Military Studies at Fort Leavenworth. Holder, also a military historian, knew the battle was far from finished. If the 1st Infantry Division had trouble in the breach and if his enveloping force advanced into the open, the Iraqis could have an opportunity to counterattack. Additionally, the corps would lose the element of surprise if it ran into the *Republican Guard* too early. Holder also advocated consolidating for the night.[42]

To Franks it appeared that Generals Yeosock and Schwarzkopf also wanted a coordinated, synchronized attack. Why else would they have kept the entire corps waiting for almost six hours of daylight? If VII Corps had been successful, it might have caused that part of the plan to go awry, since the Egyptian corps on his right had not yet begun to attack the Iraqi defenses.[43] Therefore, from Franks' perspective, there were many reasons not to continue to grope in the dark trenches of the forward defensive belt on the night of 24 February.

Franks was not one to make these decisions in private, and he communicated his concerns to Yeosock, who told him not to worry. Yeosock also briefed General Schwarzkopf on the VII Corps plan to pause during the night. Schwarzkopf was unperturbed and remarked that there would be plenty of Iraqis around for Franks to attack the next day.[44]

With this guidance, Franks and his staff made the following evaluations:

- The mission had not changed—they still had to destroy the *Republican Guard,* and the problem remained to determine how to best maneuver the corps to that end.
- The enemy was, in general, putting up only a minor fight. However, the commander was hesitant, based on the Iraqis' previous battle record and their capabil-

ities, to disregard them. History is full of dramatic examples of overconfident generals underestimating the fighting ability and resilience of their opponents.

- The terrain was wide open, except in the area of the breach that was littered with mines, trenches, and recalcitrant Iraqis.
- At the end of their first day of battle, Franks' troops found themselves in the middle of a breach operation. The operation should have taken all day, but they had only three hours of daylight left.
- They were already ahead of schedule; the risks of the night operation in such close quarters were not warranted.
- The corps had lost the opportunity of a rapid penetration at 1200, not at 1800.[45]

It was the combination of Franks' own experience and training, as well as those of Rhame and Holder, that caused the corps commander to order a halt to the forward penetration until dawn. However, while unit symbols that displayed the leading edge of the advance would not move for several hours, both sectors were far from quiet. Infantry, cavalry, and armor companies controlled the sectors to their front. Direct and indirect fires attacked probable targets. Apaches hunted the forward sectors for Iraqi vehicles or weapons systems. Artillery harassment fires kept the Iraqis guessing about the next blow. Tanks and Bradleys were refueled and rearmed; artillery ammunition carriers were replenished. The U.K. 1st Armoured Division completed its movement into the forward staging area.[46]

There can be no question that rather than pausing, Franks could have modified his plan and shifted his main effort from the breach to the enveloping arm led by the 2d Cavalry to take advantage of the nonexistent Iraqi defenses and the night-fighting capability of American armor. While such a change in plans was risky, it was exactly the kind of innovative, audacious, and flexible leadership that AirLand Battle Doctrine required. But General Franks was not the only one focused on existing plans. Neither Yeosock nor Schwarzkopf called Franks and ordered him to bypass the breach and drive for Objective COLLINS, deep in the Iraqi rear, during the night. This apparent lack of flexibility became the subject of "Monday morning quarterbacking" that began almost as soon as the war was over.[47] Even in his own book, Schwarzkopf criticizes Franks for cautiously sticking with his plan.[48] It was not, however, Schwartzkopf's responsibility to criticize but to command. If he did not like VII Corps' progress, he should have made that clear at the time and ordered the advance to continue. Perhaps caution was a condition of the U.S. Army's entire chain of command.

Once the boundary was established between the 1st Infantry and 3d Armored Divisions, combat action in the breach zone almost stopped, but it was not quiet. Fires burned and Iraqi ammunition stockpiles exploded, "casting an eerie orange light that everyone in the desert came to associate with burning equipment."[49] Units in the breach gathered prisoners and waited for the next day. The 1st Infantry Division's 3d Brigade prepared for its morning exploitation, while the U.K. 1st Armoured Division moved into a staging area just south of the breach,

with their alternate headquarters now collocated with the 1st Infantry Division tactical command post.[50]

In the enveloping western sector, the lead scouts of the 2d Cavalry were over seventy kilometers deep into Iraq. The 1st Squadron, slightly to the rear of the 3d Squadron, performed a flank-guard mission to protect the regiment from possible attack from the southeast. The regiment's air liaison officer effectively used the available Air Force aircraft to harass the Iraqis forward of the ground squadrons, causing hundreds of soldiers to surrender throughout the night. Troop F's 1st Platoon alone reported taking a battalion's worth of prisoners. The 2d Squadron also captured an Iraqi lieutenant colonel, the assistant division artillery commander from the *26th Infantry Division*. Prisoners became a problem, as they overwhelmed the squadron's holding capacities. Attached prisoner of war teams from the 214th Military Police Company (Alabama National Guard) were kept busy all night consolidating and interrogating the captives, while the ground squadrons continued to engage Iraqi targets all night with mortars and artillery.[51]

Behind the 2d Cavalry, the 1st and 3d Armored Divisions used the lull to move the remainder of their units through the gaps in the berm and into the open desert. They were able to consolidate their brigade formations, ensuring they would move in the morning with all their support elements intact. The 1st Armored Division was now fully deployed in its desert wedge.[52] In the 3d Armored Division sector, the 4th Squadron, 7th Cavalry, screening the right flank of the envelopment, was in contact throughout the night with those unlucky infantry who were caught between the 4th Squadron and the 1st Infantry Division. They had captured another one hundred Iraqi soldiers in this area by dawn.[53]

The VII Corps' report to the Third Army commander that night was upbeat and confident: "Attack on 24 February carried through to depths of enemy's tactical defenses with no enemy related casualties. VII Corps continues to attack to destroy the RGFC. JAYHAWK."[54]

The day's significance would be lost in postwar celebrations and critiques. Journalists, with little background in military history and the art of war, would later focus on personality clashes between the senior commanders. Others searched for the villains that permitted some of the *Republican Guard* to withdraw into Iraq and sustain the brutal regime of the Iraqi dictator. Few, however, noticed the collective sighs of pride and relief that emanated from the officers and noncommissioned officers of both army corps in the waning hours of 24 February. For only the second time in the republic's history, the U.S. Army had won the first battle. Not since Zachary Taylor squared off with Mexican General Marino Arista at Palo Alto in 1846 had the outcome been so favorable. The institutional ghost that so haunted the corps' leaders failed to appear. With confidence, the command anticipated the next day.

Notes

[1] Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 221; Lon E. Maggart and Gregory Fontenot, "Breaching Operations: Implications for Battle Command and Battle Space," *Military Review* (February 1994):27.

[2] Gregory Fontenot, "The 'Dreadnoughts' Rip the Saddam Line," *Army* (January 1992):34–35; David W. Marlin, "History of the 4th Battalion, 37th Armored Regiment, in Operation DESERT SHIELD/STORM," Unpubl Ms, AWC, 1992, pp. 331–59.

[3] David F. Gross, "History of the 3d Battalion, 37th Armor, in Operation DESERT STORM," Unpubl Ms, Apr 98, pp. 92–101; Jim Tice, "Coming Through: The Big Red One Raid," *Army Times*, 26 Aug 91, p. 20.

[4] Intervs, Robert Cook with Gregory Fontenot, 29 Mar 91, Thomas A. Popa with Anthony Moreno, 26 Jul 91, both at CMH; Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), p. 397.

[5] Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 11 Apr 91, TRADOC.

[6] VII Corps TAC, Staff Jnl, 24 Feb 91, entry 44.

[7] Maggart and Fontenot, "Breaching Operations," p. 32.

[8] Scales, *Certain Victory*, pp. 231–32; Marlin, "History of the 4th Battalion," pp. 357–83.

[9] Maggart and Fontenot, "Breaching Operations," p. 32.

[10] Unlike the two assigned brigades of the 1st Infantry, the 3d Brigade had been based in Europe and had never been to the National Training Center at Fort Irwin. Richard M. Swain, *"Lucky War": Third Army in Desert Storm* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 236.

[11] Intervs, Thomas A. Popa with Thomas G. Rhame, 26 Jul 91, CMH, Kindsvatter with Franks, 11 Apr 91.

[12] VII Corps, Sitrep 38, 24 Feb 91; Tice, "Coming Through," p. 20.

[13] Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), p. 96; Ministry of Defense, *Operation GRANBY: An Account of the Gulf Crisis, 1990–91, and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 5–16.

[14] 2d ACR, Op Sum, 23 Feb–1 Mar 91.

[15] Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 18; 2d ACR, Op Sum.

[16] 3d Armd Div, "Historical Overview of the 3AD in the Persian Gulf War," Unpubl Ms, n.d.

[17] 2d Bde, 3d Armd Div, "2d Bde 3AD Operation DESERT SHIELD, December 1990–27 February 1991," n.d. , in VII Corps, AAR, Fort Leavenworth, Kans.

[18] This brigade was actually the 1st Brigade, 3d Infantry Division. Because the 1st Brigade, 1st Armored Division, was still equipped with obsolete M113 personnel carriers, General Saint had switched these two units before their departure from Europe.

[19] Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), p. 201; Steve Vogel, "Killer Brigade: 3d Infantry Division 'Phantoms' Hunt the Enemy," *Army Times*, 11 Nov 91, p. 15.

[20] Carhart, *Iron Soldiers*, p. 203.

[21] H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p. 527.

[22] Swain, *"Lucky War,"* pp. 238–40; Interv, Kindsvatter with Franks, 11 Apr 91.

[23] Russell F. Weigley, *Eisenhower's Lieutenants: The Campaigns of France and Germany, 1944–1945* (Bloomington: Indiana University Press, 1981), pp. 363, 503–06.

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[30]Bernard Trainor, "Schwarzkopf and His Generals," *Proceedings* 120 (June 1994):46.

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13

Breakout: 25 February

On the morning of 25 February VII Corps was beyond the defensive line of Iraq's *VII Corps*. Lt. Gen. Frederick M. Franks, Jr., now had to find the heavy divisions of the *Republican Guard Forces Command*, to change the direction of his northerly moving forces, and to maneuver against the Iraqi defenders. In pursuit of these goals, VII Corps would traverse an almost barren landscape in horrendous weather for almost two days. To the outside world, and to some in higher levels of command, this movement was an unopposed march.[1] Postwar news clips and movies portrayed an almost seamless, flawless "wheel" that plowed through masses of surrendering Iraqis.

To the commanders and soldiers of the VII Corps, however, the task was anything but easy. Operationally, during those two days of February the two opposing corps maneuvered toward each other. General Ayad Futayih al-Rawi, commander of the Iraqi *Republican Guard Forces Command*, deployed his forces to meet the attacking VII Corps. General Franks pushed his forces out of the envelopment and bridgehead, secured both flanks, reoriented his command to the east, and focused his tactical divisions so they could strike their adversaries with overwhelming force. At the end of this movement to contact, VII Corps would match each one of its combat divisions with, generally, one *Republican Guard* brigade at a time. This maneuver avoided the enemy's strength and set the stage for a series of climactic battles that began on the night of 26 February.

The corps' maneuver on 25 February was part of a coalition strategy that forced the Iraqi Army to look in all directions at once. In the west, the XVIII Airborne Corps raced north by ground and air, turning the defenses of the Iraqi Army, avoiding the Iraqi defenses in the Kuwaiti theater of operations, and attacking deep toward the south bank of the Euphrates by ground and air. The XVIII Airborne Corps blocked Iraq's north-south lines of communications, limiting resupply operations into Al Basrah. It also created the potential for the annihilation of the *Republican Guard* near that city.

In the east, the marines and Joint Forces Commands North and East continued their deliberate approach toward Kuwait from the south. By the evening of the twenty-sixth, they occupied the dominating terrain of Al-Multa Ridge and the outskirts of Kuwait City. The 1st Cavalry Division, still the theater reserve, continued to put on pressure in the Wadi al Batin approach. In the Persian Gulf, the Navy threatened amphibious landings along the coast behind Iraqi lines. Overhead, the

coalition air forces continued to attack moving Iraqi troops. Many of these soldiers were caught on the Kuwaiti City–Basrah Highway, later known as the "Highway of Death" because of the vivid scenes of destruction sent back by the various news services.[2] While pressure was building on all sides, the Iraqi high command began to receive reports that a large American force was moving cross-country from the west.[3]

The Republican Guard

Soldiers of the two American army corps probably gave little thought to the history of the land they were crossing. As they moved north, they left behind the land called the *Nafud*, or Great Desert. They traveled near the routes that Arabs had used for centuries in their raids on the decadent Sassanid Empire. North-south roads, such as the one the 1st Armored Division paralleled in its march to Al Busayyah, had guided pilgrims from the Abbasid and Ottoman Empires to and from the holy city of Mecca. Throughout the area were the watering holes and oases, where pilgrims, traders, and Bedouin farmers watered themselves and their mounts. Their names on the map attest to both their importance and their history.[4]

As the corps' soldiers continued to descend from the desert, they came across primitive roads that ran generally northwest to southeast. Few probably realized they were crossing boundaries of empires long since vanished. Mounted warriors from Sumer, Assyria, and Persia once patrolled along these routes to protect the farmers of the Euphrates Valley from the Arab raids. During the last centuries before the Muslim conquest, the Christian Lakhmids lived in the area between Arabia and the river valleys. They served both as a buffer against the roving Arabs to the south and as an ally against the Byzantine Empire to the northeast. The 82d and 101st Divisions would occupy the ancient capital of An Nasiriya at the end of the Gulf War.[5] Throughout the region, small towns and ruins of forts and other structures testify to an era of greatness long since past. As the soldiers from both corps continued north and east, they entered the origins of numerous dry streambeds, or *shaibs*, that meander down to the Euphrates Valley. Along that river, the remains of the ancient cities of Ur and Eridu stand as silent testimony to man's past empires.[6]

The enemy facing the VII Corps on 25 and 26 February was a strange mixture of equipment and organizations. First VII Corps had to finish the battle with the Iraqi *VII Corps'* front-line infantry divisions. Without the ability to move, these unfortunate units defended in place, supported by a variety of artillery and a few tanks. While they could damage the attacking Jayhawks, they were unable to maneuver to defeat them. At best, the Iraqis could hope to delay the VII Corps and warn the more maneuverable forces in the rear.[7]

The most immediate threat to the VII Corps attack came from the Iraqi *VII Corps'* tactical reserve, the *52d Armored Division*. It had been targeted by the VII Corps fire-support elements and had by the twenty-fifth lost much of its combat power. But the division still had plenty of fight left in it. The T–55 main battle tank



Captured T–55 Tank

was the *52d*'s primary weapon system. Built in 1961, this old tank may have been effective against waves of Iranian infantry or Kurdish rebels; however, it was no match for the British Challenger tanks it would meet along the border. With thin armor, a top speed of only thirty miles per hour, and an effective main-gun range of 1,300 meters, the T–55 was outclassed by coalition armor in every way. The *52d Armored Division*'s infantry motored around the battlefield on the Soviet-built MT-LB armored transporter. Armed with only a 7.62-mm. machine gun, the MT-LB had no antiarmor capability.[8] During the night of the twenty-fourth, some of the *52d Division* moved forward to reinforce the front-line infantry. The westernmost *52d Armored Brigade* could do little after the heavy pounding it had received by artillery and air. The *80th Armored* and *11th Mechanized Brigades* began moving south.[9]

Farther to the rear was the *Jihad Corps*, a conventional theater reserve force.[10] It consisted of two armored divisions, the *10th* and *12th*. T–55 tanks and MT-LB transporters were the *12th Armored Division*'s primary equipment. This division was slow moving and like the *52d* lacked the capability for modern mobile armored warfare. The *10th*, in contrast, enjoyed the reputation as the best regular division in the Iraqi Army.[11] It had much more modern equipment, including T–62 and T–72 tanks. Its most common system, the T–62, had a speed slightly better than the T–55; the effective range of its main gun was 2,000 meters—still less than two-thirds the range of the British Challenger.[12]

The apparent mission of the *Jihad Corps* is still in dispute. The VII Corps G–2 believed this corps had the "mission of counterpenetration, counterattack and ad

hoc strengthening of weak points in the Iraqi defensive line."[13] In practice, however, the *Jihad Corps* would perform as a covering force for the *Republican Guard*. The *12th Armored Division* now moved to the west to protect the southern flank of the *RGFC* from that direction. The better-equipped *10th Armored Division* probably had the mission to cover the same force from the main coalition avenues of approach in Kuwait or the Wadi al Batin.

Deployed east and north of the *Jihad Corps* were the heavy divisions of the *Republican Guard Forces Command*. The *Tawakalna Mechanized Division* and the *Hammurabi* and *Medina Armored Divisions* represented the elite of Saddam Hussein's military. Beginning essentially as a regime security force, the *Republican Guard* grew during the Iran-Iraq War into a major offensive weapon. Its position within the Iraqi armed forces was not unlike the *Waffen SS* in the German *Wehrmacht* of World War II. These three divisions alone had an authorized strength of over 660 tanks, another 660 infantry fighting vehicles, and thousands of antitank weapons, self-propelled artillery, and other combat systems.[14] Saddam Hussein had provided them with the best machines the Soviets had to sell: T–72 tanks, BMP fighting vehicles, and 122-mm. self-propelled artillery weapons. By Middle Eastern standards, the *Republican Guard* represented awesome combat power. The *Guard* was not, however, the equal of the coalition forces arrayed against it. The BMP, with its 76-mm. gun and Sagger antitank missile, was a good match for the Bradley or the Warrior, the British armored personnel carrier. The T–72, however, was still much slower with a third less main-gun range than the Abrams or the Challenger.[15]

The *Republican Guard* suffered from four deficiencies that it could not overcome, in spite of how hard its soldiers fought. First, the Jayhawks had control of the air. Scout (OH–58) helicopters flying forward of the advancing line of tanks and fighting vehicles discovered the *RGFC*'s well-prepared positions and kill zones. Apaches, A–10s, Cobras, and indirect fire adjusted by airborne forward observers killed or suppressed its tanks and fighting vehicles. Control of the air allowed the VII Corps commander to fly several times a day to each of his divisions in contact and back to his own command post. Because of this mobility, General Franks could work out operational and logistic problems on the spot. He understood the problems and opportunities of his forward commanders. Written fragmentary orders from the corps' tactical command post confirmed, elaborated, and shared Franks' decisions with the rest of the command. The lack of Iraqi mobility, in contrast, forced General al-Rawi to command from his headquarters on the ground. He had to rely on reports received from the front through imperfect and interrupted communications systems. He could not savor the taste of battle throughout his sector firsthand, nor could he detect the advancing British and Americans at long range. The lack of an air capability in a region without natural obstacles or choke points was devastating to the Iraqi battle plan.

Furthermore, the Iraqi artillery was ineffective. The *Republican Guard* had an array of capable self-propelled indirect-fire systems. They had the ability to move and mass these fires in support of their defending divisional tank and mechanized battalions. They could have fired their hundreds of rockets and multiple rocket



Abandoned BMP Armored Personnel Carrier of the Republican Guard

launchers into the rear of the attacking VII Corps forces. The effect of such fire, at a minimum, would have been to slow the American advance and inflict greater casualties. The *RGFC*'s artillery, however, failed to support its fellow tankers and infantry. It seldom fired effectively in defense. The Iraqis never massed their fires. When the artillery did fire, it received immediate and punishing counterbattery fire from the American and British MLRS's. Because of rigid fire-control procedures, Iraqi artillery also lacked the ability to respond to the rapidly changing conditions of mobile warfare. It failed to move or reposition to meet the coalition's attack or to avoid counterfire.[16] In contrast, the VII Corps' artillery was forward and engaged. Had the Iraqis managed to deter the Jayhawks' advance, Brig. Gen. Creighton Abrams, the corps artillery commander, could have quickly massed 30 to 60 percent of the entire corps' artillery on any target. The absence of an effective indirect-fire system doomed the front-line *RGFC* troops.

Additionally, the Iraqi commanders could not compete with the cohesion of the VII Corps leadership and the quality of their training. Omnipresent secret police, routine officer purges, and an overly centralized command structure ensured that Iraqi senior officers followed orders but suppressed any initiative the officers might have taken.[17] Junior officers lacked confidence in themselves and their organizations. Fearing harsh punishment for failure, they also displayed little flexibility in the absence of orders.[18] It was a command system that fostered personal mistrust and organizational incompetence.



Abandoned Iraqi M–1974 122-mm. Self-propelled Howitzer

The quality of the Iraqis' training was no better. Iraqi soldiers and crews were unable to perform simple battlefield tasks, such as identification of the enemy, combat security, and field sanitation. Most important, the upcoming battles would demonstrate that the *Republican Guard*'s crews were unable to perform the most essential combat skill: hitting the target.

The Americans' command relationships were the opposite of the Iraqi system. From corps through division to brigade and battalion command, there was an extraordinary level of trust, confidence, and understanding. These products of years of common schooling and exercises placed the combat leaders in a very small, elite club. A study of their after-action reports, interviews, and briefings explains how their backgrounds coalesced on the battlefield, allowing impromptu forward passage of lines and rapid hand-off of artillery brigades between divisions. A solid plan with Clausewitzian branches and sequels, a clear chain of commander's intents, and a single campaign objective focused the energies of the leadership.

The final and most important factor that undermined the *Republican Guard* in its contest with the U.S. VII Corps was the ineffectiveness of the *RGFC*'s main battle tank, the T–72. This 1970s-era tank had a powerful 125-mm. gun. While dangerous in a close fight, the T–72's daylight maximum effective range was much less than that of the U.S. M1A1 Abrams. Worse, it did not have a thermal imaging capability for fighting at night. When American tankers took the time to acquire their targets, the T–72 was defenseless. At night in the open desert, without hills



A captured Iraqi T–72 flies the Kuwaiti flag.

or forests to interfere with the line of observation, Abrams' gunners identified targets at ranges out to 3,000 meters. These "hot spots" appeared as tank silhouettes in the M1A1s' sights. Battalion commanders could move their companies to a firing line 2,000 meters from the Iraqi defenses. With 500–1,000 meters of range superiority to spare, American tank gunners could fire at will with little danger of effective return fire. Only when the Americans encountered the Iraqis at close range was the T–72 effective.[19] Because Iraqi tank crews were so poorly trained in tank gunnery, they were seldom able to capitalize on American and British tactical mistakes.

However, General al-Rawi, the *RGFC* commander, probably faced the future battle with confidence. He was an experienced officer who had led the *Republican Guard* in its final offensive against Iran on the Al Faw Peninsula in 1988, helping to conclude the war. He had also directed the rapid conquest of Kuwait in 1990. He was a seasoned combat veteran with over a decade of combat experience behind him.[20] On the evening of 24 February, the Iraqi general headquarters ordered him to stop a major penetration developing to the west of his central position. Like any experienced commander, he hesitated committing his most powerful forces too soon. The most important principle in Iraqi defensive doctrine was "depth," and what General al-Rawi needed was, in U.S. doctrinal terms, a cover-

ing force. Such a unit would allow him time to concentrate his forces where they could do the most damage to the attacking coalition forces. An effective covering force had to be large enough to force the attackers to commit their own main-force elements to the battle and disclose their battle plan. At his disposal for this task were the *Jihad Corps' 10th* and *12th Armored Divisions.* The Iraqi high command thus probably deployed these divisions to the KTO with the express purpose of covering al-Rawi's force.[21]

Late in the evening of 24 February, General al-Rawi ordered the *12th Armored Division* to the west of the *Tawakalna Mechanized* and *Medina Armored Divisions.* The *12th Armored Division's 50th* and *37th Armored Brigades* moved out that night and took the Al Busayyah–Kuwait border road to the west. Their mission was to block the most dangerous approach into the flank of the Kuwaiti/Wadi al Batin defenses. Its third unit, the *46th Mechanized Brigade*, apparently, took a more northern route and moved to block any attacks due east from Al Busayyah. In addition, at least one brigade of the *10th Armored Division* moved toward the southeast to perform the same covering-force role to identify the threat from the Wadi and Kuwaiti approaches. Once in position, these brigades would provide the depth General al-Rawi needed to maneuver his elite armored and mechanized forces into position to defeat the coalition advance. This plan would have worked well against the infantry-heavy Iranian Army. Unfortunately, the *12th Armored Division's* Chinese-made T–55 tanks moved more slowly than Franks' approaching armored fist. Only parts of the *12th Armored Division* arrived in position in time to engage the VII Corps and cover the deployment of the *RGFC.*[22]

While the *10th* and *12th Armored Divisions* moved forward, General al-Rawi adjusted the orientation of his heavy divisions. The *Tawakalna Mechanized Division* moved about twenty kilometers to the west and deployed all three brigades on a forty-kilometer front. The width of this defensive zone was according to Iraqi doctrine and made good sense if the attacking force was using the two main routes from the west as avenues of approach. The *Adnan Infantry Division*, located southwest of Basrah, moved one brigade southwest to defensive positions on the northern flank of the *Tawakalna Division.*[23] The two *Republican Guard* armored divisions remained in reserve. The ultimate goal of the Iraqi commander was to execute the same tactics that had worked so well in the Iran-Iraq War, contain the assault with second-class units, and counterattack behind the coalition's penetration with his elite armored force.[24]

In spite of a late start on the previous day, the VII Corps' plan was still on track. An imperative of the Army's AirLand Battle Doctrine was a clear and identifiable main effort.[25] Such a focus ensures that most of a command's combat power and logistics resources are directed toward achieving the units' mission. On the morning of the twenty-fifth, Franks changed his main effort from the breach sector to the central zone led by the 2d Cavalry. The 1st Armored Division would drive north to seize the crossroads at Al Busayyah and then attack east. The 1st Infantry Division would secure the breach and then pass the U.K. 1st Armoured Division to the east to freeze and destroy any enemy tactical reserves. The 2d Cavalry would conduct a movement to contact to find the *Republican Guard.* The

3d Armored Division would continue to follow the 2d Cavalry, prepared to respond to their contact with the Iraqi main force.

The Attack Resumes

The corps staff drew the first major control measure, Phase Line SMASH, a diagonal line across the corps sector from the northwest to southeast, to accomplish two purposes. First, its "echelon right" characteristic helped to align the corps so it could wheel toward the *Republican Guard's* heavy divisions in the east. It ensured that each division would complete its wheel to the right with all elements in the correct alignment with the other divisions. Second, it appeared to be the westernmost location where the *RGFC* could meet the attack of the corps. It would be, in the words of Col. Stanley F. Cherrie, the Corps G–3, "Where the battle was joined."[26]

Objective COLLINS, a large circle east of Phase Line SMASH in the middle of the corps zone, was another prominent mark on the battle map. Although COLLINS was devoid of significant terrain features, it was important for several reasons. First, it was the general location from which General Franks needed to make a decision on how to maneuver the corps against the *Republican Guard*. Before the beginning of the war, he had told the Third Army G–2, Brig. Gen. John F. Stewart, Jr., that he needed to know the location and intentions of the Iraqi force by the time his units reached that area. From there, he could implement one of his various contingency plans to smash into the enemy with his three divisions on line."[27]

When the bulk of Franks' forces was in the vicinity of Objective COLLINS, the theater's deception plan would end.[28] From then on there would be no reason to continue pretending that an attack was coming up the Wadi al Batin. The corps would be deep into Iraqi territory by the time the *Republican Guard* realized from where its greatest danger was coming. Finally, Objective COLLINS was a potential culmination point for the corps. The staff planners identified it as the area where the logisticians needed to plan for refueling the divisions just west of the expected main *Republican Guard* defense.[29] Fuel was always a critical consideration for commanders and their staffs. An M1's turbine engine could operate from six to eight hours before refueling. Crews needed to enter battle with their systems as full as possible, knowing they could fight the enemy without worrying about coming to a stop.[30] During Yeosock's absence Lt. Gen. Calvin A. H. Waller, the acting Third Army commander, had briefed Franks "that we may have to pause at Collins for a *day or two* before we attacked the *Republican Guards*."[31] Such a pause was not part of either Franks' or Schwarzkopf's intent.

The replenishment process itself was a spectacle that could be accomplished expeditiously if fuel was on hand. Battalion support platoon leaders, according to an often-rehearsed battle drill, placed their half-dozen 2,500-gallon HEMTTs in a formation that allowed two combat vehicles at a time to drive up to a tanker and refuel. Several platoons moved forward to the tankers, while the remainder of the company provided local security. While the refueling was taking place, supply sergeants, ammo handlers, and medics moved from vehicle to vehicle, dispensing



Tank Battalion Refueling Operations

supplies. First sergeants talked to vehicle commanders and soldiers, checking on their health, appearance, and general welfare. Once a company team was ready, it moved off to a defensive area until the remainder of the battalion was full. The battalion then moved out, and if the timing was right the entire brigade quickly continued on its way. This whole process took less than an hour if all the parts were in place at the right time. Obviously, the flat desert terrain also eased the process.[32]

The most important phase line on the VII Corps' battle map was Phase Line TANGERINE. This north-south line was drawn east of Objective COLLINS and just to the west of the expected location of the *RGFC*'s heavy divisions. It could serve as a line of departure for destroying these divisions if they chose to stay and fight. If VII Corps' divisions could reach TANGERINE, deploy their brigades in normal battle formation with artillery in support, the corps would be in its best possible battle array to destroy the *RGFC* and maneuver to take advantage of the tactical situation.[33] In addition, TANGERINE served as a control measure to coordinate the attack of the U.K. 1st Armoured Division, in the south, with the rest of the corps.

By the morning of 25 February two different perceptions of the battle began to develop within the American chain of command. At the VII Corps tactical command post, General Franks believed he was right on target and fighting according to the plan he had been briefing since the previous December. He believed that the halt the night before was a smart move in preparation for the next phase of the operation.[34] His own experiences, and those of his staff and other commanders, told him that he still had some very complex maneuvers to execute before he

would be in position to destroy the *RGFC*. The simple process of maneuvering his large force out of the penetration sector, into the open terrain beyond the defenses, and turning the entire force 90 degrees toward the enemy was difficult to execute under any circumstances. Given the terrible weather and a hostile enemy, it was much more complicated on the ground than on a map board.

A second perception, however, was emerging at higher headquarters. Officers located hundreds or thousands of miles away from the front line began to criticize the pace of the attack. From Schwarzkopf's perspective, the Iraqi Army was beginning to break. Although he had delayed the VII Corps attack until late in the afternoon on 24 February, he now wanted Franks to pick up the pace.[35] Yet the soldiers of VII Corps did not share the belief that the attack was turning into a pursuit. As the next seventy-two hours showed, the soldiers of the *RGFC*'s armored and mechanized divisions did not share this view either.[36]

During the night of 24–25 February, the 2d Cavalry remained in contact north of the 1st Infantry Division's breachhead, about 50–60 kilometers into Iraq. Soldiers from the Iraqi *26th Infantry Division*, who had experienced the Big Red One's onslaught during the day, tried to escape to the north but ran into the waiting sights of the regiment's cavalry troops. Most Iraqis gave themselves up to the troopers without a fight. By 0200 the regiment had gathered over 400 prisoners. Not all the *26th Infantry Division*, however, was surrendering. Ground and air troops had to destroy those few Iraqi soldiers and vehicles that continued the fight. Also, Iraqi ground fire hit an Apache on a mission forward of the ground cavalry units.[37]

Behind the 2d Cavalry, the 1st and 3d Armored Divisions remained massed in very narrow sectors. Other than the 3d Armored Division's 4th Squadron, 7th Cavalry, on the right flank, these units had not yet been in combat. The troopers of the cavalry squadron had little sleep, as their proximity to the 1st Infantry Division's breach ensured a noisy night. In addition, they were in contact with the western edge of the Iraqi *110th Infantry Brigade*'s defenses. At 0130 the 4th Squadron, 7th Cavalry, reported capturing fifty-two Iraqi soldiers. That batch of enemy prisoners of war consisted primarily of soldiers of Kurdish origin and contained four officers who spoke English. All were wearing NBC protective clothing, which could have reflected the cold weather as much as a concern about chemical warfare.[38]

On 25 February the 1st Infantry Division began the day in the breach with the 1st and 2d Brigades occupying the positions the Iraqi *26th Infantry Division* had defended the day before. After seizing the forward positions, the Big Red One had evacuated more than a thousand EPWs toward the corps collection areas. Stacked behind the border berm and ready to carry the attack forward was the 1st Infantry Division's 3d Brigade and the U.K. 1st Armoured Division. The 3d Brigade's mission was to pass through the lead brigades and seize the final bridgehead line, Phase Line NEW JERSEY. Then the British forces would pass through the 1st Infantry Division and attack east into the Iraqi *VII Corps*' tactical reserves.[39]

The VII Corps' concern for preventing accidental engagements between friendly forces remained high as the corps prepared for the next phase of the oper-

ation. The effective range of the M1 tank's 120-mm. smoothbore cannon was beyond 3,000 meters. By comparison, the tanks that General Patton used during his battles in the Ardennes in 1944 had less than a quarter of that range. In addition, Franks had many more lethal systems than the old Third Army. The Bradley and Warrior each contained gun and missile systems with ranges greater and more lethal than anything World War II armies had carried across Europe. No natural barriers constrained the range of these modern systems. There were no forests or hills to stop stray high-velocity rounds from Abrams, Challengers, Bradleys, and Warriors. The corps staff knew that as arrows on the map converged and enveloped they had to take every precaution to avoid fratricide.

That morning Colonel Cherrie and his staff called each of the major commands to enforce coordination with their adjacent units. Most important in the G–3's mind was the flank coordination between the almost stationary 1st Infantry Division and the 3d Armored Division now passing to the northeast, just in front of it. A second concern was the danger of an engagement between anxious members of the 1st Armored Division and the 2d Cavalry. Such a fight was most likely when the regiment turned to the northeast and 1st Armored Division continued to the north. Cherrie told the Dragoons to leave someone to continue coordination with the 1st Armored Division until the danger had passed.[40]

Colonel Cherrie was prudent in forcing the flank coordination, as the weather on the twenty-fifth continued to be poor. Overcast skies, cold temperatures, rain showers, and generally limited visibility created miserable conditions for troops on both sides. During the day the weather continued to deteriorate. A line of heavy thundershowers moved through the sector. While the weather degraded the Iraqis' ability to see and acquire targets, it also limited the effectiveness of the VII Corps' scout and attack helicopters.[41] The potential for mistakenly shooting friendly troops through rain and blowing sand was high.

On the corps' right flank, the 1st Cavalry Division continued to pressure the Iraqi *31st* and *25th Infantry Divisions*.[42] The cavalry probes continued to test the Iraqi defenses to see if resistance was light enough to continue to attack to the north. It quickly ran up against strong defensive positions and began a morning-long duel with the dug-in enemy. Iraqi defenders shot down one of the division's Apache attack helicopters early in the operation. The assessment of the 1st Cavalry Division's staff was that the Iraqis "had fallen for the deception and had tied up many valuable assets defending the Wadi al Batin."[43]

Meanwhile, the XVIII Airborne Corps on the west flank was continuing its rapid turning movement at a breakneck pace. The 24th Division (Mechanized) and the 3d Cavalry moved almost unopposed toward the Euphrates River. But their rapid progress later became the standard used by senior commanders to measure the progress of the VII Corps' attack.[44]

The Envelopment

At 0600 on 25 February the 2d Armored Cavalry, reinforced by the 210th Field Artillery Brigade, moved into attack positions. Thirty-five minutes later the

artillery shot a five-minute preparatory fire on suspected Iraqi positions. Once the fires lifted, the regiment continued its movement northeast, passing north of the 1st Infantry Division's breach. Soon after the armored cavalry began its advance, the staff learned that the Iraqi *12th Armored Division* was moving in its direction, increasing the regiment's tension and anticipation. As the 2d Armored Cavalry began shifting east toward Phase Line SMASH, the troopers "uncovered" (ceased protecting) the 1st Armored Division that was attacking to the north. From this point, Old Ironsides would provide its own forward security. By 0705 the 2d Cavalry's lead squadrons were sweeping through their initial objectives, finding only empty fighting positions.[45]

At 0841 the 4th Squadron, the aviation unit, identified Iraqi forces near one of its intermediate objectives, including the *50th Brigade* of the *12th Armored Division*. The 4th Squadron commander, Lt. Col. Glenn MacKinnon, who had them under observation, wanted to bring in A–10s to engage these forces early, but the weather did not allow the aircraft to come forward. In preparation for a probable ground engagement, the regimental commander ordered all tanks refueled by 1000 hours.[46] General Franks, who wanted to assess the progress of his forward unit, flew forward to meet with Colonel Holder.[47]

Soon after Holder's troops completed refueling, they made the first contact with Iraqi armored and mechanized units from the *50th Armored Brigade*. This brigade, and the following *37th Armored Brigade*, were still trying to reach their positions to cover the *Tawakalna Mechanized Division*. At 1220 the 4th Squadron, flying forward of the ground squadrons, located at least a battalion of T–55s and MT-LBs.[48] Troop O engaged these Iraqis, destroying several tanks and personnel carriers with TOW missiles and machine guns, while a supporting MLRS battery moved to firing positions behind the lead ground cavalry troop. With the 3d Squadron in visual contact, the aviators passed to the rear and handed off the battle to the ground troops. Within seconds of their egress, volleys of American rockets landed on the hapless *50th Armored Brigade*.[49]

Troop I soon ran into a company of infantry and its MT-LB armored personnel carriers. Although they had just been under air and artillery attack, the Iraqis apparently did not expect ground combat so soon. Perhaps they considered the initial bombardments just an extension of the weeks-old air campaign. It was obvious to the attacking cavalry troopers that the enemy had no idea they were approaching. The troop's Bradley fighting vehicles drove unchallenged into the area where the Iraqis were digging defensive positions. The Iraqi infantry failed to react. They may have believed the American vehicles were BMPs or some other system in their own army. Oblivious to the arriving Americans, they kept digging until the Dragoons opened fire.[50]

The tall Bradleys would have been good targets for prepared dismounted infantry, and the Iraqis should have engaged them before they came that close. This Iraqi company, however, had no warning, no individual initiative, and no idea of the equipment its enemy possessed. For the Iraqi Army to win the campaign, small Iraqi units had to win their individual engagements. They had to have local security; they had to position their weapons to take advantage of the terrain;



Soldiers examine an abandoned MT-LB armored personnel carrier.

and they had to shoot their weapons at the best possible range. Already, early in the contest, the differences between the two armies' individual training were beginning to show. General al-Rawi's plans began to fail at the lowest common denominator: soldier proficiency.

Franks' new orders to Colonel Holder were simple and to the point: "Develop the situation, stand off with artillery and air, do not become decisively engaged."[51] If this was truly, as the 2d Cavalry commander believed, the *RGFC* security zone, then Franks needed to maneuver the 1st and 3d Armored Divisions into positions to conduct the attack and push the 1st Infantry Division forward rapidly so he would have the three divisions massed. He did not want Holder's regiment to become so entangled with the Iraqis that he could not pass the heavy divisions forward. Franks had commanded the 1st Armored Division at one time and had a great respect for the combat power it possessed. If Holder could just find the *RGFC*, the heavy divisions would do the rest.[52]

Once Franks realized that the regiment was still fighting the *12th Armored Division*, and not the *Republican Guard*, he ordered Holder to continue moving east. For the rest of the day the 2d Cavalry acted as a classic covering force for the corps. It discovered the enemy positions, attacked them, and kept them from interfering with the movement of the two armored divisions.[53] The 2d Cavalry's movement, however, was rather slow. Franks returned to see Holder and told him to continue to maintain contact, increase the pace, and push to the east past Phase Line SMASH.[54]

The regiment's more rapid movement had caught the *Republican Guard's* covering force, the *12th Armored Division*, out of position. All day the Dragoons encountered Iraqi battalions trying to accomplish the last orders they had received. They were trying to occupy blocking positions east of Al Busayyah that had already been overrun by the 2d Cavalry.[55] At 1343 elements of the 4th Aviation Squadron, always searching to the front and flanks of the regiment, located the lead battalion of the Iraqi *37th Armored Brigade* that had been following the *50th Armored Brigade*. Troop G, 2d Squadron, quickly began a firefight with an MT-LB company and destroyed it in fifteen minutes. In the open desert, with few limitations on target acquisition and few features to conceal the enemy, the Bradley overmatched the MT-LB in every respect. At 1650 Troop L captured a BMP.[56] It was the first indication that the *Republican Guard* might be in the sector. This vehicle was probably part of a *Tawakalna* reconnaissance element moving forward to coordinate its activities with those of the *50th Armored Brigade*. Its capture indicates the confusion that must have existed in the Iraqi forward units.

Starting the day to the left-rear, or northwest, of the 2d Dragoons, the 1st Armored Division jumped off at first light with the lone *806th Brigade* of the Iraqi *26th Infantry Division* as its first target. Before reaching that brigade, the 2d Cavalry reported a BM–21 MRL (Multiple Rocket Launcher) inside the 1st Armored Division's zone of attack. Each MRL can send forty 122-mm. rockets over twenty kilometers. Although the Dragoons reported only one truck-mounted launcher, probably three (a platoon) or six (a battery) were in the area. The artillery headquarters gave the mission to Battery A, 94th Field Artillery Battalion, the 1st Armored Division's own MLRS battery. Battery A quickly fired twelve rockets on the reported BM–21 location. Weather, plus the impending fight with the *806th Infantry Brigade*, prevented any immediate battle damage assessment.[57] Corps intelligence and engineer troops identified a destroyed BM–21 battery in the targeted area during their postwar analysis. These Iraqis were possibly the first victims of Old Ironsides' firepower.[58]

By 0700 the 1st Armored Division had reached the *806th Infantry Brigade*. The *26th Infantry Division's* reserve force, the *806th* had already fought part of the passing 2d Cavalry, but its destruction was the job of the 1st Armored Division.[59] The attack went according to the staff's detailed plan. The division attacked with the 3d Brigade on the right and the 1st Brigade on the left. The 2d Brigade followed the 1st Brigade. Both attacking brigades had their supporting artillery battalions fire a preparation. They then swept across their respective objectives with armor and mounted infantry. The division's execution matrix accurately predicted the location and type of force it was attacking. The violence of the attack shocked the Iraqi defenders, who probably expected to sit out the war while most of the fighting occurred in the Wadi al Batin sector and Kuwait. Resistance was light, and the 1st Armored Division took no casualties in capturing its first 400 prisoners of war. The 3d Brigade cleared the objective while the other two brigades moved ahead.[60]

While the 3d Brigade finished the 1st Armored Division's fight against the Iraqi *806th Infantry Brigade*, General Griffith pushed the remainder of his division, hoping to reach Al Busayyah before dark. The town lay at the crossroads of two



British troops pose on a T–55 tank, part of a convoy destroyed during the Iraqi retreat from Kuwait; below, *Destroyed T–62 Tank*



old road networks. One route ran north to south and connected An Nasiriya on the Euphrates River with the defending front-line divisions on the Saudi border. The other network was the old east-west military border trace. As in ancient times, its location made it an important military objective. Once the 1st Armored Division captured this town, it could turn due east toward the Kuwait border. Al Busayyah was now an Iraqi *VII Corps* logistics base. It was probably the main supply depot for the western portion of the defensive line in the KTO. An infantry battalion, a commando battalion, and a company of T–55 tanks protected it. Aerial photographs had shown prepared but unoccupied artillery positions in the area.[61]

A principle of AirLand Battle Doctrine is the deep operation. Tactical air, Army air, special forces, and long-range artillery conduct such deep operations, which are beyond the range of normal tactical weapons. Enemy force concentrations, logistics installations, and transportation centers are the normal targets of these engagements. The attacks can "shape the battlefield to assure advantage in subsequent engagements."[62] Griffith launched an AH–64 Apache attack on the Al Busayyah complex at 1400 hours. The plan also called for fixed-wing aircraft attacks as the division advanced on the objective, but the weather prevented further air strikes. A primary mission of the Apache attack was to locate and destroy artillery that might have moved to the previously identified prepared positions. A secondary mission was to locate and destroy the tank company. The Apaches reported no artillery in the area but destroyed several trucks and assorted armored vehicles. The attack helicopters engaged numerous vehicles and destroyed a tank, an armored personnel carrier, a radar facility, and several trucks and logistical bunkers. Some Iraqis, it seems, believed the only way to stop the attack was to surrender to the attack helicopters. Soon, most of the attack flight returned to its base and made a report. Scout helicopters, flying low to the ground, then herded the surrendering Iraqis into groups like western ranchers rounding up cattle. Ground units from the 1st Brigade moved to within a few kilometers of Al Busayyah and rounded up the demoralized Iraqi defenders.[63]

Meanwhile, the 3d Armored Division had followed the 2d Cavalry throughout 25 February. Its movement began at 0430, when the 4th Squadron, 7th Cavalry, began moving its screen line toward the boundary with the 1st Infantry Division. It was a dangerous maneuver that required coordination between the two divisions to keep soldiers from shooting at each other. The rest of the 3d Armored Division began moving northeast at 0551 in a single column of brigades. The haze and fog made movement difficult and limited long-range visibility. Vehicles followed one another in almost precise geometric formations that would have made the writers of tactical manuals at Fort Benning and Fort Knox proud. Throughout the morning, the cavalry squadron continued to screen the division's southern flank to pick up any withdrawing Iraqi units and to preclude engagements with the 1st Infantry Division. At the same time, the division staff worked on clarifying the boundary with the 1st Armored Division in the north.[64]

All morning the 4th Squadron, 7th Cavalry, continued to move along the Spearhead's southern boundary, watching for remnants of the *VII Corps*' defense trying to escape to the north through the enveloping Jayhawk fist. The advance



Tank Company in Battle Formation Just North of the Iraqi Border (Note weather.)

slowed around 1000, as the 3d Armored Division refueled its combat systems, then the movement continued to the east. At the same time the division artillery sent a liaison team back to a contact point near the 1st Infantry Division's breach to meet a team from the 42d Field Artillery Brigade that was soon to be detached from the 1st Infantry Division.[65] Soon that brigade would be on the way to support the 3d Armored Division's battle.

Around 1100 the 2d Brigade made contact with some Iraqi infantry on its left flank and quickly dispersed them. They were probably an isolated unit from the *806th Infantry Brigade* that the 2d Cavalry and 1st Armored Division had already encountered. At Phase Line MELON, an east-west control measure just north of the 1st Infantry Division's breach, the Spearhead moved more to the northeast and the brigades deployed into a wedge formation. The 3d Brigade in the north maintained contact with the 1st Armored Division; the 2d Brigade moved on the right; and the 3d Brigade traveled in reserve, centered on the lead brigades. Throughout the movement, vehicle crews looked in all directions for the attack that they expected at any moment.[66]

The Breach

The corps' original main effort had been in the 1st Infantry Division's sector. Now that most of the Iraqi forward positions were under American armor, the role of the breach began to change. Now it became the route to pass the British to the

east, to secure the corps' flank, and to become the main supply route (MSR) for the corps into Iraq. At 0600 hours, 25 February, the 1st Infantry Division and supporting artillery executed a short preparatory fire on suspected Iraqi positions. Soon after, the 1st Infantry Division resumed its attack to the final breachhead line, Phase Line NEW JERSEY. At 0915 the 3d Brigade passed through the berm and through the 2d Brigade into the center of the enlarging semicircle. All three brigades then attacked, rapidly overwhelming Iraqi resistance and moving toward the day's objective. As they cleared the enemy bunkers and trench lines, they captured two brigade command posts and the command post of the Iraqi *26th Infantry Division*. A brigade commander, several battalion commanders, company commanders, and staff officers joined the parade back to the corps EPW confinement area. Along with the officers were another 871 members of the *26th Division*. Big Red One soldiers also found a complex bunker system with underground stores of RPGs, artillery rounds, mortar rounds, and small arms. Despite these provisions, the Iraqi defense had been weak and sporadic in the face of the overwhelming combat power arrayed against it.[67]

Shortly after 1100 the 1st Infantry Division determined that Phase Line NEW JERSEY was secure and prepared to guide the U.K. 1st Armoured Division through the breach and into its forward positions. Simultaneously, it was time to pass the corps' field artillery brigades to the main effort that had now shifted farther north. The 42d Field Artillery Brigade moved to reinforce the 3d Armored Division Artillery, and the 75th Field Artillery Brigade did the same for the 1st Armored Division Artillery. A cardinal principle of American artillery was that it was never kept in reserve. Once its mission was accomplished in the breach, it was time to move forward to support the advancing units. The 42d Field Artillery Brigade linked up with the 3d Armored Division by nightfall, while the 75th Field Artillery Brigade, with farther to travel, joined the 1st Armored Division the next day. The Royal Artillery Regiment, which had also supported the 1st Infantry Division, refocused its efforts to supporting the British armor as it moved through the breach.[68]

The U.K. 1st Armoured Division was ready in its forward assembly area. Like the rest of VII Corps, the British had a "force-oriented" mission: "to defeat the enemy tactical reserves in order to protect the right flank of VII (U.S.) Corps."[69] The assumption by the corps' planners was that the *52d Armored Division* assigned to the Iraqi *VII Corps* would, in accordance with its doctrine, counterattack to break up the penetration once it was discovered. It was the British role to destroy these forces before they could hinder the corps' main effort. The division staff estimated that, based on the Iraqi performance in the war with Iran, these reserves would be on the move while the penetration was still in process. They had to plan, therefore, for a clean passage of lines and prepare for a heavy fight immediately thereafter.[70]

The VII Corps officers and men had a great deal of respect for the Desert Rats. Two World Wars, Korea, and almost four decades of joint operations in Germany had forged a surprising degree of cooperation and understanding between the two armies. The audacious British operations in the Falklands and their dogged determination in Northern Ireland demonstrated that one should never underestimate

the modern British Army. American officers, who had been force-fed military history at West Point, ROTC, branch service schools, and the Command and General Staff College, knew and respected the tradition of their coalition partner.

The roots of the British contingent were in the 7th Armoured Division that had formed the base of Maj. Gen. Richard O'Conner's Western Defense Force in 1940. Both 4th and 7th Brigades had been part of that division. The British 1st Armoured Division, the parent unit of these modern brigades, arrived in late 1942. For the next year those two divisions formed the main striking arm of the British in North Africa. Battles such as Gazala, Tobruk, and El Alamein, fought against the German *Afrika Corps* commander, General Irwin Rommel, evoked a certain mysticism.[71] The Desert Rats, as the 7th Armoured Division was known, then fought across Northern Europe from Normandy to the Bulge and beyond.[72]

The modern British Army was a well-trained force that ranked among the best in the world. Its combat power was built around the Challenger main battle tank. With a 120-mm. rifled main gun, thermal optics, and state-of-the-art Chobbam armor, its only rival in the theater was the American Abrams. British infantry rode into battle on the section vehicle variant of the Warrior infantry fighting vehicle. Speed, reasonable armor protection, and a 30-mm. Rearden cannon made it ideally suited for the desert environment. Modified Warrior fighting vehicles included mortar carriers, Milan antitank systems, and command and control vehicles; and the British possessed a variety of excellent light armored vehicles built on their Scorpion chassis. While not designed for heavy combat, they had the ability to fight on favorable terms with T–55s and MT-LBs.

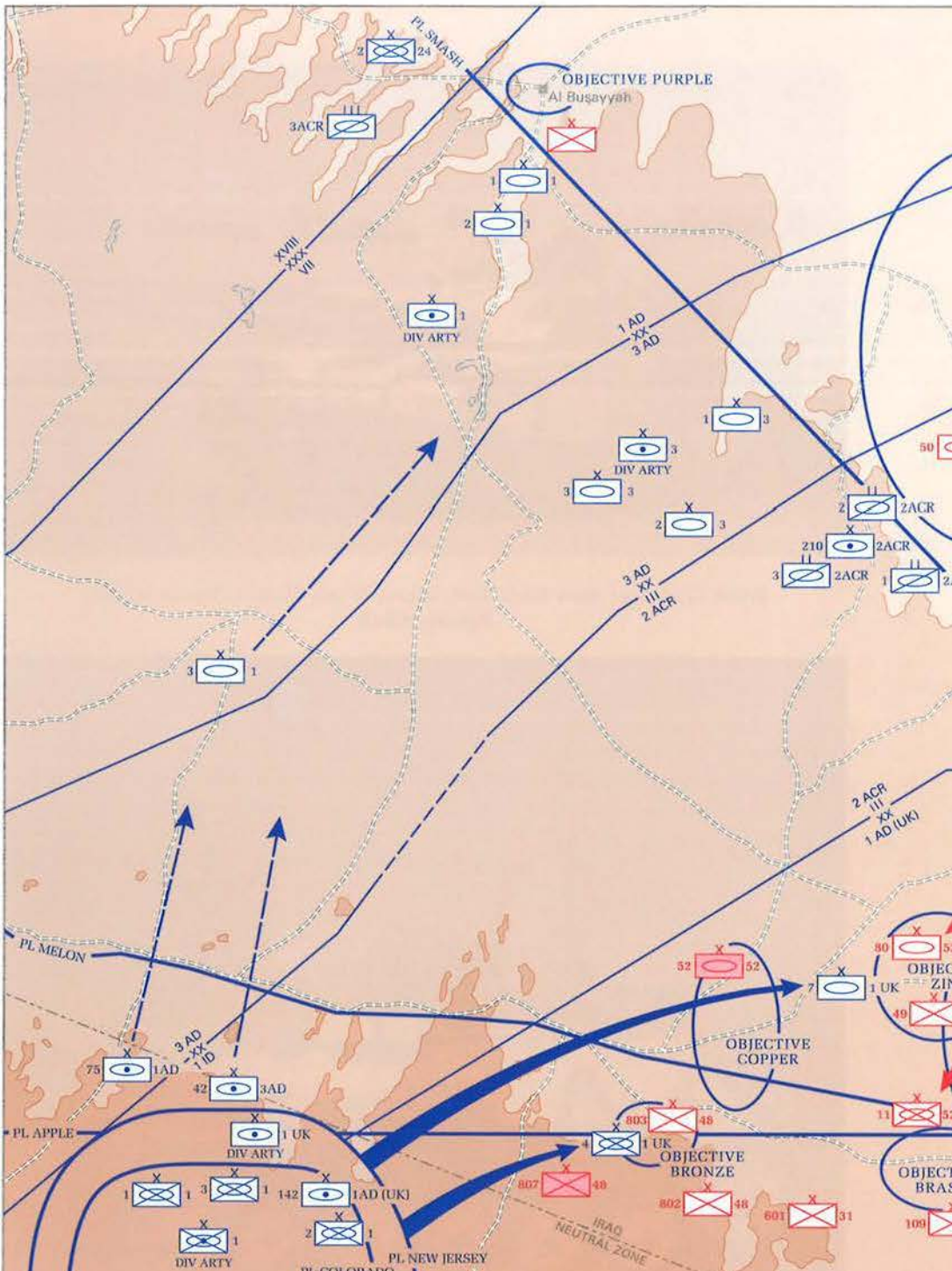
Their artillery, primarily American-built M109s (155-mm.), M110s (203-mm.), and MLRS's, were compatible with the American systems. After they passed through the breach, they would have the support of the U.S. VII Corps' 142d Field Artillery Brigade. Because of years of joint operations, the British fit into the VII Corps fire-support system with little difficulty. Their dedicated air support consisted of Gazelle helicopters, used for reconnaissance, and the Lynx helicopter, used like the American Cobra. They had a full contingent of engineer, logistics, and medical units. Their prisoners of war were guarded by a small force of their elite ceremonial troops: the Coldstream Guards, Royal Highland Fusiliers, and the King's Own Scottish Borderers.[73]

Forty-seven-year-old Maj. Gen. Rupert Smith commanded this small but powerful division. A member of the Parachute Regiment, Smith was an expert on Soviet armor and tank tactics. With two brigades operating on a narrow front, he planned his attack within a "two-tier" framework. First was the depth battle. Under the direction of the Commander of the Royal Artillery (CRA), Brig. Ian Durie, the depth battle was designed to prevent the Iraqis from firing and moving to reinforce the contact battle. For target acquisition he used his remotely piloted vehicles, long-range ground reconnaissance, and the intelligence assets available to the corps. In addition to his ground reconnaissance, 16/5 Lancers, the Royal Artillery's M110s, and the MLRS, he also had the three aviation attack squadrons to destroy and disrupt the armor of the Iraqi *52d Armored Division*.[74]

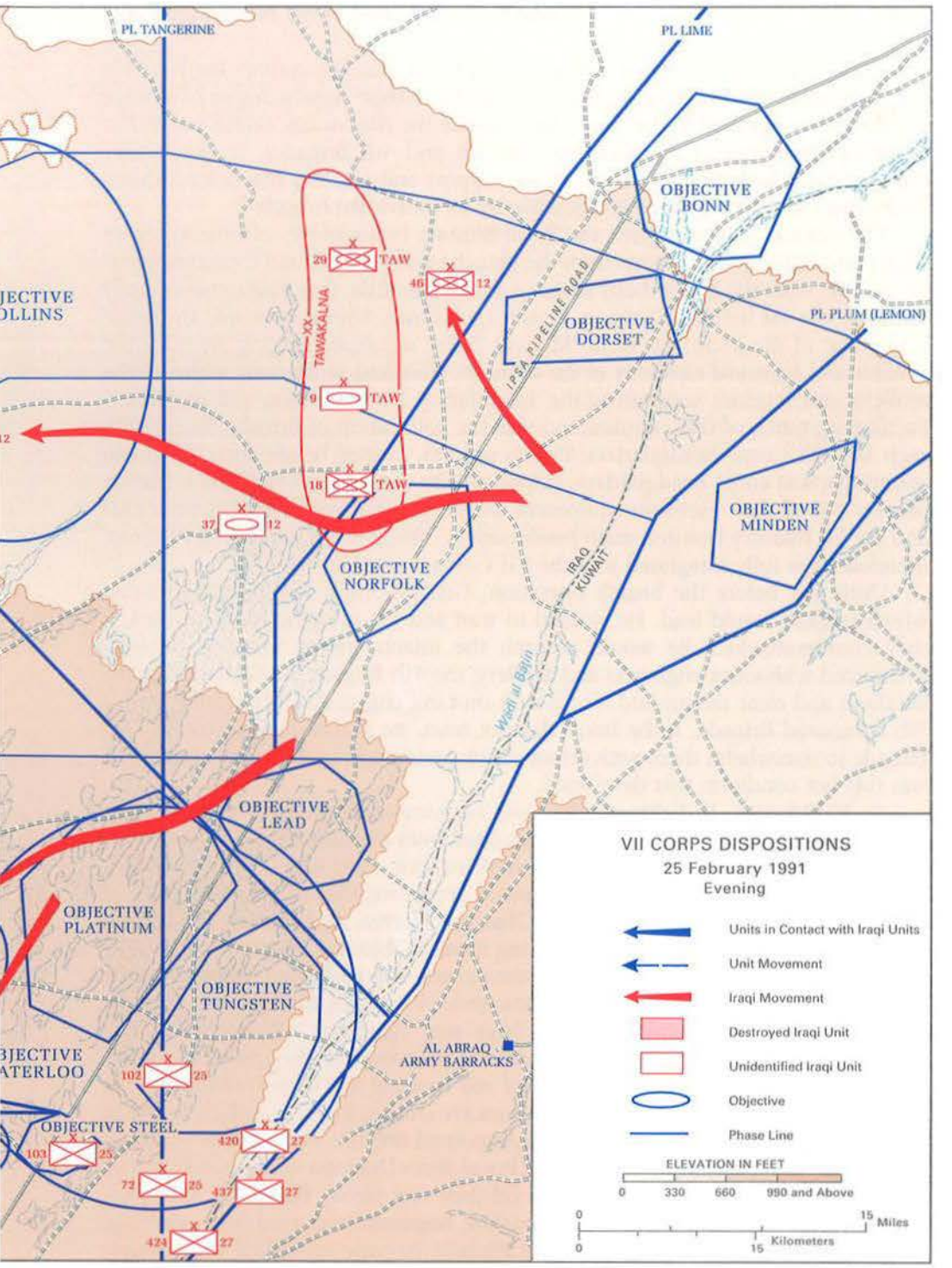


British Challenger Main Battle Tank; below, *British FV–432 Warrior Infantry Fighting Vehicle*




PL SMASH
OBJECTIVE PURPLE
Al Busayyah
3ACR
XVIII
XXX
VII
DIV ARTY
1 AD
XX
3 AD
2ACR
210
3 AD
XX
III
2 ACR
2 ACR
III
XX
1 AD (UK)
PL MELON
OBJECTIVE
COPPER
1 UK
OBJECTIVE
BRONZE
3 AD
XX
1 ID
1AD
3AD
PL APPLE
1 UK
DIV ARTY
142
1AD (UK)
DIV ARTY
PL COLORADO
PL NEW JERSEY
IRAQ
NEUTRAL ZONE

MAP 17


PL TANGERINE
PL LIME
OBJECTIVE BONN
OBJECTIVE DORSET
PL PLUM (LEMON)
IPSA PIPELINE ROAD
XX TAWAKALNA
29 TAW
46 12
9 TAW
18 TAW
37 12
OBJECTIVE NORFOLK
OBJECTIVE MINDEN
IRAQ
KUWAIT
Wadi al Batin
OBJECTIVE LEAD
OBJECTIVE PLATINUM
OBJECTIVE TUNGSTEN
AL ABRAQ ARMY BARRACKS
OBJECTIVE STEEL
102 25
103 25
72 25
420 27
437 27
424 27
VII CORPS DISPOSITIONS
25 February 1991
Evening
Units in Contact with Iraqi Units
Unit Movement
Iraqi Movement
Destroyed Iraqi Unit
Unidentified Iraqi Unit
Objective
Phase Line
ELEVATION IN FEET
0
330
660
990 and Above
0
15 Miles
0
15 Kilometers

The second tier of Smith's operational concept was the contact battle. With only two maneuver brigades, he had to be careful in their sequencing so both were not decisively engaged at the same time. Unlike the Americans, Smith wanted to sequence the blows of his two fists, the 7th and 4th Brigades, so when they punched they had the full weight of air support and artillery fire behind them. Each objective he assigned was digestible by an individual brigade.[75]

The original plan had given the Royal Military Police plenty of time to set up routes and traffic release points from the breach to the brigade and division assembly points. With the fifteen-hour advance in the schedule, they had to move faster to follow the 1st Infantry Division. As the 1st Infantry Division vacated the space to the rear of the berm, the Royal Military Police organized staging areas for the combat and logistical elements of the division. This had to be done while all the artillery and logistics supporting the 1st Infantry Division were still in place.[76] Facilitating much of this coordination was the collocation of British officers with each key VII Corps headquarters. British officers worked beside their American counterparts at corps headquarters, responsible to the section's staff chief. Liaison officers and all their excellent equipment were collocated with the VII Corps TAC and the 1st Infantry Division main headquarters. The U.K. 1st Armoured Division, therefore, was fully integrated into the VII Corps operation.[77]

Until just before the breach operation, General Smith had not yet decided which brigade would lead. He wanted to wait and see how the Iraqis reacted. If they counterattacked, he would commit the infantry-heavy 4th Brigade first. Reinforced with extra engineers and artillery, the 4th Brigade would continue the breakout and clear the ground. For a tank-on-tank engagement he would use his 7th Armoured Brigade. If the Iraqis did not react, he also wanted to use his 7th Brigade to overwhelm them with armor shock-action and keep the tempo high. It was this last condition that developed.

At 1000 hours, 25 February, the U.K. 1st Armoured Division began moving out of its staging areas through the twenty-four lanes cut through the Iraqi defenses. The passage of the division's 7,000 vehicles took until 0200 on 26 February. The 7th Armoured Brigade crossed its line of departure, Phase Line NEW JERSEY, at 1515 and began attacking east toward Objective COPPER. At 1930 the 4th Brigade completed its passage and began attacking toward Objective BRONZE.[78]

The actual passage of the British on the twenty-fifth took place with only a few problems. As the 1st Armoured Division moved forward through the berm, it passed through lanes marked with a large sign that read, "Welcome to Iraq, Courtesy of The Big Red One," which cheered the troops as they moved forward. The trucks and buses of Iraqi prisoners of war heading south also reassured them that the battle was going well. The 16/5 Lancers crossed Phase Line NEW JERSEY to screen the northern boundary of the 7th Armoured Brigade. Once this brigade was through the breach, the tank regiments (Royal Scots Dragoon Guards and Queen's Royal Irish Hussars) halted and topped off their fuel tanks. There was one major problem—the 1st Battalion, The Staffordshire Regiment, was unable to refuel. Its tanks and some of the U.S. 1st Infantry Division became enmeshed in a massive traffic jam and could not rejoin the regiment in time. At 1515 the brigade began



Border Berm Welcome Sign

its advance with the Queen's Royal Irish Hussars leading, the Staffords on the left rear, and the Scots Dragoon Guards on the right rear.[79]

Defending the zone just east of the *26th Infantry Division*, the Iraqi *48th Infantry Division* was the first unit in the path of the advancing Desert Rats. The *48th* had already been badly mauled by coalition air and 1st Infantry Division artillery, and it had remained oriented to the south. Thus, there was now little protection on its western flank. By now Brig. Gen. Saheb Mohammed Alaw, the *48th Division*'s commander, knew he was going to get attacked on his right flank, rather than from the front as his superiors expected. Early that morning a flank unit warned him that the Americans were overrunning the *26th Infantry Division* and that his *48th Infantry Division* could expect an attack on its flank soon. Unfortunately, there was little he or his comrades could do. The Iraqi units did not have the vehicles to move or the time and information to develop a new defensive scheme. By the end of the day the rapidly attacking British had smashed into the western flank of the *48th Infantry Division* and destroyed it. That evening General Alaw was in the hands of the VII Corps interrogators.[80]

The Iraqi *VII Corps*, however, tried to react. Two brigades from the *52d Armored Division* began traveling on the twenty-fifth toward the forward defensive lines to reinforce the *48th Infantry Division*. One brigade, the *11th Mechanized*, moved just south of the *48th Division*, immediately opposite the U.S. 1st Cavalry Division, to establish blocking positions against an imaginary attack from that direction. Another brigade, the *80th Armored*, had farther to go and headed toward objectives that the British called COPPER and ZINC.[81] By early evening the British, as well as the American divisions, seemed to be on the eve of a decisive battle.

Notes

[1]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 532–33.

[2]Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, D.C.: Government Printing Office, 1993), pp. 112–17; John Barry and Evan Thomas, "A Textbook Victory," *U.S. News and World Report*, 11 Mar 91, p. 42.

[3]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], pp. 98–99, in VII Corps AAR, Fort Leavenworth, Kans.

[4]Alois Musil, *Northern Negd: A Topographical Itinerary*, American Geographical Society Oriental Explorations and Studies no. 5 (New York: American Geographical Society, 1928), pp. 185–202. Dr. Musil was a professor at the University of Prague who traveled throughout Arabia from 1908 through 1915. His geographical and historical descriptions vividly capture a terrain and society that in many ways had not changed at the end of the 20th century.

[5]R. E. Bosworth, et al., *The Encyclopedia of Islam, New Edition*, vol. V (Leiden, The Netherlands: E. J. Brill, 1982), pp. 632–34.

[6]Author's notes. During the last stage of the corps' occupation of Iraq, the 1st Infantry Division's headquarters camped on one such hill that obviously dominated the once fertile valleys in all directions.

[7]After the destruction of the German Army at the end of World War II, Allied military historians were able to examine all aspects of the Nazi war machine. Analysis of captured documents, interviews with captured officers, and evaluation of operational reports provided a comprehensive overview of the German Army. The detailed enemy order of battle in the Center of Military History's "Green Books" (U.S. Army in World War II series) and the valuable insights in its German Report Series are the results of this analysis. The Gulf War does not provide the same opportunity for historians. The Iraqi government did not surrender unconditionally. They retain most of their actual operational and order of battle information. Interviews with captured participants often remain sensitive because of family and other considerations in Iraq. Some information remains controlled because of the manner in which it was acquired. Much accurate information on the Iraqi Army remains either unknown or classified. The picture of the Iraqi Army during these hectic days in February 1991, therefore, is based on an analysis of the best sources to which the author had access. These include selected edited interviews, U.S. unit journals, the comprehensive study by the VII Corps G–2, and the study of Iraqi doctrine done at the National Training Center. A key reference is the analysis of where the Iraqi equipment was at the end of the war, done by the 7th Engineer Brigade's Task Force DEMO. Hopefully, the complete Iraqi operational plans will emerge to divulge the inner working of Iraq's military machine. Until then, the portrayal of the Iraqi Army operations and intentions remains an educated guess.

[8]U.S. Army Intelligence Agency (AIA), *How They Fight: DESERT SHIELD Order of Battle Handbook* (Washington, D.C.: Army Intelligence Agency, 1990), pp. 81, 86; Stewart Menaul, ed., *The Illustrated Encyclopedia of the Strategy, Tactics, and Weapons of Russian Military Power* (New York: Bonanza Books, 1982), pp. 170–74.

[9]Mark E. Vincent and Samuel C. Raines, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, in VII Corps AAR. This document identifies the specific location and type of equipment destroyed by VII Corps engineers at the end of the war. A large number of T–55 tanks and MT-LB personnel carriers were found at the end of the war in the *31st* and *48th Infantry Division* sectors. Most likely, the armor the British later fought on Objective ZINC was from the *80th Armored Brigade, 52d Armored Division*.

[10]Arthur Goldschmidt, Jr., *A Concise History of the Middle East*, 4th ed. (Boulder, Colo.: Westview Press, 1991), p. 400. The term *Jihad* means the "defense of Islam against attackers." The term implies a willingness to sacrifice one's life to attain such a purpose. It is an appropriate term for how the *RGFC* commander deployed these divisions.

[11]VII Corps G–2, "100-Hour Ground War," p. L–I–6.

[12]AIA, *How They Fight*, p. 82; Menaul, *Russian Military Power*, p. 169.

[13]VII Corps G–2, "100-Hour Ground War," p. L–I–7.

[14]177th Armd Bde, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), pp. 25–30; VII Corps G–2, "100-Hour Ground War," pp. L10–L12.

[15]AIA, *How They Fight*, pp. 80, 88; Menaul, *Russian Military Power*, pp. 168, 172–73.

[16]VII Corps G–2, "100-Hour Ground War," pp. 38–47.

[17]Anthony H. Cordesman, *After the Storm: The Changing Military Balance in the Middle East* (Boulder, Colo.: Westview Press, 1993), p. 470.

[18]Gordon L. Rottman, "Saddam's Juggernaut or Armed Horde? The Organization of Iraq's Army," *International Defense Review* (November 1990):1242.

[19]Gregory Fontenot, "Fright Night: Task Force 2/34 Armor," *Military Review* (January 1993):47–48; Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, p. 16.

[20]Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 45, 114.

[21]VII Corps G–2, "100-Hour Ground War," pp. 98–99, 133; 177th Armd Bde, *Iraqi Army*, p. 88; Scales, *Certain Victory*, pp. 232–36, 296; Vincent and Raines, "VII Corps Iraqi Material Denial Mission."

[22]Ibid.

[23]ARCENT, DESERT STORM Intel Sum, 1 Mar 91. The *Adnan* was a *Republican Guard* motorized division. In addition to a full complement of trucks to transport infantry, it apparently had several tank battalions. VII Corps G–2, "100-Hour Ground War," p. 121; 177th Armd Bde, *Iraqi Army*, p. 96.

[24]VII Corps G–2, "100-Hour Ground War," p. 12.

[25]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 26.

[26]Interv, Richard Swain with Stanley F. Cherrie, 29 Aug 91; VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91, p. 2.

[27]Interv, author with Frederick M. Franks, Jr., 8 Sep 95, CMH; VII Corps, OPLAN 1990–2, p. 10.

[28]VII Corps, OPLAN 1990–2, p. 14.

[29]Ibid., pp. 33–34.

[30]Interv, Swain with Cherrie, 29 Aug 91.

[31]Interv, author with Franks, 8 Sep 95.

[32]Author's observations.

[33]Scales, *Certain Victory*, p. 261.

[34]Interv, author with Franks, 8 Sep 95.

[35]Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), p. 381.

[36]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 11 Apr 91, TRADOC; Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 353–54; James G. Burton, "Pushing Them Out the Back Door," *Proceedings* (June 1993):40; Tom Donnelly, "The Generals' War from the Top: How Commanders Planned Operation DESERT SHIELD," *Army Times*, 24 Feb 92, pp. 8ff.

[37]2d ACR, Op Sum, 23 Feb–1 Mar 91; VII Corps TAC, Staff Jnl, 25 Feb 91, entry 2.

[38]3d Armd Div, "Chronology of the 3d Armored Division in DESERT SPEAR, 24–28 February 1991," n.d., and "Historical Overview of the 3d Armored Division in the Persian Gulf War," n.d., p. 7, both in VII Corps AAR.

[39]VII Corps TAC, Staff Jnl, 25 Feb 91, entries 3, 4; VII Corps, Sitrep, 38, 24 Feb 91.

[40]VII Corps TAC, Staff Jnl, 25 Feb 91, entries 8, 9.

[41]VII Corps G–3, Staff Jnl, 25 Feb 91, entry 29; VII Corps G–2, "100-Hour Ground War," pp. 103–04; Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* (February 1992):25–26.

[42]VII Corps G–2, "100-Hour Ground War," pp. 107–08.

[43]John C. Wirick, "1st Cavalry Division in the Battle of the Ruqi Pocket," p. 14, in Swain Collection, Fort Leavenworth, Kans.; VII Corps TAC, Staff Jnl, 25 Feb 91, entries 4, 13; John P. Nagal, "A Tale of Two Battles," *Armor* (May–June 1992):6–7.

[44]Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 527; Rick Atkinson, *Crusade: The Untold Story of the Gulf War* (Boston: Houghton Mifflin Co., 1993), pp. 406–07. It was an inappropriate

comparison. The Victory Division (24th Infantry Division) and Brave Rifles (3d Armored Cavalry) had by design avoided the main Iraqi defenses. They did not have to conduct a breach. They did not have to operate in proximity to a half-dozen other heavy divisions. They did not, in addition, have the immediate specter of three heavy divisions of the *Republican Guard* waiting for their approach. Their movement was absolutely audacious. Its success, however, was a combination of superb leadership, lack of an enemy force, and the nature of their terrain-oriented mission.

[45] VII Corps, Sitrep 39, 25 Feb 91; 2d ACR, Op Sum; Kindsvatter, "Ground Offensive," p. 25.

[46] 2d ACR, Op Sum; VII Corps TAC, Staff Jnl, 25 Feb 91, entry 15.

[47] VII Corps G–3, Staff Jnl, 25 Feb 91, entry 9.

[48] An MT-LB is a Soviet-built multipurpose tracked vehicle. Similar to an American M113, the MT-LB served the Iraqis as an armored personnel carrier.

[49] Kevin Smith and Burton Wright III, *United States Army Aviation During Operations DESERT SHIELD & DESERT STORM: Selected Readings* (Fort Rucker, Ala.: U.S. Army Aviation Center, 1993), pp. 163–64.

[50] VII Corps G–2, "100-Hour Ground War," p. 111; Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 28.

[51] VII Corps G–3, Staff Jnl, 25 Feb 91, entry 19; Interv, author with Franks, 8 Sep 95.

[52] Interv, author with Franks, 8 Sep 95.

[53] Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps G–3, Staff Jnl, 25 Feb 91, entries 17, 19; 2d ACR, Op Sum; VII Corps, Sitrep 39, 25 Feb 91.

[54] 2d ACR, Op Sum; Interv, Kindsvatter with Franks, 11 Apr 91.

[55] VII Corps G–2, "100-Hour Ground War," p. 98.

[56] 2d ACR, Op Sum.

[57] HQ, 1st Armd Div, and Guy C. Swan III, "1st Armored Division Battle Summary for Combat Operations Conducted in Support of Operation Desert Storm, 23–28 February 1991," 10 Mar 91, in VII Corps AAR; DIA, *How They Fight*, p. 109; 177th Armd Bde, *Iraqi Army*, p. 13.

[58] VII Corps G–2, "100-Hour Ground War," p. C3.

[59] Kindsvatter, "Ground Offensive," p. 26; VII Corps, Sitrep 38, 25 Feb 91; Swan, "Battle Summary."

[60] Swan, "Battle Summary"; Scales, *Certain Victory*, p. 240; 1st Armd Div, Briefing Slides: Synchronization Matrix, 1 Apr 91; Vogel, "Metal Rain," p. 9; Steve Vogel, "Killer Brigade: 3d Infantry Division 'Phantoms' Hunt the Enemy," *Army Times*, 11 Nov 91, p. 15.

[61] Swan, "Battle Summary."

[62] DA, FM 100–5, p. 19.

[63] Swan, "Battle Summary"; VII Corps, Sitrep 39, 25 Feb 91; Scales, *Certain Victory*, p. 241; Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps G–2, "100-Hour Ground War," pp. 105–06.

[64] VII Corps TAC, Staff Jnl, 25 Feb 91, entries 9, 13; 2d Bde, 3d Armd Div, Hist Sum, n.d.; 3d Armd Div, "Historical Overview," p. 7; Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 92, p. 13.

[65] 2d Bde, 3d Armd Div, Hist Sum, p. 17; 3d Armd Div, "DESERT SPEAR"; 3d Armd Div, "Historical Overview."

[66] 3d Armd Div, "Historical Overview," and "DESERT SPEAR."

[67] 1st Inf Div, Comdr's Rpt, 25 Feb 91; VII Corps, Sitrep 39, 25 Feb 91.

[68] VII Corps TAC, Staff Jnl, 25 Feb 91, entry 1; 1st Inf Div, CGSC Briefing, Jul 91; 1st Inf Div, Comdr's Rpt, 25 Feb 91; VII Corps, Sitrep 39, 25 Feb 91.

[69] Ministry of Defense, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91, The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), p. 2–4.

[70] Ibid., pp. 2–4 to 2–5; VII Corps, OPLAN 1990–2, pp. 8, 19; 177th Armd Bde, *Iraqi Army*, p. 97.

[71] Correlli Barnet, *The Desert Generals* (Bloomington: Indiana University Press, 1982); Hans Halberstadt, *Desert Rats: The British 4 and 7 Armoured Brigades, WWII to Today* (Osceola, Wisc.: Motorbooks International, 1993), pp. 21–25.

[72] The modern 7th Armoured Division also became known as the Desert Rats, since both its 4th and 7th Armoured Brigades inherited the nickname from their World War II affiliation with the 7th Armoured Division.

[73] Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 22, 97, 118, 121; U.S. Army Threat Analysis Center, *How They Fight: DESERT SHIELD Order of Battle Handbook: Friendly Forces* (Washington, D.C.: Department of the Army, 1990); Ministry of Defense, *DESERT SABRE*, inside back cover.

[74] Ministry of Defense, *DESERT SABRE*, ch. 5; Rupert Smith, "The Gulf War: The Land Battle," *RUSI Journal* (January–February 1992):1; Halberstadt, *Desert Rats*, p. 109.

[75] Ministry of Defense, *DESERT SABRE*, ch. 6; Smith, "Land Battle," pp. 1–2.

[76] Pearce, *The Shield and the Sabre*, pp. 98–99.

[77] Smith, "Land Battle," p. 4.

[78] Pearce, *The Shield and the Sabre*, p. 99; VII Corps, Sitrep 39, 25 Feb 91.

[79] VII Corps TAC, Staff Jnl, 25 Feb 91, entry 36; Pearce, *The Shield and the Sabre*, pp. 99–100; VII Corps, Sitrep 39, 25 Feb 91.

[80] VII Corps G–2, "100-Hour Ground War," p. 107.

[81] Vincent and Raines, "TF DEMO," pp. 4–7; VII Corps G–2, "100-Hour Ground War," p. 97; Kindsvatter, "Ground Offensive," p. 25.

14

Objective COLLINS: Night of 25–26 February

As darkness fell on the twenty-fifth, Colonel Holder ordered the 2d Cavalry to assume a hasty defense just to the southeast of Objective COLLINS. Holder had good reasons for a pause. First, they were on the route that at least two brigades from the Iraqi *12th Armored Division* were using to move toward Al Busayyah. From his position, Holder could inflict heavy casualties on the Iraqis as they came into the regiment's sights. Second, the halt allowed the squadrons to reorient due east so they could attack to gain contact with the main body of the *Republican Guard*. Most important, the regiment was low on ammunition. By noon most of the support squadron's ammunition trucks were stuck in sand that had turned to mud in the rain. An emergency resupply, coordinated by the corps staff, sent in three CH–47 Chinooks full of ammunition. Inclement weather canceled five additional resupply sorties. Other regimental wheeled vehicles moved back and forth between the stuck vehicles and the squadron's trains all night. While none of the combat vehicles had shot that much ammunition, it would have been less than prudent to approach the *Republican Guard* with less than a full combat load.[1] It was not a quiet night, however, as the *12th Armored Division* tried to discover what force was in front of it.

The 1st Armored Division arrived south of Al Busayyah around 1715.[2] Franks had originally wanted that village (Objective PURPLE) captured before dark and the division on Objective COLLINS by 1000 the following day. Its cross-country movement, however, was much slower than the division staff had anticipated. With darkness approaching, General Griffith wanted to postpone the attack on the built-up complex. Franks agreed, but told him he still wanted most of Old Ironsides on the northern part of Objective COLLINS by 1000 on the twenty-sixth.[3] That night the 1st Armored Division repeatedly struck Al Busayyah with artillery and attack helicopters. They also attacked the objective throughout the night with MLRS's and 155-mm. artillery in preparation for an early-morning attack by the 1st and 2d Brigades.[4]

Meanwhile, south and southeast of the 1st Armored Division, the 3d Armored Division had been moving cross-country for almost nine hours. By 1430 much of the division was strung out along the 75-mile route back to the border. While the tracked combat vehicles sped along, the heavy-laden wheeled vehicles of the



CH–47 Chinook

brigade and division combat trains moved slowly. The 42d Field Artillery Brigade was not yet fully assimilated into the division's order of march. When the 2d Cavalry went into hasty defensive positions south of Phase Line COLLINS at 1400, General Funk had little choice but to issue orders for a division laager.[5] That lull would allow the division to attack in the morning with all elements fully fueled and all its combat power together.[6] The 3d Armored Division was still about thirty kilometers short of Objective COLLINS.

The establishment of a laager, just west of Phase Line SMASH, allowed the elements of the division to close together. All night individual units, including the 42d Field Artillery Brigade, came together and prepared for the resumption of the advance to the east. Crews performed the numerous maintenance checks that each of the complex fighting systems required. They refueled, cleaned their weapons, and inspected their combat loads. The battalions and brigades also passed their prisoners up the evacuation chain. Over two hundred-twenty Iraqis were captured that day as the division negotiated almost one hundred kilometers of desert. During the night the division and brigade staffs completed their plans and began to coordinate their movement to the left flank of the 2d Cavalry.[7]

The 1st Infantry Division had always had an on-order mission to assist in the destruction of the *Republican Guard*. It was no surprise to General Rhame, therefore, when at 1400 Franks gave him the order to move north. Rhame was to leave a small security element to guard the passage lanes while the rest of the division caught up with the 2d Cavalry. Rhame's division could expect to attack part of the

Tawakalna Mechanized Division around an objective called NORFOLK sometime late Tuesday, 26 February.[8] Leaving a task force built around the 2d Battalion, 16th Infantry, at the breach area, he prepared the rest of the command for the long march to the east. Rhame's division would not depart, however, until the U.K. 1st Armoured Division with its thousands of vehicles passed through the 1st Infantry Division en route to its own battles.[9]

Night Probe

That night the 2d Cavalry formed into a regimental laager on the road between Al Busayyah and the Kuwaiti border. As Colonel Holder pulled in his regimental trains and refueled his combat vehicles, he wanted to keep the pressure on the Iraqis to his east. Beginning at 2200 on the twenty-fifth, Company M moved forward of the regimental position and cleared a zone for an MLRS battery. At 2230 and again at 2400, the battery launched rockets into the center of the Iraqi position. After each engagement, the tanks and MLRS launchers returned to the interior of the regimental defense. Holder had also planned to use his aviation assets in these attacks, but inclement weather again grounded them.[10]

The weather allowed the Iraqi infantry to move close to the cavalry's lines. Soon after the cavalry artillery raid at 2400, the Iraqis began a series of probes of the regimental sector. Around 0200 on the twenty-sixth a small Iraqi mechanized unit, probably from the *37th Armored Brigade*, broke into the regiment's perimeter, likely seeking the rocket launchers that had been bombarding it during the night. This unit struck a sector of the screen line occupied by the 3d Squadron. A confused firefight ensued with Iraqi vehicles and crews mixed in among Bradleys and maintenance crews on the screen line. In the dark, MT-LBs and the U.S. M113s used by the maintenance crews looked alike, even through thermal sights. Some scouts reported enemy vehicles to the rear of the screen and increased the danger to all, as Bradley and M1 turrets turned to the rear for potential targets. By the time the firefight was finished, the squadron had destroyed nine MT-LBs and one Iraqi tank and had another sixty-five prisoners. But the friendly toll confirmed the danger of night combat at close quarters. The Iraqi raid and friendly fire damaged two Bradleys and destroyed two M113s, killing or wounding several U.S. soldiers.[11] One wonders how much greater the damage would have been if an Iraqi tank battalion had followed the leading MT-LBs into the regimental perimeter.

Holder's hasty defense on Phase Line SMASH allowed the Iraqi commanders time to develop the situation along their line of march. During the night, the *50th* and *37th Armored Brigades* sent other mounted reconnaissance elements forward to probe the American positions.[12] The Iraqis did not follow up the generally uncoordinated probes with ground or artillery attacks, and the series of engagements was thus a lost opportunity. A serious, competent reconnaissance effort would have discovered the 2d Cavalry recovering from several days of demanding movement. Vulnerable fuel, ammunition, and maintenance vehicles were dispersed throughout its position. A determined attack by a couple of battalions of T–55 tanks and infantry into the regimental laager could have seriously disrupted

Franks' plans. Instead, the 2d Cavalry defense refueled and rearmed with little effective Iraqi interference.

The Iraqi commander's defensive scheme began to unravel in a second area, officer leadership. Mobile armored warfare requires audacious leadership at all levels of command. According to its offensive doctrine, the Iraqi Army understood the imperative of retaining the initiative on the battlefield.[13] Iraqi armored operations during the end of the Iran-Iraq War had demonstrated that their commanders understood the importance of developing battlefield momentum and keeping the enemy guessing as to where the next blow would fall.[14] In this and other engagements, however, the local Iraqi commanders failed to respond effectively and, where possible, preempt or disrupt the impending attack. Perhaps, as an intelligence specialist had asserted before the war, "junior commanders often lack[ed] initiative and confidence, fear[ed] harsh punishment for failure and [were] stifled by a forced loyalty to the regime."[15] In most instances, Iraqi units simply waited for the Americans to strike.

Arguments asserting that the Iraqis failed to attack because their equipment was substandard are specious. Many examples in modern history attest to poorly equipped units defeating better-armed opponents.[16] In fact, T–55 tanks can fight at close range with the M1s and Bradleys on almost an equal footing. In a close fight, American thermal gun sights "white-out" and become almost useless as the battlefield becomes littered with exploding ordnance and burning vehicles. Vehicle identification in such fights is confusing as tank rounds engage targets in all directions. American soft-skinned vehicles would be easy prey for Iraqi infantry or tank-mounted machine guns. In such a close-in fight, the victor would have been the one most resourceful, proficient, and determined. The few Iraqi probes into the 2d Cavalry's perimeter showed the potential results of such tactics.[17]

The payoff for a successful probe would have been the information General al-Rawi needed to adjust his forces to meet the American attack. He then could have either rearranged his defending *Tawakalna Division* or withdrawn into a more defensive sector. It was an opportunity for maneuver that the Iraqi Army never again had.

Objectives COPPER, BRONZE, and ZINC

South of the 2d Cavalry and the 3d Armored Division, the U.K. 1st Armoured Division continued its attack on the night of the twenty-fifth. The Desert Rats ran into their first serious fight within two hours of passing through the breach at Objective COPPER–North. There, Brig. Patrick Cordingley's 7th Brigade found the remnants of the Iraqi *52d Armored Brigade*. Through the Challenger's TOGS (Thermal Observation and Gunnery System) sights, tankers from the Scots Dragoon Guards identified many Iraqis running to their fighting positions. Because of the rain and blowing sand, the tankers had to close to within several hundred meters of the enemy positions. Young 2d Lt. Richard Telfer won a Military Cross in this engagement by directing a night attack on this objective. In a lone Challenger, under almost forty-five minutes of heavy fire, he directed the Warriors and dis-

mounted infantry of the battle group through the enemy positions. While he was directing the infantry, his gunner continued to acquire and destroy Iraqi vehicles and positions. In rainy darkness, with light provided only by burning Iraqi vehicles, the Scots cleared two lines of enemy positions with rifles and hand grenades.[18]

The Scots next encountered the brigade headquarters located at a desert watering hole. The squadron surprised several companies of T–55s and MT-LBs and destroyed them as they tried to move out of their hiding positions. Far from being defeated, the Iraqis counterattacked directly into the sights of the waiting Scots' Challengers, but British gunners destroyed them all. The Iraqis wounded three British soldiers in this confusing melee, but the Scots killed many Iraqis and sent over sixty prisoners to the corps' rear EPW cages.[19]

While the Scots were fighting at Objective COPPER, the remainder of the 7th Brigade maneuvered around that engagement to Objective ZINC, the location of the *49th Brigade* of the *31st Infantry Division*. The *52d Armored Division* had obviously reinforced this unit, probably with the *80th Armored Brigade*. With the Scots still fighting on COPPER–North, Cordingley had only two battle groups to challenge this potentially formidable force. Reconnaissance by the QRIH (Queen's Royal Irish Hussars) determined that Objective ZINC was a well-defended position. Cordingley, concerned about the impending fight, asked General Smith if he could delay his attack until dawn. Smith calmly responded, "That would be disappointing."[20]

Energized by his commander's comments, and with more artillery available than Montgomery had used at El Alamein, the 7th Brigade commander decided to use the artillery to prepare the objective for his assault. He patiently waited for his artillery, five British regiments and the American 142d Field Artillery Brigade, to occupy firing positions. Just before 0100 on the twenty-sixth the artillery opened fire on Objective ZINC. For almost half an hour in the greatest British firepower display since World War II, MLRS rockets and high-explosive rounds from 155-mm. and 8-inch howitzers raked the objective. Almost thirty minutes later the brigade began moving on to the objective.[21]

The Iraqis, however, had no intention of quitting. At 0300, after three hours of combat in the dark and rain, Cordingley decided to hold in position and wait until dawn. Less than half an hour later British gunners identified vehicles approaching from the northeast. Soon an Iraqi tank battalion entered the range of the Challengers' main guns. For almost ninety minutes the 7th Brigade fought a night tank battle against counterattacking Iraqi armor, probably from the *52d Armored Division*. Several other attacks followed; however, in the dark the uncoordinated attacks of the T–55s had little chance of succeeding. Not only were they out-classed by the Challengers' night-fighting capability, but also the British crews were ready and alert. The Iraqis made little use of indirect-fire support and failed to provide a base of fire to suppress the British armor so the T–55s could close to within effective range. Those uncoordinated tank attacks, while brave, were essentially inept and suicidal. When dawn broke, over fifty Iraqi tanks and armored personnel carriers were burning hulks.[22] Objective ZINC was clear of Iraqi soldiers, and the 7th Brigade was ready to continue its attack.

Following the 7th Brigade was Brig. Christopher J. A. Hammerbeck's 4th Armoured Brigade. At 1930 on the twenty-fifth the brigade passed out of the U.S. 1st Infantry Division's breachhead and attacked east, toward Objective BRONZE. Intelligence reports indicated that it contained the entrenched *802d Brigade* of the Iraqi *48th Infantry Division*. Soon after the British completed their forward passage, they ran into the rear of the *807th Brigade*, the unit of the *48th Division* closest to the breach, and destroyed a headquarters and artillery site. Continuing, the 4th Brigade attacked into its primary objective. As in the case of the *803d Brigade* that had faced the 7th Brigade, additional armor had reinforced the defenders at BRONZE. The British infantry dismounted and cleared Iraqi positions with automatic weapons and hand grenades. By 0230 the objective was clear, and the British moved on to their next battle. In their wake were the destroyed remnants of several infantry brigades and a tank or mechanized battalion.

As the British continued forward, they encountered a column of about fifty vehicles. The commander of the 1st Royal Scots, Lt. Col. I. A. Johnstone, held his fire until the Scots could positively identify the vehicles. This convoy turned out to be a British aid station with about three dozen ambulances that had somehow moved in front of the brigade. British armored-crew discipline averted what could have been one of the most devastating fratricide incidents of the war.[23]

By midnight on the twenty-fifth, the 4th Brigade was at Objective COPPER–South. The *52d Armored Division* commander had apparently reinforced this sector and was waiting for the British. Using their TOGS to acquire targets, the Challengers opened fire first. Apparently the Iraqis were looking to the south as Hammerbeck's force attacked from the northwest. Again, the Iraqis violated the principle of security, and the *52d Division's* soldiers paid the price. For several hours the 4th Brigade fought against a battalion or more of dug-in soldiers and T–55 tanks. By 0530 hours COPPER–South was secure.[24] By dawn the U.K. 1st Armoured Division had completed the first part of its mission, the destruction of the Iraqi *VII Corps'* tactical reserve. Both the *52d Armored Division* and the *48th Infantry Division* were no more, and their commanders were sitting in prisoner of war pens to the rear.[25]

Fragmentary Plan (FRAGPLAN) 7

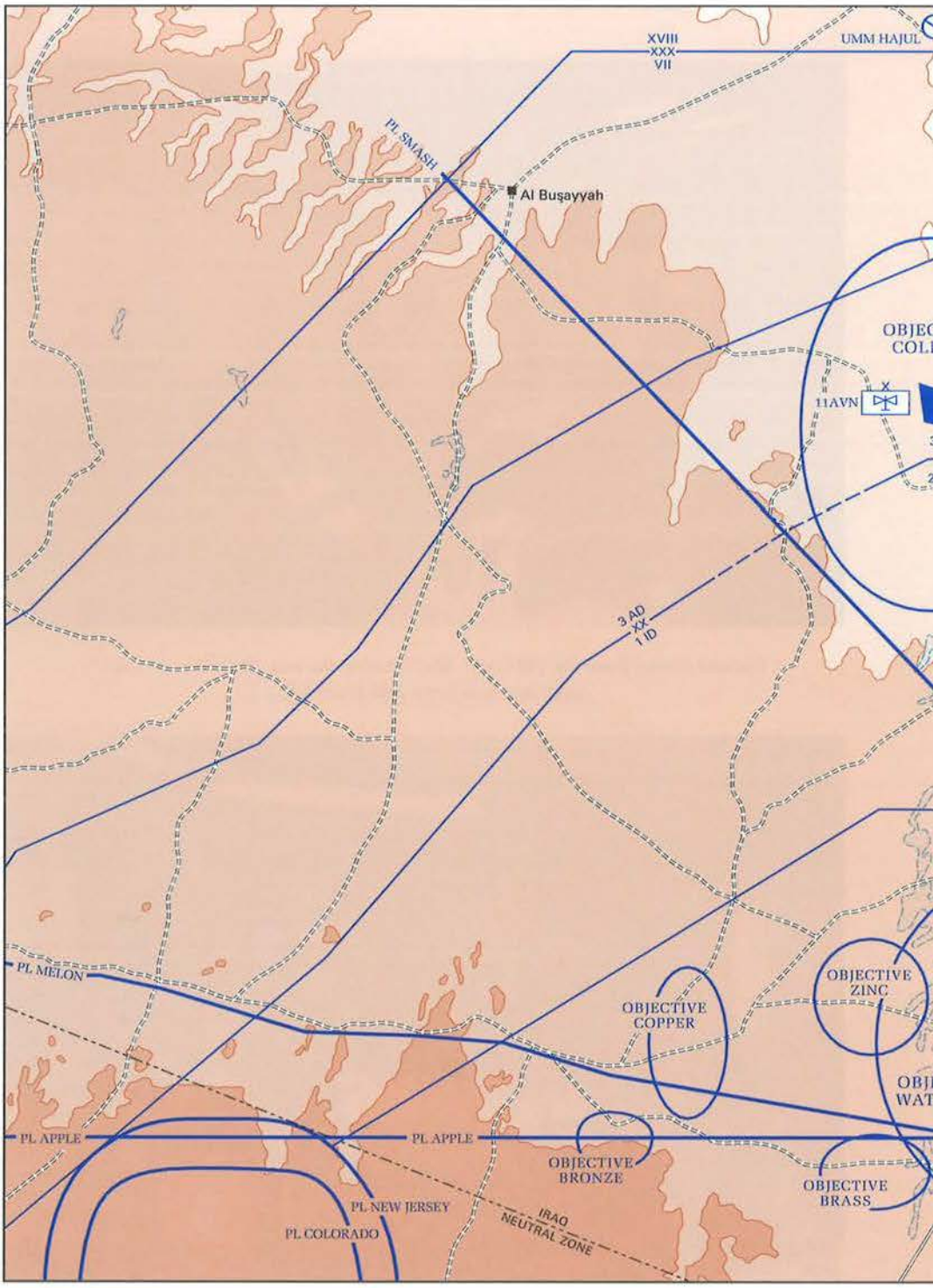
In the early afternoon of 25 February, General Franks called his key staff forward to the Jump TAC to review the corps' options.[26] All indications were that the *Republican Guard* was not withdrawing, but maneuvering to defend against the corps' attack.[27] A principle of AirLand Battle Doctrine, adopted directly from Carl von Clausewitz's *On War*, was to have branches and sequels for every operation.[28] The VII Corps planners had developed a number of these contingencies.

The planners had developed a branch, or fragmentary plan, based on the assumption that the *Republican Guard* would stand and fight. Part of the VII Corps would act as a "base of fire," keeping pressure on the Iraqi forces in contact while the remainder of the corps, hopefully in conjunction with the XVIII Airborne Corps in the north, maneuvered around its flanks and drove the *RGFC* back into

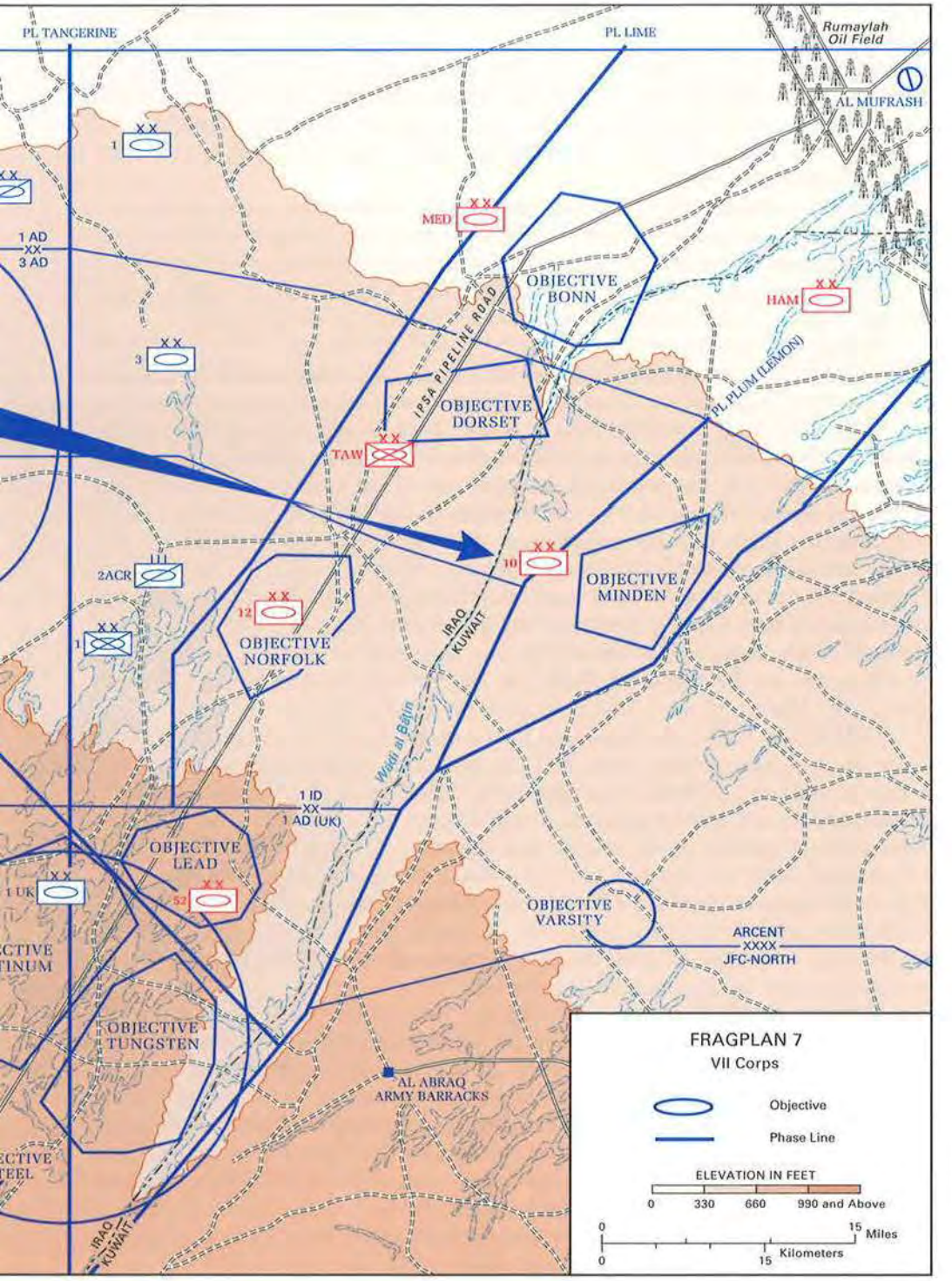


Postwar Scenes from the VII Corps TAC. During the war, the TAC was usually separated into Jump and Main TACs.




XVIII
XXX
VII
UMM HAJUL
PL SMASH
Al Buşayyah
OBJEC
COL
11AVN
3 AD
XX
1 ID
PL MELON
OBJECTIVE
COPPER
OBJECTIVE
ZINC
OBJ
WAT
PL APPLE
PL APPLE
OBJECTIVE
BRONZE
OBJECTIVE
BRASS
PL NEW JERSEY
PL COLORADO
IRAQ
NEUTRAL ZONE

Map 18


PL TANGERINE
PL LIME
Rumaylah Oil Field
AL MUFRASH
1
MED
1 AD
XX
3 AD
OBJECTIVE BONN
HAM
3
IPSA PIPELINE ROAD
OBJECTIVE DORSET
PL PLUM (LEMON)
TAW
10
2ACR
OBJECTIVE MINDEN
12
1
OBJECTIVE NORFOLK
IRAQ
KUWAIT
Wadi al Batin
1 ID
XX
1 AD (UK)
OBJECTIVE LEAD
1 UK
52
OBJECTIVE VARSITY
ARCENT
XXXX
JFC-NORTH
OBJECTIVE TUNGSTEN
AL ABRAQ ARMY BARRACKS
IRAQ
KUWAIT
FRAGPLAN 7
VII Corps
Objective
Phase Line
ELEVATION IN FEET
0
330
660
990 and Above
0
15
Miles
0
15
Kilometers

Basrah. Franks had presented this concept to Generals Yeosock and Luck before the start of the ground war.[29] Once the corps completed the breakthrough, it would continue the attack east to isolate Iraqi forces still in Kuwait. The graphical control measures for that plan, which all the subordinate units had, fit the corps' current tactical situation.[30]

For many decades the U.S. Army had used the fragmentary order, or FRAGO, to modify current operations orders. A FRAGO gave only essential information to the subordinate units. In this case, it was a written confirmation of instructions that Franks had already given a specific unit. The FRAGO acted as both a confirmation of these verbal orders and an update to the rest of the command.

During the evening of 25 February, Colonel Cherrie sent FRAGO 140–91 (FRAGPLAN 7) to the remainder of the VII Corps. This order turned the corps to the east, brought each of the divisions on line at Phase Line TANGERINE, and attacked the *Republican Guard* in Franks' zone of action along Phase Line LIME. The FRAGO identified four initial objectives to focus the effort of the corps. Objective WATERLOO, assigned to the U.K. 1st Armoured Division, cut off the Iraqi battle line from the south and opened the way for an envelopment on the right flank. The 2d Cavalry would make contact with the remainder of the Iraqi *12th Armored Division* and part of the *Tawakalna Mechanized Division* in Objective NORFOLK. Once the situation was clarified, the 1st Infantry Division would pass through the cavalry and complete the destruction of Iraqi forces in NORFOLK. The 3d Armored Division's role was to defeat the bulk of the *Tawakalna Division* in Objective DORSET in the center of the corps line. In the north, on the corps' left flank, the 1st Armored Division was to find and destroy the *Medina Armored Division* somewhere around Objective BONN.

FRAGPLAN 7 also identified two major objectives closer to the enemy rear. Each of the corps' combat units had "be prepared" missions to continue their attack toward one of these two objectives. These locations allowed Franks to rapidly exploit any breakthrough that might occur in the forward battle area and send either a ground or air unit in that direction. Centered behind Objectives DORSET and NORFOLK, just east of the Kuwaiti border, was Objective MINDEN and the identified location of the *10th Armored Division*. Farther to the rear, and controlling the main Iraqi egress routes out of Kuwait, was Objective DENVER. Once DENVER was occupied, all Iraqi forces in Kuwait would be either back in Iraq or surrounded and facing imminent destruction.[31]

Franks' tactical operations center had not yet caught up with the fast-moving divisions. His Jump TAC had followed the 3d Armored Division's command post. Here, in two M577s with extensions, he and his principal staff planned the fight of the next forty-eight hours. Rivers of water ran through the work area, and water dripped onto the planning maps. The soldiers, including the corps commander, were dirty, wet, and tired. Still, with multichannel TACSAT communications and secure FM radio, Franks was able to talk to the regimental and division commanders several miles away. With the chief of staff, the G–2, G–3, fire support officer (FSO), and chief planner available, he had the basic group to synchronize the close and deep operations.[32] At 1310 on the twenty-sixth the corps full tactical command post reached the forward Jump TAC.[33]



A HMMWV, trucks, and APCs of the 1st Armored Division advance on the Iraqis.

General Situation

For the second night in a row, Franks thus decided to stop the VII Corps attack. The corps commander, wrestling with the reality of stuck supply vehicles, low fuel, and great distances, saw no other realistic choice. He trusted the recommendations of Holder and Griffith, both of whom wanted to stop. Franks believed that the best way to prepare his force for the attack was to allow his two lead units to reorganize. He agreed with their recommendations and ordered them to continue moving at first light. Simultaneously, he arranged for a third division to join his attack.[34]

From the perspective of the corps commander and staff, 25 February had been a demanding but successful day. In the north, the U.S. 1st Armored Division had crossed over sixty-five miles of broken terrain, destroyed a hapless infantry brigade, and maneuvered into position for a daylight attack against the supply depot at Al Busayyah and a movement due east toward the *Republican Guard's* heavy divisions. On the right flank, the U.K. 1st Armoured Division had passed through to the east and in three engagements destroyed most of the Iraqi *52d Armored Division*. In the center, the 2d Cavalry had attacked and destroyed much of the *12th Armored Division* and was prepared to continue to the east. The 3d Armored Division, initially following the 2d Cavalry, had captured stragglers from the *26th* and *48th Infantry Divisions*. Now on Objective COLLINS, they were prepared to assume a zone of operations just north of the 2d Cavalry. The 1st Infantry

Division had cleared the breach, passed the British forward, and were prepared to receive new orders.[35] Especially in the 2d Cavalry and U.K. 1st Armoured Division sectors, the fights had been sharp and violent.

From the perspective of the senior headquarters, however, Franks was moving much too slowly. Early that morning Schwarzkopf had ordered Yeosock to speed up the VII Corps: "John, no more excuses. Get your forces moving. We have got the entire goddamn Iraqi Army on the run. Light a fire under VII Corps. I want you to find out what they intend to do and get back to me."[36]

While Franks was at the front, Colonel Cherrie was besieged with calls from General Yeosock and other senior staff officers trying to get the corps to pick up the pace. Both Yeosock and Brig. Gen. Stephen Arnold, the Third Army G–3, called before noon.[37] By late afternoon Franks became aware of the pressure building in the chain of command. After some communications difficulties, he called back to Yeosock and explained his concept for the next twenty-four hours. Yeosock accepted his corps commander's explanations, believing that the commander on the scene had the best perspective on the battle.[38] According to Franks, Yeosock told him: "You are doing exactly as I want done.... I'm pleased with what VII Corps is doing."[39]

In spite of Yeosock's assurance, Franks sensed that Schwarzkopf believed VII Corps was simply marching north without opposition. He also believed the theater commander's staff underestimated the time it took to reorient the corps from north to east. Yeosock also was unhappy with how inaccurately the VII Corps' situation was presented to Schwarzkopf each day, and he often corrected the briefer in Schwarzkopf's presence. Nevertheless, Yeosock believed that Schwarzkopf was satisfied with Franks' progress on the twenty-fifth and plans for the twenty-sixth.[40] However, according to his memoirs, General Schwarzkopf found VII Corps' operational tempo much too slow.[41] Yet, if that is true, he never communicated his ire directly to the VII Corps commander.

Notes

[1] VII Corps G–3, Staff Jnl, 25 Feb 91, entry 33; 2d Corps Spt Cmd, Opn DESERT STORM Battle Chron; Leonard D. Holder, "Second Armored Cavalry Regiment: Operation DESERT STORM 1990–1991," 13 May 91, in VII Corps AAR, Fort Leavenworth, Kans.; Stephen Robinette, note to author, 5 Jun 98.

[2] 1st Armd Div, Briefing Slides: Old Ironsides—DESERT STORM 1990–1991, Mar 91, in VII Corps AAR.

[3] Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 11 Apr 91, TRADOC; Frederick M. Franks, Jr., "Message: Fighting a Five Armored Division Corps," 31 Mar 91, in VII Corps AAR.

[4] Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* 72, no. 2 (February 1992):29; HQ, 1st Armd Div, and Guy C. Swan III, "1st Armored Division Battle Summary for Combat Operations Conducted in Support of Operation DESERT STORM, 23–28 February 1991," 10 Mar 91, in VII Corps AAR.

[5] A laager is essentially a defensive position with a 360-degree orientation for all-around defense. The soft-skinned vehicles from the command posts and combat trains move into the center of this formation.

[6] VII Corps TAC, Staff Jnl, 25 Feb 91, entry 29; 3d Armd Div, Hist Overview of 3d Armd Div in the Persian Gulf War; Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 92, p. 12.

[7] 2d Bde, 3d Armd Div, "2d BDE 3AD History, Operation DESERT SHIELD, December 1990–27 February 1991," [1991], in VII Corps AAR.

[8] Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps, OPLAN 1990–2, Opn DESERT SABER, 13 Jan 91.

[9] Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps G–3, Staff Jnl, 25 Feb 91, entry 28; VII Corps, Sitrep 39, 25 Feb 91; VII Corps, FRAGO 140–91, Corps Positions Its Tactical Maneuver Forces, 25 Feb 91; VII Corps, OPLAN 1990–2, p. 16.

[10] 2d ACR, Op Sum, 23 Feb–1 Mar 91; Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, p. 28.

[11] Ibid.; VII Corps G–3, Staff Jnl, 26 Feb 91, entries 4, 5, 6; Stephen Robinette, note to author, 5 Jun 98.

[12] VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. 103, in VII Corps AAR; 2d ACR, Op Sum.

[13] 177th Armd Bde, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), p. 79.

[14] Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War, Vol. II: The Iran-Iraq War* (Boulder, Colo.: Westview Press, 1990), pp. 381–83.

[15] Gordon L. Rottman, "Saddam's Juggernaut or Armed Horde? The Organization of Iraq's Army," *International Defense Review* (November 1990):1242.

[16] American and German battles at Arracourt in France (September 1944) and the Israeli operations in the 1967 war against Egypt, Jordan, and Syria are but two of the many specific cases that come to mind. No one would suggest that General Vo Nguyen Giap prevailed against the French and later the Americans in Southeast Asia because he had better equipment.

[17] Vogel, "A Swift Kick," p. 28.

[18] Patrick Cordingley, *In the Eye of the Storm* (Hodder, Great Britain: Coronet Books, 1996), pp. 259–60.

[19] VII Corps, Sitrep 39, 25 Feb 91; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 100–101; Nicholas Benson, *Rats' Tales: The Staffordshire Regiment at War in the Gulf* (London: Brassey's, 1993), pp. 108–09.

[20] Cordingley, *In the Eye of the Storm*, p. 264.

[21] Ibid.; Hans Halberstadt, *Desert Rats: The British 4 and 7 Armoured Brigades, WWII to Today* (Osceola, Wisc.: Motorbooks International, 1993), pp. 115–16; Pearce, *The Shield and the Sabre*, p. 101.

[22] Cordingley, *In the Eye of the Storm*, pp. 266–67; Pearce, *The Shield and the Sabre*, pp. 102–03; Halberstadt, *Desert Rats*, p. 116.

[23]Halberstadt, *Desert Rats*, p. 117; Pearce, *The Shield and the Sabre*, pp. 107–09.

[24]Ministry of Defence, *Operation GRANBY: An Account of the Gulf Crisis, 1990–91, and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 5–17.

[25]VII Corps G–2, "100-Hour Ground War," pp. 116–17; Halberstadt, *Desert Rats*, pp. 117–18; Pearce, *The Shield and the Sabre*, pp. 108–09.

[26]Participants included Brig. Gen. John Landry, VII Corps chief of staff; Col. Jonnie Hitt, 11th Aviation Brigade commander; Col. John Davidson, VII Corps G–2; Col. Stan Cherrie, G–3; and Col. Wilson R. Rutherford III, G–4.

[27]VII Corps, Sitrep 39, 25 Feb 91.

[28]A branch is an option or deviation from the plan. A sequel is an option that continues the operation after the plan's objectives have been attained. Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976). DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), pp. 30–31.

[29]Interv, Kindsvatter with Franks, 11 Apr 91.

[30]VII Corps, FRAGPLAN 7, with Change 1, 20 Feb 91.

[31]VII Corps, FRAGO 140–91, 25 Feb 91; VII Corps G–3, Staff Jnl, 25 Feb 91, entry 39; VII Corps, FRAGPLAN 7, Change 1, 20 Feb 91, and An. B (Control Measures).

[32]Interv, Kindsvatter with Franks, 11 Apr 91.

[33]Kindsvatter, "Ground Offensive," p. 31.

[34]Frederick M. Franks, Jr., "Message: Fighting a Five Armored Division Corps," 31 Mar 91, p. 3, in VII Corps AAR; Interv, Kindsvatter with Franks, 11 Apr 91.

[35]Franks, "Fighting a Five Armored Division Corps," p. 4.

[36]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p. 534.

[37]Peter S. Kindsvatter, VII Corps Historian's notes, 25 Feb 91; Interv, Kindsvatter with Franks, 11 Apr 91.

[38]John M. Kendall, "The Closed Fist: VII Corps Operational Maneuver in DESERT STORM," Unpubl Ms, AWC, 1994, p. 15; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), p. 322.

[39]Clancy and Franks, *Into the Storm*, p. 322.

[40]Kendall, "Closed Fist," p. 22; Interv, Kindsvatter with Franks, 11 Apr 91.

[41]Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 535–36.

15

Searching for the Guard

By the early morning of 26 February VII Corps had been fighting for over two days and nights. Fear and the rush of adrenaline had kept most soldiers awake on the night of the twenty-third. Moving, fighting, and resupplying had kept most awake during the next two nights. Franks and Cherrie, along with the divisional and regimental commanders, had been awake each night, planning and directing. Each slept when and where possible; most had no more than an hour or two of sleep during the night. Colonel Cherrie, for example, remembered lying down around 0200 on the twenty-sixth and being called to his phone only fifteen minutes later.[1]

The weather on the twenty-sixth continued to favor the defense. The constant rain limited the effectiveness of American helicopters and air support. That afternoon there was a full-scale *shamal*, or sandstorm. Even though the crews used thermal sights, blowing sand severely limited visibility. The water, sand, and cold made the attacking soldiers miserable. Vehicle crewmembers remained exposed in their open hatches as they carefully approached the enemy or raced cross-county to catch up with forward units. Had the Iraqis effectively employed their security forces and communicated to their command posts the direction of the VII Corps attack, this weather could have been a greater ally, making maneuver free from air observation possible.[2]

Most of the Iraqi *VII Corps* was combat ineffective by dark on 25 February. The 1st Infantry and 1st Armored Divisions had destroyed the *26th Infantry Division* during their initial assaults. To the east of the Big Red One's penetration, the *48th Infantry Division* had fought both the 1st Infantry Division and the British 7th Armoured Brigade. Before the night was over the U.K. 1st Armoured Division had destroyed all of the *48th Division*. Far to the rear of the front-line trenches, the defenders of the logistics base at Al Busayyah were under artillery fire throughout the night. When dawn arrived, the U.S. 1st Armored Division destroyed that installation and continued its attack to the east.[3] The Iraqi *52d Armored Division*, the only combat-effective and mobile unit left in the *VII Corps*, had moved its two remaining mobile brigades toward the defensive sector to reinforce the front-line divisions. Other than a few depleted front-line infantry divisions, only the two brigades of the *52d Armored Division* remained to threaten the U.S. VII Corps' right flank. But they were now in the path of Rupert Smith's alternating armored punches.[4] As discussed previously, the British would destroy this force by dawn on the twenty-sixth.

Long before General al-Rawi knew the fate of the Iraqi *VII Corps*, he maneuvered his *Republican Guard* to meet the attack coming from the west. By the morning of 25 February he knew there were coalition forces (the 101st Air Assault Division) along the Euphrates River. He probably detected a second attack up the pilgrim roads to An Nasiriya. This force must have appeared a typical American corps with one armored cavalry regiment (the 3d Cavalry) and two heavy divisions (the 24th Infantry [Mechanized] and 1st Armored). A third force probably appeared to be attacking toward the juncture of Al Busayyah and the border roads ten miles west of the Kuwaiti border. This force had been in contact with al-Rawi's *12th Armored Division* all night. Believing there was a gap between the corps heading north and the one heading east, he arranged his forces to deal with his most dangerous threat.

First, al-Rawi moved the *Medina Armored Division* from its original positions north of Kuwait, southwest to blocking positions near the Rumaylah Oil Fields, eighty kilometers southwest of Basrah. This division was in an excellent location either to defend the theater's logistics installation and lines of communication or to attack against the flank of the corps moving from the west. His second force, the *Tawakalna Mechanized Division*, waited in defensive positions, oriented generally westward, with three brigades mostly in revetted fighting positions. Mixed up among these units were two brigades from the *12th Armored Division* still meandering toward the American units on the border road. In addition, the *46th Mechanized Brigade*, from that division, was still advancing farther north toward Al Busayyah.[5]

The *Hammurabi Armored Division* was also pulling out of its concealed positions. By maneuvering this division toward the Rumaylah Oil Fields, General al-Rawi had three options. First, he could reinforce an attack by the *Medina Armored Division* into the flank of the coalition attack from the west against the U.S. VII Corps. Second, he could attack with the *Hammurabi*, possibly supported by the *Tawakalna*, into the flank of the American offensive to the Euphrates. Finally, he could use the *Hammurabi* to cover an Iraqi withdrawal from Kuwait.[6] Most of the literature of the immediate postwar period implies that Saddam Hussein's elite troops were trying either to retreat or to block the coalition advance in the west. When all the evidence is gathered, historians may find that the *Republican Guard* intended to attack into the flank of the attacking force and inflict either a military or a political defeat on the coalition.

The greatly enlarged U.S. VII Corps, however, with simultaneously coordinated attacks throughout the western approach to Kuwait, upset General al-Rawi's plans. During this phase of the operation, General Franks executed FRAGPLAN 7 and maneuvered his units so he could mass the concentrated firepower of most of his corps against part of the *Republican Guard's* heavy divisions. By dark on Tuesday, 26 February, he wanted his combat power to be massed along Phase Line TANGERINE. To accomplish this task, his command would have to fight serious engagements on the flanks, defeat the Iraqi covering force in the center, and move a third heavy division from the breach to the battle area.

Flank Engagements

At 0615 on 26 February the 1st Armored Division's artillery shot a preparatory fire on targets in Al Busayyah. With the 1st Brigade (Col. James Riley) on the right and the 2d Brigade (Col. Montgomery Meigs IV) on the left, the division swept through the old town. Maj. Gen. Ronald H. Griffith, the division commander, needed to comply with Franks' order to move toward Objective COLLINS and avoid bogging down his division fighting for the village. Griffith thus ordered his tanks and Bradleys to sweep around the objective and avoid dismounting or reducing isolated positions.

The ensuing fight through the objective was sharp and violent, but no contest. Old Ironsides encountered a company of dug-in T–55 tanks and a reconnaissance battalion equipped with French-made Cascaval armored reconnaissance vehicles with 105-mm. cannon and Soviet-made BRDMs and BTR–60s. The attacking brigades destroyed most of this equipment on their first pass through the town. In most cases, quick-firing M1 crews dispatched T–55s before they could fire off a round. Although grossly overmatched, the Iraqis chose not to surrender, firing 14.5-mm. machine guns and RPGs from buildings and trenches. One commando battalion in particular defended its position with discipline and resolve.[7]

Griffith directed the 2d Brigade to leave behind a battalion task force to clear Al Busayyah. Colonel Meigs, the brigade commander, delegated the job to Lt. Col. Mike McGee's task force based on the 6th Battalion, 6th Infantry. As McGee's force returned to the village, the Iraqi commandos began shooting. Almost immediately, a Bradley crew destroyed a machine-gun emplacement on the left flank of the battalion advance, turning the building into rubble. In another case, the Iraqi soldiers tried to lure the Americans into entering their kill zone, waving white flags and placing their hands in the air. The troopers of Company C were not fooled and refused to come within RPG range. After a few moments, the Iraqis jumped back into their positions and began to fire at the Americans again.

After that failed ruse, the battalion commander decided to end the commandos' futile resistance in a more deliberate fashion. First, McGee waited for the division's support elements to clear the objective area. Next, he maneuvered his companies and supporting engineers to positions encircling the town. Around 1100 he requested a ten-minute preparatory fire on the Iraqi defenders. As the prep fire ended, McGee's battalion opened up in a dramatic display of firepower. An assault team, consisting of an infantry platoon and an engineer platoon, attacked the town from the south as the remainder of the battalion provided overwatching fires. As they entered the town, they received fire from several of the small buildings. The combat engineer vehicle (CEV) crew ended that and all resistance by destroying those buildings with twenty-one rounds of 165-mm. high-explosive ammunition. There were no more Iraqis. The battalion saw nothing more than a few stray dogs among the ruins. As the brigade commander later pointed out, "These guys died in their holes, they were given plenty of opportunity to quit."[8] It was another warning that the Iraqis could and would fight if they thought they could be effective.[9]

General Griffith flew back to Al Busayyah later in the morning to confer with McGee about the battle. After a short discussion Griffith took off and began flying toward his lead brigades. As his aircraft circled above the now-destroyed town, he spotted something about two kilometers north. He radioed to McGee that he was going down to take a look and told him to send some armored vehicles in support. With his division commander on the ground, the task force commander personally led the company of reinforcements. When McGee arrived, he discovered a huge logistics dump in a depression; on the ground was his general's Black Hawk. Griffith had his arm around an Iraqi officer. The general introduced him as Capt. Islam Islamabad, commander of the Iraqi *VII Corps*' logistics installation. He spoke English and had a degree from San Diego State University. Captain Islamabad had already surrendered the dump and its six guards to the 1st Armored Division commander. The dump itself was well stocked with tools, machinery, petrol, ammunition, and food. In spite of the air offensive, the installation was almost untouched. Griffith ordered McGee to leave some engineers behind to start destroying the site and move the rest of his task force forward.[10]

Meanwhile, the remainder of the 1st Armored Division moved without serious oposition in a division wedge with the 1st Brigade at the point, the 2d Brigade on the left, and Col. Dan Zanini's 3d Brigade on the right. The 75th Field Artillery Brigade, which had supported the 1st Infantry Division in the breach, had not yet caught up with the division. The divisional artillery left behind a liaison team to meet the artillery brigade and guide it forward into the division formation. Because the division staff had planned and coordinated this link-up, the 75th Brigade did not wander around the battlefield but joined the division in the afternoon to support the upcoming battle.[11]

All morning the 1st Armored Division moved without serious contact. Aerial scouts from the 1st Squadron, 1st Cavalry Division, searched across the front to find approaching *Republican Guard* units. They finally found the Iraqis as Griffith's division rolled past Phase Line TANGERINE with three brigades on-line. At 1312 a Cobra scout team led by CWO Gary Martin, working the southern portion of the division sector, discovered one battalion of the *Tawakalna's 29th Mechanized Brigade* with about fifty T–72 tanks moving west. As with the situation in the 2d Cavalry's sector in the south, this *RGFC* force received support from a brigade, the *46th Mechanized* of the *12th Armored Division*.[12]

Another hunter-killer team joined Martin's as the squadron prepared a JAAT (Joint Air-Artillery Team) mission with two Air Force A–10s. As the team moved into position, Martin opened fire with his rockets. His aerial-delivered bomblets added to the thousands dropped on the Iraqis by MLRSs. While the air-artillery attack was in progress, Martin's engine suddenly malfunctioned. He fired off his remaining rockets, pointed the nose of the Cobra toward friendly lines and called for help. Once safely on the ground, Martin and his gunner nervously awaited rescue as the A–10s roared overhead, pounding Iraqi vehicles fewer than 1,500 meters away. Shortly thereafter, a ground cavalry platoon arrived and rescued the grateful crew. They quickly transferred their radio cryptographic equipment and

other sensitive items into a Bradley and headed west. Martin spent most of the rest of the war as a ground scout.[13]

In the southern part of the corps' sector, the U.K. 1st Armoured Division's 7th Armoured Brigade regrouped on the eastern edge of Objective ZINC. Maj. Gen. Rupert A. Smith ordered the 7th Brigade to continue the attack to Objective PLATINUM. This objective had been identified as the original location of the *11th Mechanized Brigade* of the *52d Armored Division*. By now most of the *11th Brigade* had either moved south to reinforce the front-line divisions or counterattacked the British the night before. For about two hours the Staffords and Irish Hussars swept along a linear defense. Engagement ranges were very short, about four hundred meters, because of the poor weather and visibility. Again, the Iraqi soldiers did not simply run, but returned fire as they withdrew to the east.

While British tank crews were alert and ready, their Iraqi counterparts failed to provide for all-around security. North of Objective PLATINUM, the Staffords' reconnaissance platoon, with a section of Milan antitank guided missiles mounted on Spartan APCs, was working around the objective on the flanks of the main British force. The platoon approached an Iraqi command post from the rear. In addition to a command bunker, there were several armored vehicles, including tanks and armored personnel carriers. The Iraqis were observing the fight on the objective farther south and had no security on their flanks or rear. When the Iraqis finally saw the British, the tankers tried to move out of their dug-in positions. Before they could either maneuver or escape, the reconnaissance platoon directed its Milan missiles at the bunker and the Iraqi tanks. When the engagement was over, at least six T–55 tanks were burning and the British left flank was secure.[14] By 1800 the 7th Brigade cleared Objective PLATINUM and headed for Objective LEAD.[15]

Moving just north of the border and south of the 7th Brigade, Brig. Christopher J. A. Hammerbeck's 4th Brigade advanced east toward Objective COPPER–South, which it captured in the early morning hours of the twenty-sixth. There, the 14/20 Hussars, with Hammerbeck's command group in support, surprised a T–55 company and a brigade headquarters. Taken from the flank, the Iraqi tanks tried desperately to turn their turrets in the direction of the attacking British. In most cases the Challengers destroyed them before they could fire a round.[16] The brigade then continued on to Objective BRONZE, where it had good intelligence of the remnants of an Iraqi armored brigade, probably the last of the *52d Armored Division*. British artillery rounds raked the objective and then stopped just as the attacking vehicles arrived in view of the enemy position. Again the Iraqis were looking in the wrong direction and were surprised by the 4th Brigade's attack. They tried to fight but were no match for the violent British assault.[17]

One task force from the 4th Brigade attacked to seize Objective STEEL, a small area thought to part of the *103d Brigade*, *25th Infantry Division*'s defense. After a short barrage, the 3d Battalion of the Royal Regiment of Fusiliers attacked around 1430. Yet again the Iraqis were looking the wrong way. As the Fusiliers advanced, they destroyed Iraqi guns and positions before the Iraqis could return fire effectively. In the middle of the fight, suddenly, two Warriors exploded. Crews searched every-



A–10A Thunderbolt; below, *AH–1 Cobra*





British Spartan FV–103 Armored Personnel Carrier

where for hidden armor or buried antitank mines but could find no source of this accurate fire. Shortly thereafter, the command discovered that U.S. Air Force A–10s, which had fired on the wrong side of the fire-support coordination line, had destroyed the British vehicles. The toll was nine British soldiers killed and seven wounded. The 4th Brigade commanders and staffs quickly reorganized and regrouped, evacuating casualties and remains and preparing for their next mission.[18]

By evening the U.K. 1st Armoured Division had accomplished most of its initial mission. The *52d Armored Division* was no longer a threat to the VII Corps offensive. This had not been a simple cross-country march, however. The determined resistance of the Iraqi *VII Corps'* tactical reserve refutes the myth that air power had somehow destroyed the Iraqis' will to resist. They had plenty of fighting armor still moving and shooting. What obviously defeated this force were the professional tactics and techniques of British soldiers mounted on first-rate equipment. In addition, had the *52d Armored Division* commanders and soldiers followed elementary security precautions, they could have detected the advancing British. With any reasonable proficiency in tank gunnery, they could have inflicted serious casualties on the attacking Desert Rats. Thoroughly trained ground combat units won the engagements at Objectives COPPER, ZINC, BRONZE, and STEEL against a brave but incompetent Iraqi division.

Clearing the Central Zone

Between the British and the U.S. 1st Armored Division were the 2d Cavalry and the 3d Armored Division. The 2d Cavalry began moving out of its defensive

laager at 0330 on 26 February. It had been a busy night for the troopers, who had now gone with little rest for over four days. Problems with ammunition resupply, artillery raids against the Iraqis, and the *12th Armored Division*'s inept but noisy attacks had precluded any significant pause. The regiment's change in direction to the southeast launched it squarely toward the *Tawakalna Mechanized Division* of the *Republican Guard*. Colonel Holder now deployed all ground squadrons on line with Lt. Col. Michael Kobbe's 2d Squadron in the north, Lt. Col. Scott Marcy's 3d Squadron in the center, and Lt. Col. Tony Isaacs' 1st Squadron in the south.[19]

By 0620 the squadrons were on line and began moving slowly east through the two degraded brigades of the Iraqi *12th Armored Division*. Rather than a road march, this was a deliberate zone reconnaissance. Weather was terrible, and visibility was down to less than one hundred meters. Gunners on tanks and Bradleys strained through their thermal sights for enemy vehicles. They destroyed the isolated T–55s and MT-LBs they encountered during the slow movement. At 0713 the 3d Squadron reported the first kill of a T–72 tank just short of Phase Line TANGERINE. This vehicle, like others encountered the day before, was probably part of a reconnaissance effort by the *Tawakalna Division*. For the rest of the morning, isolated detachments of *Republican Guard* vehicles were engaged among the remnants of the *12th Armored Division*'s two brigades. At 0845 the 3d Squadron received accurate artillery fire from the Iraqi defenders, which damaged one M1 tank. A forward air controller spotted the offending battery and destroyed it with effective close air support. By 0900 the intensity of the combat convinced Maj. Steve Campbell, the regimental S–2, that the cavalry was now approaching the *Tawakalna Division*'s security zone. But the weather had continued to worsen. A *shamal* forced the regiment's aero scouts to land.[20]

Without aero scouts, in a sandstorm, the regiment moved forward in a slow, but deadly efficient pace, bounding overwatch formations toward the main Iraqi defenses. In this painstaking ritual, a platoon halted and scanned the horizon for enemy positions. Meanwhile, another platoon carefully moved forward to the next terrain feature—if there was one—or about one thousand meters forward of the stationary platoon. Then, the second platoon halted and scanned the horizon while the first moved forward. This technique ensured that the command would not stumble en mass into an Iraqi kill zone.[21] In the southern portion of the regiment's sector, the 1st Squadron was in constant contact. For over three hours it fought with the withdrawing *37th Armored Brigade*. By noon, without losing any soldiers, the 1st Brigade had destroyed 23 T–55 tanks, 25 armored personnel carriers, 10 trucks, and 6 artillery tubes.[22]

Shortly after 1300 on the twenty-sixth, the corps commander ordered Col. Leonard D. Holder, the 2d Cavalry commander, to continue moving east. General Yeosock had just told General Franks that he wanted the "OPTEMPO increased—we are in the pursuit mode."[23] While Yeosock personally wanted VII Corps to pick up the pace, he also detected a significant change in the theater's overall command climate. During the previous evening, the army commander judged that Schwarzkopf was satisfied with VII Corps' operation and concerned that any haste



OH–58D Scout

could lead to additional fratricide. During the night, however, the situation changed. Electronic intercepts monitored an Iraqi evacuation order for units in Kuwait. Shortly thereafter, aerial surveillance (JSTARS) aircraft detected Iraqi troop movements out of Kuwait City. Now Schwarzkopf wanted Yeosock to "light a fire under VII Corps."[24] Within hours Schwarzkopf's intent, as Yeosock understood it, had changed, according to his executive officer, Lt. Col. John M. Kendall, from a "slow and deliberate" pace "to magic[ally moving] units forward." Yeosock believed the theater commander had lost his appreciation of the "time-distance factors associated with the movement of a heavy corps against enemy forces whose intent was still ambiguous."[25]

Meanwhile, the soldiers of the 2d Cavalry, like their comrades in the corps' other front-line units, saw no evidence of a retreat. The swirling sandstorm and the increasing number of Iraqi vehicles brought their speed down to around three kilometers an hour. Around 1430 the regiment ran into some outposts along the 68 east-west map grid line. What the troopers believed to be machine guns turned out to be the turrets of dug-in T–72 tanks.[26] Rather than a pursuit, the 2d Cavalry now prepared to conduct a hasty attack into the security zone of the *Republican Guard*. With dug-in T–72s and BMPs oriented in the right direction, the Iraqi defenders gave no evidence either of having been destroyed by the air campaign or of withdrawing from the theater. Political and strategic perceptions of the war now came into conflict with the operational and tactical realities of bad weather, supply distribution, and a ready enemy.[27]

The 2d Cavalry's change of direction on the morning of 26 February now uncovered the 3d Armored Division, which advanced on line with the regiment to the south. At 0832 the division crossed Phase Line SMASH and by 0930 hours completed its passage around the 2d Cavalry. It now had to provide its own forward security. Its immediate mission was to attack toward Phase Line TANGERINE while maintaining contact with the 1st Armored Division in the north and the cavalry to the south. At Phase Line TANGERINE, Col. William Nash's 1st Brigade moved southeast and came on line with Col. Robert W. Higgins' 2d Brigade in the north. Col. Leroy (Rob) Goff's 3d Brigade continued as the division's reserve. To provide for immediate suppression of enemy units, Maj. Gen. Paul E. Funk, the 3d Armored Division commander, pushed his MLRS batteries right behind the lead brigades.[28] As the lead brigades advanced east, they encountered and destroyed various armored vehicles from the *12th Armored Division*.[29]

At 1230 the 3d Armored Division located three companies of T–72 tanks. Since the Iraqi *37th Armored Brigade*, like the rest of the *12th Armored Division*, never arrived in its position, the *Tawakalna* also had to provide its own security. The positions, like those in the 1st Armored Division and 2d Armored Cavalry sectors, were oriented generally to the west on the 70 east-west grid line. Soon Funk received other reports of Iraqi tank and infantry units moving northwest behind the security zone.[30] As was the case across the front, the *Republican Guard* was not moving away from the VII Corps, but was advancing toward it into previously prepared positions.

By 1330 the 3d Armored Division was in contact with the security zone of the *29th Mechanized Brigade* of the *Tawakalna Division*. Reinforced by part of the *37th Armored Brigade*, these Iraqis had no intention of withdrawing. Almost immediately they engaged four Bradleys from the 4th Squadron, 7th Cavalry, with T–72 sabot fire, killing two and wounding several other soldiers. The weather continued to deteriorate, and visibility was less than one kilometer, assisting the waiting Iraqi defenders. By 1630, after several hours of slow moving and short, intense fights, the Spearhead discovered the main defensive line of the *29th Iraqi Mechanized Brigade*.[31] Soon after 1700 General Funk, only recently having been told that the corps was on the pursuit, came forward to discover why the 2d Brigade was moving so slowly. There, he discovered that rather than withdrawing, the enemy had well-prepared positions, including dug-in artillery and a complex of bunkers and fighting positions. The Iraqis engaged the approaching 3d Armored Division troopers with artillery and mortar fire. The American soldiers replied with direct and indirect artillery fire.[32]

The battle line was now formed. Perhaps there was an Iraqi strategic withdrawal in progress, as the senior American commanders believed. Operationally, however, at least one and possibly two *Republican Guard* divisions had repositioned behind an advancing covering force provided by the *12th Armored Division*. At the tactical level VII Corps' battalion and company commanders were now in contact with an almost solid line of T–72 tanks. Rather than leaving, the Iraqis gave every indication of staying and fighting. Given that situation on the ground, American and British commanders had no intention of running blindly into these



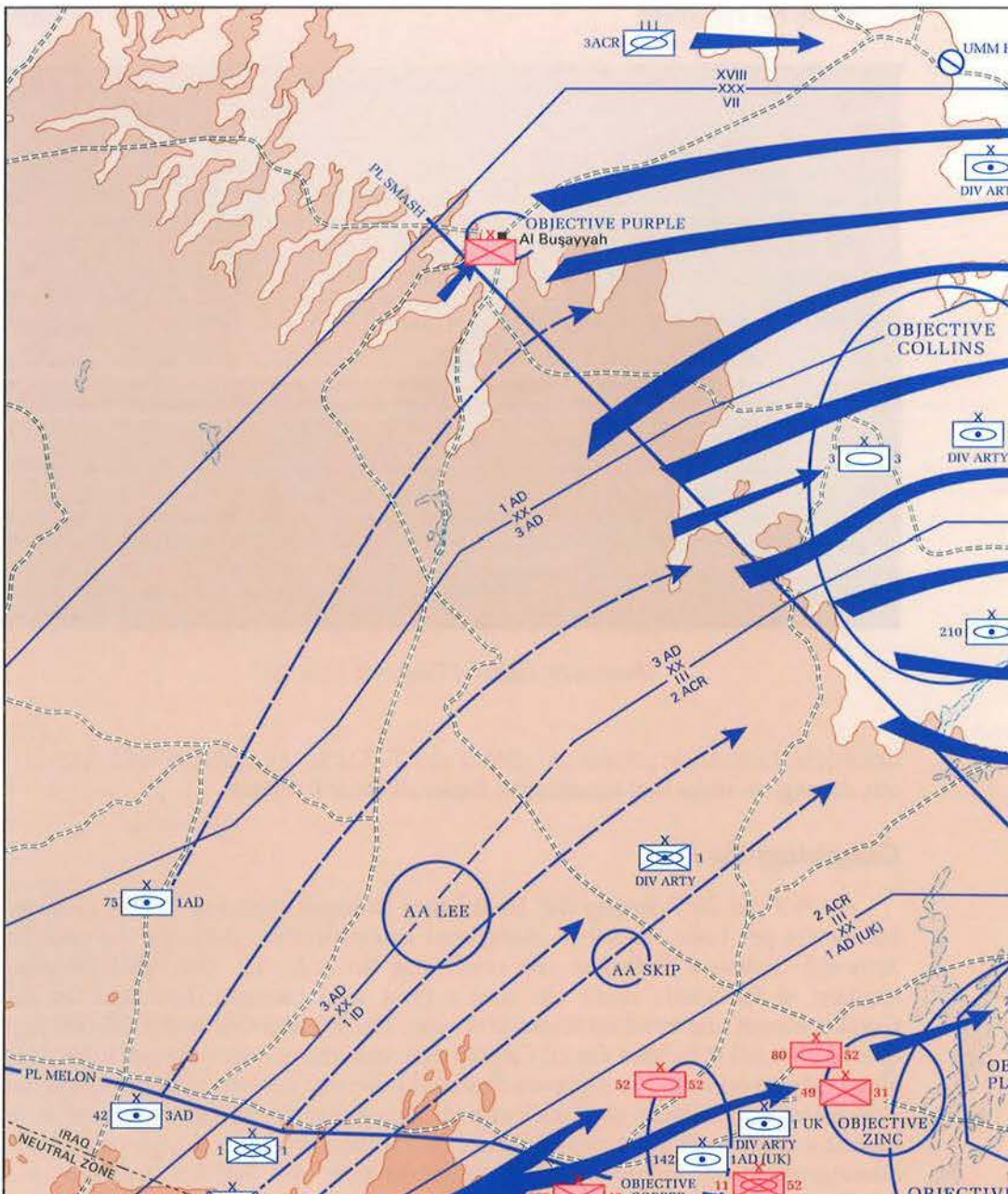
Showing the Effects of Days with Little Rest

defenders. From their perspective, BMPs and T–72s were capable of inflicting serious damage to units that ignored the basics of tactical warfare.

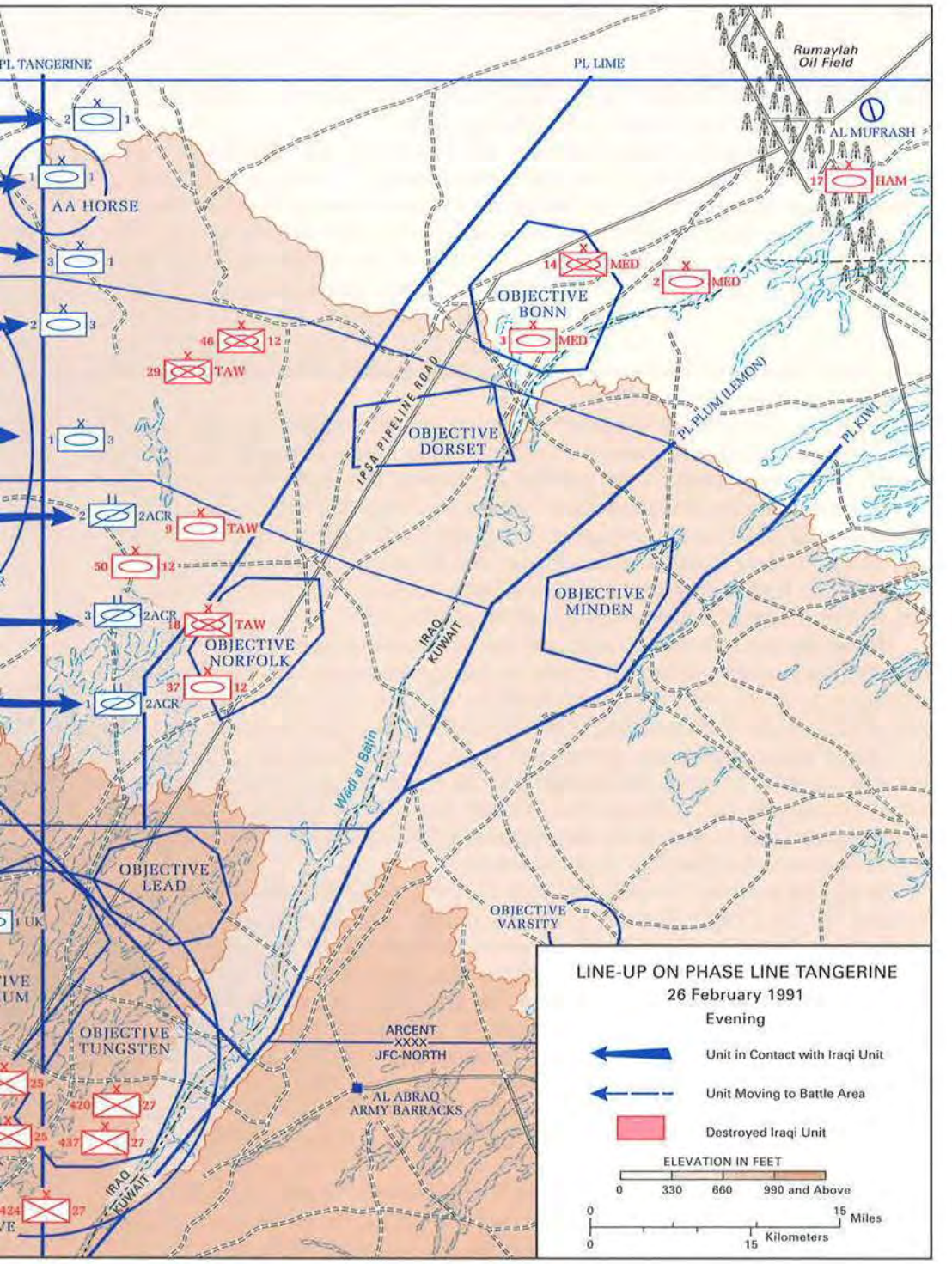
Completing the Fist

At 0430 on 26 February the 1st Infantry Division moved at twenty to thirty kilometers per hour toward its designated assembly area. With the 1st and 3d Armored Divisions shifted to the north and the U.K. 1st Armoured Division engaged to the south, there was now a great void between them and the 2d Cavalry, almost one hundred kilometers away. The Big Red One had to fill that gap quickly and fall in behind the 2d Cavalry that was strung out on a wide front with all squadrons on line. The regiment lacked the combat power to fight through the *Tawakalna* and continue the attack east. It would also be hard pressed to defend against a subsequent counterattack from the *Hammurabi Armored Division*. In both contingencies, the firepower of the three-brigade, 1st Infantry Division was Franks' insurance policy.

It had been a sleepless night for most soldiers and all of the division's leadership. Exploding ammunition, occasional shots, helping the British move through the sector, and essential combat service support activities kept everyone awake most of that night, as it had for the previous two days. The soldiers' fatigue worsened the experience of the movement across this wet, sandy terrain. Rain, thunder, and lightening only added to the misery. They continued to move, knowing


3ACR
III
XVIII
XXX
VII
UMM
DIV ART
PL SMASH
OBJECTIVE PURPLE
Al Busayyah
OBJECTIVE
COLLINS
DIV ARTY
1 AD
XX
3 AD
3 AD
XX
III
2 ACR
210
DIV ARTY
75
1AD
AA LEE
AA SKIP
2 ACR
III
XX
1 AD (UK)
3 AD
XX
1 D
PL MELON
42
3AD
IRAQ
NEUTRAL ZONE
PL APPLE
80
52
52
52
49
31
1 UK
DIV ARTY
1AD (UK)
OBJECTIVE
ZINC
142
OBJECTIVE
COPPER
803
48
11
52
OBJECTIVE
BRONZE
807
48
802
48
601
31
109
31
103
OBJECTIVE
BRASS
PL NEW JERSEY
PL COLORADO

Map 19


PL TANGERINE
PL LIME
Rumaylah Oil Field
AL MUFRASH
17 HAM
AA HORSE
14 MED
2 MED
OBJECTIVE BONN
3 MED
46 12
29 TAW
IPSA PIPELINE ROAD
OBJECTIVE DORSET
PL PLUM (LEMON)
PL KIWI
2ACR
9 TAW
50 12
OBJECTIVE MINDEN
3 2ACR
18 TAW
OBJECTIVE NORFOLK
IRAQ KUWAIT
37 12
1 2ACR
Wadi al Batin
OBJECTIVE LEAD
OBJECTIVE VARSITY
1 UK
OBJECTIVE TUNGSTEN
ARCENT
XXXX
JFC-NORTH
AL ABRAQ ARMY BARRACKS
420 27
437 27
IRAQ KUWAIT
LINE-UP ON PHASE LINE TANGERINE
26 February 1991
Evening
Unit in Contact with Iraqi Unit
Unit Moving to Battle Area
Destroyed Iraqi Unit
ELEVATION IN FEET
0 330 660 990 and Above
0 15 Miles
0 15 Kilometers

that up ahead the troopers of the 2d Cavalry were in a fight with the *Tawakalna* that the 1st Infantry Division would have to finish.[33] The weary soldiers would have no rest when they arrived at their next location.

At 1030 hours on the twenty-sixth the lead elements of the Big Red One began to outrun the communications from the division main command post. The battle center, consisting of a five-ton "Expando Van" commanded by the chief of staff, Col. John Hepler, and a representative from each staff section, moved forward. The remainder of the main command post continued to control the exit of the division's follow-on forces from Phase Line NEW JERSEY. In the early hours of the twenty-seventh the main CP, including most of the intelligence, chemical, and fire-support staff, departed on what became a continuous journey to Kuwait. The pace of the battle meant that Rhame was without a good portion of his staff support for most of the ground offensive.[34]

When the 1st Infantry Division's maneuver brigades arrived at their reserve area, forty kilometers southwest of Phase Line SMASH, there were still hostile Iraqi soldiers operating between them and the 2d Cavalry. The Big Red One destroyed several tanks and captured more Iraqi soldiers the Dragoons had left behind during their rapid advance. But soon after the leading 1st Brigade arrived, the division was hit by a violent *shamal* that lasted over two hours and continued to make the soldiers, who had to stay alert and ready, more uncomfortable. Most of the division had to occupy the new positions during this storm.[35]

While the 1st Infantry Division combat units consolidated in the turbulent assembly area—still waiting for much of the slower-moving field artillery and logistics support to arrive—they received the warning to continue to move. As part of FRAGPLAN 7, Franks had committed the Big Red One to pass through the 2d Cavalry and complete the destruction of the *Tawakalna Division* in that zone. The link-up point between the division and the regiment was a good twenty kilometers farther east, so the division had to move immediately. Leaders at both headquarters scrambled to coordinate the complex details for a nighttime forward passage of lines in a fluid battlefield environment.[36]

As the 1st Infantry Division had moved north, General Schwarzkopf finally assigned the 1st Cavalry Division to the VII Corps.[37] Franks ordered the division commander, Brig. Gen. John Tilelli, to move through the 1st Infantry Division's breach area to Assembly Area LEE, behind the 1st Armored Division. Franks planned to use the 1st Cavalry Division in the final battle against the *RGFC*.[38] The division moved all night and began arriving in its assembly areas at 0030 on the twenty-seventh. This was an extremely rapid trek, covering over one hundred-fifty kilometers in a little more than twelve hours. The entire division would be ready to go by 0300.[39] In a fight to destroy the *Hammurabi Armored Division*, the 1st Cavalry Division's experience and firepower would be a welcome addition to the VII Corps' strength.

By 1700 on the twenty-sixth, General Franks believed he had fulfilled his mission. In fewer than three days the corps had penetrated the enemy defenses and was deep into Iraq. The 2d Cavalry and the 3d Armored Division had fought through the Iraqi *12th Armored Division* and had found the left flank of the

Republican Guard Forces Command. Franks' three-division fist, including the 1st Infantry Division, was now in position to attack the *Tawakalna Mechanized Division* with overwhelming combat power. Each of its brigades would feel the attack of an entire U.S. heavy division. Roaring up behind, the 1st Cavalry Division would soon be in position to augment the 1st Armored Division or, in conjunction with the 2d Cavalry, exploit the battle success. The Jayhawks' right flank was secure, thanks to the British 1st Armoured Division that almost alone had destroyed the Iraqi *VII Corps*. In the next twenty-four hours the U.S. Army would fight the largest mounted battle in its history. The experience would validate or disprove the Army's doctrine, tactics, techniques, and procedures that had developed in the twenty years since the end of the Vietnam War.[40]

Notes

[1]Interv, Richard M. Swain with Stanley F. Cherrie, 29 Aug 91, Swain Collection, Fort Leavenworth, Kans.

[2]Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* (February 1992):29.

[3]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], pp. 105–06, in VII Corps AAR, Fort Leavenworth.

[4]Ibid., p. 97; Mark E. Vincent and Samuel C. Raines, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, pp. 4–7, in VII Corps AAR.

[5]VII Corps G–2, "100-Hour Ground War," pp. 120–22; Vincent and Raines, "TF DEMO."

[6]VII Corps G–2, "100-Hour Ground War," p. 122.

[7]HQ, 1st Armd Div, and Guy C. Swan III, "1st Armored Division Battle Summary for Combat Operations Conducted in Support of Operation DESERT STORM, 23–28 February 1991," 10 Mar 91, in VII Corps AAR; 1st Armd Div G–3, Staff Jnl, 24 Feb 91; Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), pp. 216–23; Steve Vogel, "Killer Brigade: 3d Infantry Division 'Phantoms' Hunt the Enemy," *Army Times*, 11 Nov 91, p. 15.

[8]Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, pp. 13–16.

[9]Swan, "Battle Summary"; Carhart, *Iron Soldiers*, pp. 223–28; Interv, Norman Johnson with Montgomery Meigs, et al., 26 Mar 91, CMH.

[10]Carhart, *Iron Soldiers*, pp. 237–38; Interv, Johnson with Meigs, et al., 26 Mar 91; Vogel "Metal Rain," p. 16.

[11]Swan, "Battle Summary"; 1st Armd Div, Briefing Slides: Old Ironsides—DESERT STORM 1990–1991," Mar 91, in VII Corps AAR.

[12]Swan, "Battle Summary," reports this second unit as being from the *52d Mechanized Infantry Division*. Most likely, it was the *46th Mechanized Infantry Brigade, 12th Armored Division*, the sister unit of the two brigades supporting the *Tawakalna Division* farther south.

[13]Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 265–67; Swan, "Battle Summary."

[14]Nicholas Benson, *Rats' Tales: The Staffordshire Regiment at War in the Gulf* (London: Brassey's, 1993), p. 115; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 102–03.

[15]Pearce, *The Shield and the Sabre*, p. 103; VII Corps G–3, Staff Jnl, 26 Feb 91, entry 24.

[16]Pearce, *The Shield and the Sabre*, p. 109.

[17]Ibid., pp. 110–12; Hans Halberstadt, *Desert Rats: The British 4 and 7 Armoured Brigades, WWII to Today* (Osceola, Wisc.: Motorbooks International, 1993), p. 120.

[18]VII Corps G–3, Staff Jnl, 25 Feb 91, entry 33; VII Corps, Sitrep 40, 26 Feb 91; Pearce, *The Shield and the Sabre*, pp. 110–12.

[19]VII Corps G–3, Staff Jnl, 26 Feb 91, entry 6; Kindsvatter, "Ground Offensive," p. 29; 2d ACR, Op Sum, 23 Feb–1 Mar 91.

[20]Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, pp. 28–30; 2d ACR, Op Sum; VII Corps G–3, Staff Jnl, 26 Feb 91, entry 10.

[21]DA, FM 17–95, *Cavalry*, with Change 2 (Washington, D.C.: Government Printing Office, 1981), pp. 4–11.

[22]2d ACR, Op Sum; Vogel, "A Swift Kick," p. 30.

[23]VII Corps G–3, Staff Jnl, 26 Feb 91, entry 28.

[24]John M. Kendall, "The Closed Fist: VII Corps Operational Maneuver in DESERT STORM," Unpubl Ms, AWC, 1994, pp. 24–25.

[25]Ibid., p. 26.

[26]Vogel, "A Swift Kick," p. 30; Leonard D. Holder, "Second Armored Cavalry Regiment: Operation DESERT STORM 1990–1991," 13 May 91, in VII Corps AAR; 2d ACR, Op Sum.

[27]Richard M. Swain, "Ground Operations in the Gulf War: Reflections on the Revisionist Critique," *Army* (August 1996):31.

[28]VII Corps G–3, Staff Jnl, 26 Feb 91, entry 22; 3d Armd Div, "Historical Overview of the 3d Armored Division in the Persian Gulf War," n.d., p. 8, and "Chronology of the 3d Armored Division in Operation DESERT SPEAR, 24–28 February 1991," both in VII Corps AAR.

[29]3d Armd Div G–3, Staff Jnl, 26 Feb 91, entry 22; 3d Armd Div, "Chronology of the 3d Armored Division in Operation DESERT SPEAR, 24–28 February 1991," n.d., in VII Corps AAR.

[30]3d Armd Div G–3, Staff Jnl, 26 Feb 91; 3d Armd Div, "DESERT SPEAR"; 2d Bde, 3d Armd Div, Hist Sum; VII Corps G–2, "100-Hour Ground War," p. 117.

[31]VII Corps G–2, "100-Hour Ground War," pp. 120–21.

[32]3d Armd Div G–3, Staff Jnl, 26 Feb 91; 3d Armd Div, "DESERT SPEAR"; 2d Bde, 3d Armd Div, Hist Sum; Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 92, p. 13.

[33]Michael Robels, Summary of 1st Inf Div Comdr's Rpts, 30 Mar 91, author's collection; Ltr, Gregory Fontenot to author, 26 Oct 94; Gregory Fontenot, "Fright Night: Task Force 2/34 Armor," *Military Review* (January 1993):39–40.

[34]Robels, 1st Inf Div Comdr's Rpts; Interv, Thomas A. Popa with James O'Donnell, 25 Jul 91, CMH; author's notes.

[35]Ltr, Fontenot to author, 26 Oct 94; Fontenot, "Fright Night," pp. 40–41.

[36]VII Corps G–3, Staff Jnl, 26 Feb 91, entry 34; Fontenot, "Fright Night," pp. 40–41.

[37]VII Corps G–3, Staff Jnl, 26 Feb 91, entries 15, 20, 21; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 11 Apr 91, TRADOC.

[38]Interv, Richard M. Swain with Steven L. Arnold, 15 Mar 91, CMH; Frederick M. Franks, Jr., "Message: Fighting a Five Armored Division Corps," 31 Mar 91, in VII Corps AAR.

[39]HQ, 1st Cav Div, "Chronology of the 1st Cavalry Division," [Mar 91], in VII Corps AAR; Kindsvatter, "Ground Offensive," p. 30.

[40]Scales, *Certain Victory*, p. 265.

16

Flank and Deep Operations

The coalition's offensive was proceeding far better than anyone had a right to expect. In the far west, the XVIII Airborne Corps had met all its original objectives by the afternoon of 26 February. The 101st Air Assault Division was now overwatching the Euphrates Valley and interdicting any Iraqi movement in or out of the Kuwaiti Theater of Operations. The French 6th Light Division was screening the western portion of the coalition's operations area. The 24th Infantry Division and the 3d Cavalry were racing on a narrow front, just south of the great marshy Hawr Al Hammar, toward Basrah and the *RGFC*'s northern flank. In the center, Joint Forces Command–North had seized its initial objectives and turned east toward Kuwait City. Farther east, the 2d Marine Division, led by the Tiger Brigade (1st Brigade, 2d Armored Division), was occupying Multa Ridge, effectively cutting of any further Iraqi movement in or out of Kuwait City. Along the coast, the Joint Forces Command–East had also attained all its objectives and by nightfall was preparing for the Arab reentry into Kuwait City.[1]

Corps Situation

By the evening of 26 February General Franks' VII Corps had finally made contact with the *Republican Guard*. Once the divisions began engaging the enemy, Franks wanted to turn the tactical battles over to his commanders. Tactics, at its simplest level, is the art of fighting battles and engagements. While engaged, division, brigade, and battalion commanders would determine the best way to maneuver and deploy the multiple combat systems under their control. Battalion, company, and platoon commanders would lead their soldiers in individual engagements. Battle, of course, is not a game of solitaire. General Ayad Futayih al-Rawi, commander of the *Republican Guard Forces Command*, was doing the same thing. His divisional commanders were also preparing to fight that "mother of all battles" that President Saddam Hussein had promised. That evening the outcome of the campaign depended on the relative effectiveness of the opposing division, brigade, and battalion commanders.

At 1800 on 26 February General Franks called General Yeosock on the tactical satellite telephone to discuss VII Corps' progress. He described his situation as "a combination hasty attack and pursuit," with over five thousand captured Iraqi soldiers in the corps' possession. In his center, the 3d Armored Division contin-



Abrams tanks and Bradley fighting vehicles of the Tiger Brigade provide security for the 2d Marine Division area of responsibility.

ued to attack, with the 1st Infantry Division beginning its passage of lines through the 2d Cavalry. On the left (north) flank, the 1st Armored Division had overrun the Iraqi *VII Corps* support area and was continuing to pursue to the east. Meanwhile, the 1st Cavalry Division was moving through the breach, intending to arrive at Assembly Area LEE by midnight. Franks reported that the corps' right flank was now secure, as the U.K. 1st Armoured Division had destroyed the Iraqi *VII Corps* tactical reserves and was preparing to continue the attack to the east toward Objective MINDEN.[2]

Although tired and showing some of the strain of almost four consecutive days with very little sleep, General Franks knew the corps had found his target. He returned to the tactical command post around 1730, after another of his endless helicopter journeys to all parts of his corps' sector. After briefing his staff on his assessment of the battle and giving the required commander's guidance, he urged his staff to keep up the pressure: "We are going to drive the corps hard for the next 24 to 36 hours, day and night, to overcome all resistance and to prevent the enemy from withdrawing. We will synchronize our fight, as we always have, but we will have to crank up the heat. The way home is through the RGFC."[3]

A problem with the new order, based on FRAGPLAN 7, was the future mission of the U.K. 1st Armoured Division. The corps' current southern boundary with Joint Forces Command–North ran along the Wadi al Batin and then turned northeast toward Kuwait City. That arrangement left only enough maneuver room for one division, either the 1st Infantry Division or the U.K. 1st Armoured

Division. Franks needed only one of the two divisions to attack northeast to cut the Kuwait City–Basrah Highway, unless VII Corps could have the boundary changed. The coalition's generally northward advance would simply squeeze out one of his southernmost divisions. Franks realized, at the same time he was issuing FRAGO 140–91, that he would have to decide by Wednesday morning which division to use.[4] If he gave the British the mission, they would have to maneuver northeast in front of the 1st Infantry and 3d Armored Divisions. He dropped that idea soon after the U.S. Air Force A–10s destroyed the two Warrior fighting vehicles. The last thing Franks or General Smith wanted was another major "blue on blue" engagement.[5]

To complicate the situation further, the Third Army staff gave the corps a warning order to clear the Iraq Petroleum–Saudi Arabia (IPSA) Pipeline Road south to Ruqi on the Saudi Arabian border. This was a major road that ran along the Wadi al Batin into Saudi Arabia. Army logisticians wanted to use the Pipeline Road as a main supply route for both VII Corps and XVIII Airborne Corps. This would greatly reduce the transit time for badly needed supplies. The obvious choice for this mission was the U.K. 1st Armoured Division, located on the corps' southern flank. However, the division would have to be totally reoriented from an easterly to a southerly direction. In addition, the task would require a huge engineer effort to clear some of the most heavily fortified areas in the theater. Although Franks did not like the mission, he gave it to the British to plan and execute on order.[6] Later, when Franks discussed this mission with the theater commander, Schwarzkopf exploded at him: "Fred, for chrissakes, don't turn south! Turn east. Go after 'em."[7] Someone forgot to communicate Schwarzkopf's intent to the Third Army staff, and the corps commander took the heat.

Of course, those changes caused quite a stir in the British command post. American staffs are quite liberal concerning warning orders. These orders cause the receiving commander to pause, consider what he has to do, give some planning guidance to his staff, and continue the current mission. The U.S. Army corps or division, with large planning staffs, could receive a half dozen of these "be prepared missions" every day. The British, on the other hand, simply did not have the planners to respond to that many missions. The 1st Armoured Division's planning staff consisted of only two officers supported by essential members from engineer, artillery, and other cells.[8] Each order initiated serious planning efforts that required critical manpower and effort.[9]

Fortunately, the staff sorted out the problems of terrain and missions. Central Command changed the boundary with Joint Forces Command–North so the U.K. 1st Armoured Division was able to continue its attack east to the north of Kuwait City. Franks also persuaded the Third Army to retract the mission to clear the IPSA Pipeline Road south through the minefields. The corps staff assigned the British Objective VARSITY, thirty kilometers east of the Wadi al Batin. From there, they would ultimately continue the attack east to the Kuwait City–Basrah Highway.[10]

The ground battle was now in the hands of Franks' division commanders. On VII Corps' right flank, General Smith's 1st Armoured Division had cleared out most of the Iraqi *VII Corps* and was about to attack Objective WATERLOO at

the base of the IPSA Pipeline. Colonel Holder's 2d Cavalry had located part of the *Tawakalna Mechanized Division* and was about to develop the situation in his sector. Rapidly moving up behind the cavalry was General Rhame's 1st Infantry Division. It would pass through Holder's force and clear Objective NORFOLK, a major supply and support area north of Objective WATERLOO. Just as the 2d Cavalry was approaching the *Republican Guard*, General Funk's 3d Armored Division was encountering the same. General Griffith's 1st Armored Division had broken away from Al Busayyah and was also beginning to encounter the *Republican Guard* in the southern part of its sector. Franks had maneuvered his forces into almost exactly the alignment he had wanted from the start of the campaign.[11]

With the attachment of General Tilelli's 1st Cavalry Division, General Franks now commanded one of the largest forces ever under a single American commander. He had almost three thousand tanks and infantry fighting vehicles, over seven hundred artillery tubes and rocket launchers, and thousands of support vehicles scattered across the desert. Just before Tilelli's troops began moving, Franks firmed up his operational concept. He wanted the 1st Cavalry Division to move through the breach and then north to AA LEE, approximately ninety kilometers north of the breach. When he gave this order, he had no way of knowing what the outcome or enemy disposition would be when the 1st Cavalry Division finally arrived in position. From AA LEE he wanted to move the 1st Cavalry Division northeast, to the north of the 1st Armored Division. It would then become the left hook of a double envelopment of the *RGFC*.[12]

At 0925 the corps tactical command post gave that mission to the 1st Cavalry Division, and Tilelli wasted no time in getting the division on the move. In less than fifteen hours, it broke contact with the enemy and moved west over sixty kilometers. By 1415 the lead elements of the division were passing through the 1st Infantry Division's breachhead area. By 0030 on the twenty-seventh, the lead elements had arrived on AA LEE with the remainder of the division covering the ninety kilometers by 0300. At 0500 Franks ordered the 1st Cavalry Division to move northeast to a new assembly area (AA HORSE), just behind the 1st Armored Division. By 1100 hours the First Team (1st Cavalry Division) had moved east another 100 kilometers and was in position and ready to join the attack.[13]

The 1st Cavalry Division, in its 250-kilometer dash across the desert, demonstrated an impressive, but generally unnoticed, display of skill and flexibility. It was a testament to the quality of the Army's vehicles and equipment, the stamina of its soldiers, and the ability of the Army to provide the fuel for such an operation on short notice. The 1st Cavalry Division's movement is also a good example of how a corps staff can operationally position a force to strike at the enemy's center of gravity. To put this division in place, Franks and his staff had to plan the mission almost thirty-six hours in advance and issue the order over twenty-four hours in advance. Had the war continued another day, this relatively fresh division would have contributed to a decisive blow against the remaining Iraqi forces in the Basrah Pocket.

Enemy, Weather, and Terrain

The weather reminded the soldiers more of Germany than Iraq. It was wet, foggy, and often rainy. The cloud ceiling was often so low that A–10 close-support aircraft could not safely attack targets in the corps' sector. Ground visibility was between 200 and 1,400 meters without assistance from sophisticated optics. Even with thermal sights, tank gunners could acquire, but not identify by type, enemy vehicles much beyond 1,500 meters. Gale-force winds and blowing sand forced helicopters to operate beyond normal safety margins. Stinging rain mixed with sand hit the faces of vehicle commanders looking for some sign of their opponent. The fighting of that afternoon and evening took place during some of the worst weather the area had seen in a long time. Many Iraqi commanders assumed that they were generally immune from attack as long as the storm continued.[14]

The VII Corps moved across generally flat and sandy terrain. Because of the heavy rains, a thin layer of grass appeared, feebly hiding patches of the barren soil beneath. In the 1st Armored Division's sector, the terrain slowly changed from flat gravel to slightly rolling hills punctuated with damp wadis draining into marshes that were once a channel of the Euphrates River. Each of these wadi-hill lines could complement the Iraqi's defensive efforts and mask their units from VII Corps observation. To the east, corps units encountered the Wadi al Batin as they approached the Kuwait border from the west. Here, it was no longer an effective obstacle to east-west movement. The most important barriers were man-made.

Extending for over fifty miles west of Basrah were the Rumaylah Oil Fields. A major conglomeration of oil wells, oil tanks, and buildings, Rumaylah was also the hub of a series of roads and pipelines. Most went east to Basrah, but others lead north, then northwest up the Euphrates River Valley. One of the road-pipeline systems, the IPSA Pipeline, which would figure prominently in the upcoming battle, headed south to the Saudi Arabian border. The pipeline was so new that most VII Corps units did not even have it on their maps. This double line linked Iraq's southern oil fields with Saudi Arabia's east-west pipeline. An Italian consortium had begun building the first part, IPSA–1, in 1984. By 1987 IPSA–1 was pumping 500,000 barrels per day to the Saudi terminal at Yanbu on the Red Sea. In 1987 an Italian-Japanese company began a second, parallel, pipeline that apparently never operated at full capacity. A UN-sponsored international oil embargo stopped the oil flow before the start of the ground war.[15] Adjacent to the berm-covered pipes was a hard-surface road used by construction crews and pipeline engineers.

The IPSA Pipeline gave the Iraqis two important advantages. The berm that covered the pipeline acted as a defensive barrier. Properly reinforced by mines, preplanned indirect fire, and well-constructed fighting positions, the berm could help to stem the VII Corps' advance from the west. Much more important, however, was the IPSA Pipeline's use as a main supply route. The blacktopped road intersected most of the desert trails that headed toward Kuwait from the west and southwest. It was the fastest and most direct route between southeast Iraq and the Iraqi forces aligned along the western Kuwaiti border. Because the Iraqi High Command used this route to support units in both southern Iraq and Kuwait, sup-



Camp Flooded by Torrential Rains

ply depots, fuel tanks, ammunition depots, and other logistics installations lined both sides of the road.[16] Units advancing or retreating could use this route to reposition quickly. Next to the Kuwait City–Basrah Highway, the IPSA Pipeline Road was probably the most important Iraqi supply route in the theater. The main battles would be fought west of this road.

Some fourteen hours before VII Corps closed with the *Republican Guard*, Radio Baghdad announced that Iraq was pulling out of Kuwait. High-flying JSTARS aircraft confirmed that the withdrawal was in process by 0300 hours, 26 February. The Iraqi *III Corps*, which defended southeast Kuwait, and *IV Corps*, which defended southwest Kuwait, began their hasty departure. A small hill just north of the city, the Multa Ridge commanded the intersection through which all forces south of the city had to pass. This road network funneled almost all Iraqi forces withdrawing from the Kuwait–Saudi Arabian border into this intersection. That important choke point and the Kuwait City–Basrah Highway north became major focal points for coalition air forces until the end of the war.[17] The press soon referred to the Kuwait City–Basrah Highway as the "Highway of Death" because of the obvious carnage induced by air interdiction attacks.[18] By 1600 Iraqi soldiers were either withdrawing north under constant air attack or surrendering to the U.S. Marine and Arab forces pushing into Kuwait City.[19]

It was relatively easy for the western press to report the results of the air campaign and the coalition's race to Kuwait City. Farther west, along the Iraq–Saudi

Arabian border, the effects of the ground campaign were just as impressive, but less obvious to news reporters. The Iraqi *VII Corps* that had defended the sector was now but a shadow of its former self. By the late afternoon of the twenty-sixth, the British 1st Armoured Division had overrun most of the *48th*, *31st*, and *25th Infantry Divisions*. The *27th Infantry Division* and part of the *52d Armored Division* remained to either block the Desert Rats' advance or withdraw north on the IPSA Pipeline Road. While advancing American troops found some *VII Corps* units mixed among the *Republican Guard*, most met their fate at the hands of the British.[20] At least part of one tank battalion, probably from the *52d Armored Division*, ran into the 2d Cavalry on the Al Busayyah road early in the evening.

The *12th Armored Division*, apparently working for the *Republican Guard* commander, had lost most of its *50th Armored Brigade* while fighting the 2d Cavalry. The *Tawakalna*'s commander integrated any survivors into his division's defensive line. The *37th Armored Brigade* anchored the southern flank of the *Tawakalna Division*. More importantly, it guarded the base of the IPSA Pipeline Road and a large logistics area that once supported the Iraqi *VII Corps*. The mystery unit of the division was the *46th Mechanized Brigade*, which never made it to Al Busayyah or a zone in front of the northern flank of the *Tawakalna Division*. Based on VII Corps sightings of parts of this unit throughout the sector, the *Republican Guard* used it in battalion packets to augment its divisions.[21]

Contrary to some reports, the *Republican Guard* was not hollow and the ultimate outcome not certain.[22] There was no guarantee that the VII Corps would defeat two divisions of the *Republican Guard* and numerous other units of the *Jihad Corps* during those two days of February 1991. Military history has many examples of overconfident armies marching off to battle, assuming easy victories. Lt. Col. George A. Custer's 1876 defeat on the Little Big Horn and Lt. Gen. Frederic A. Chelmsford's 1879 defeat at Isandhlwana are two good examples. More recently, poorly equipped but highly motivated soldiers in Indochina and Afghanistan frustrated the best efforts and technology of France, the United States, and the Soviet Union.

It was as easy after the war to dismiss the prowess of the *Republican Guard* as it had been before the war to make it seem invincible.[23] The truth was somewhere in between. From 1800 on the twenty-sixth until 1400 on the twenty-seventh, the *RGFC* fought to the best of its ability to stop the U.S. VII Corps' advance. When it was over, however, the Jayhawks inflicted a crushing defeat on the two heavy divisions that stood and fought. Over 800 tanks and 600 infantry fighting vehicles simultaneously attacked and destroyed the 220 tanks and 270 fighting vehicles of the *Tawakalna Mechanized Division*. Eighteen hours later the 1st Armored Division annihilated the *Medina Armored Division*. The remaining *Republican Guard* armored division, the *Hammurabi*, withdrew from the corps sector in what was perhaps the best-executed Iraqi operation of the campaign. Franks won this massive battle primarily because he was able to mass overwhelming combat power against the Iraqi defenders. Furthermore, the corps attacked the Iraqis, not just at the forward line of troops, but to the depths of their positions. Finally, American and British tactical commanders proved far

more proficient than their Iraqi counterparts in employing their own combat systems and synchronizing them with supporting ones.

The *Tawakalna Mechanized Division* formed the first Iraqi line opposing the VII Corps. It moved into defensive positions, covered by the *50th Armored Brigade*, on the evening of the twenty-fourth. The *Tawakalna* was in a good location just west of the IPSA Pipeline, lying athwart most of the major roads from the west. From this central location, the *Tawakalna* could also defend against an attack coming up the Wadi al Batin. When the *RGFC* ordered the division to move, the Iraqis probably believed that their most serious threat was still from that direction. In addition, the hardtop road to their rear allowed rapid resupply, reinforcement, and evacuation. In the south, the *18th Mechanized Brigade* tied in with the *12th Armored Division's 37th Armored Brigade*. The *9th Armored Brigade* defended the center of the *Tawakalna's* defensive line. In the north, the *29th Mechanized Brigade* occupied the division's right flank. The division commander failed to provide for security on this brigade's exposed right, or northern, flank.[24]

The *Medina Armored Division* was similar to the *Tawakalna*, except it had two armored brigades and one mechanized infantry brigade. For most of the air and ground war, the *Medina* had remained generally along the IPSA Pipeline Road, about forty kilometers west of the border town of Safwan and northeast of the *Tawakalna*.[25] From this location, near the Rumaylah Oil Fields, the division could use several high-speed roads, including the IPSA Pipeline, to move rapidly in any direction. There were several motorized infantry divisions deployed in the Euphrates Valley that could move rapidly to support either offensive or defensive operations. At least one brigade from one of these divisions, the *Adnan Infantry Division*, moved south on 26 February. The brigade's apparent mission was to establish a security zone in the gap between the *Tawakalna* and *Medina Divisions*. Just to the rear of the *Medina* was its sister armored division, the *Hammurabi*. It began moving out of its initial locations toward the Rumaylah Oil Fields.[26]

There is little evidence that on the morning of 26 February the *Republican Guard* planned simply to die in static positions. It was not a defensive but an offensive force, and in this battle it was ill prepared to withstand a concentrated attack. Its vehicles' fighting positions were hastily dug into the ground, providing only marginal protection against small-arms fire. These fighting vehicles were not mutually supporting, did not employ mines and wire, had few kill zones, and did not have an effective defensive fire plan.[27]

More likely, General al-Rawi deployed two divisions, the oldest of the *Republican Guard* and the most prestigious in the army, to attack a weakness in the coalition's advance. Using well-reconnoitered attack routes through the Rumaylah complex's road network, they were positioned to strike the left flank of the advancing two-division U.S. VII Corps. General al-Rawi probably assumed the XVIII Airborne Corps, imagined to contain the 24th Division (Mechanized), 3d Cavalry, and the 1st Armored Division, was en route to An Nasiriyah on the Euphrates. He also probably assumed that the Americans would move along the road complex into the *Tawakalna's* defenses. By maneuvering his two armored divisions around the north of the *Tawakalna*, he could have massed over five hundred tanks on the

left flank of the advancing VII Corps. It could have been a classic envelopment with potentially decisive results.

By the late afternoon of 26 February coalition success across the front had dramatically changed the Iraqi strategic situation. The Iraqi high command realized that its forces in the Kuwaiti Theater of Operations were on the verge of annihilation. With a general withdrawal from Kuwait under way, Iraqi units began moving north out of the theater and toward Basrah. The high command further ordered the *Republican Guard* to stop the coalition's advance from the west. With the *Tawakalna* in place, the *Medina Armored Division* began moving from its original location to occupy a line west of the IPSA Pipeline and the Rumaylah Oil Fields. One brigade and the tank battalion from the *Adnan Infantry Division* moved to provide the *Medina* forward security and to tie in with the *Tawakalna Mechanized Division*. Finally, the Iraqis began moving the last of their *RGFC* armored divisions, the *Hammurabi*, north of the *Medina*.[28]

Objective MINDEN

While the close fight was under the control of the ground commanders in contact, Franks supervised the deep battle. Properly executed, deep operations degrade and demoralize the enemy. They limit his ability to maneuver forces to respond to the attacking force, destroy pre-positioned fire support, and disrupt command and control. General Franks had an array of weapon systems at his disposal for these operations. For precise targets, the ATACMS-equipped field artillery battery was the corps commander's weapon of choice. It was especially effective against missile sites, command and control facilities, and concentrated logistics complexes. For targets that were either moving or in improved positions or when the exact location was unknown, Franks called on his Apache-equipped battalions of the 11th Aviation Brigade.[29]

With missions flown by extremely proficient crews after dark, this brigade was able to infiltrate its attack helicopters across the front lines, find and fight the enemy, and then have them return to their arming and refueling points to prepare for another mission. By carefully sequencing the flow of the individual companies, the aviation battalion commander can keep an enemy target under continuous fire until the arrival of divisional air or ground forces. Often these aircraft work in conjunction with Air Force aircraft and long-range artillery, creating a devastating effect on the enemy's subsequent defensive belts. In addition to the obvious use of weapon systems, Franks could also use intelligence-gathering and electronic warfare units in his deep-attack operations.[30]

Reinforcing the *Republican Guard* behind the Wadi al Batin and blocking two major roads into Kuwait was the *10th Armored Division*. The Iraqis considered the *10th Armored Division* the best unit in their regular army. They had equipped the mechanized brigade (*24th*) with T–55 tanks and BTR-type personnel carriers. The two armored brigades (*17th* and *42d*), however, used some of the best equipment available, T–62 tanks, T–72 tanks, and BMP infantry fighting vehicles.[31] While some units had moved, most remained in their original locations, which the VII



AH–64 Apache Attack Helicopter

Corps designated Objective MINDEN. If Franks could use his attack helicopters to disrupt this division, it would be unable to reinforce the *RGFC* or block the corps' subsequent exploitation into Kuwait. Air attacks on MINDEN and the Kuwait City–Basrah Highway could thus isolate the *RGFC* on the battlefield. Therefore, during the same meeting in which Franks ordered the execution of FRAGPLAN 7, he also gave Col. Jonnie Hitt, his 11th Aviation Brigade commander, the mission to attack the *10th Armored Division*.[32]

The most dangerous parts of a helicopter deep attack are flying to and returning from the target area. The aircraft must first travel over friendly troops who, if they believe the helicopters to be hostile, want to "shoot them down and sort them out on the ground."[33] As the helicopters approach the target area, they must coordinate their actions with Air Force attack aircraft that may also be operating against the same target. The attack battalion operations officer must also work with corps artillery to temporarily suspend guns and rockets firing into the target area and along the flight routes. Then, preferably at long range, the Apaches engage the enemy target. Once the attack is complete, the aircraft must head back through the lethal weapon systems of their ground comrades. All parties to the passage must continue their coordination and maintain their fire discipline as these aircraft pass at a relatively low level over both enemy and friendly troops. In the 11th Aviation Brigade's case, some air units would pass through the 2d Cavalry and return while the ground forces were managing their own passage of lines. Although all these tasks had been practiced endlessly in training exercises, they could not adequately prepare for the reality and confusion of battle.[34]

Lt. Col. Roger McCauley's 4th Battalion, 229th Aviation, received the mission to attack Objective MINDEN. After careful coordination with Hitt, Franks, Cherrie, and other corps staff officers, McCauley developed his battle plan. MINDEN was forty to fifty kilometers east of most of the fighting. Furthermore, he could not fly too far east because Air Force F–111s and other aircraft were flying interdiction on the Kuwait City–Basrah Highway. To keep the operation simple, McCauley gave each of his three attack companies its own sector so they could maneuver and find the best fighting locations under their own company commanders.[35]

The battalion took off shortly after 2100 hours on 26 February with its sixteen Apaches organized into three companies. With over 250 Hellfire missiles, the battalion had the capability of destroying an entire Iraqi brigade on one mission, if it could get through the forward area. On Objective MINDEN, at 2200 hours, the battalion found an assortment of T–55 and T–62 tanks, MT-LBs, BMPs, and many other enemy vehicles.

An Apache engagement is nothing like a fixed-wing attack. There is little high-speed strafing and bombing. Instead, in this relatively slow and deliberate process, OH–58D Scout helicopters and AH–64 crews fly low toward their target area. In this case, Company A, the lead unit, flew at 120 knots as low as ten feet above the desert floor. Night illumination was poor, with little contrasting terrain to give the pilots a visual bearing.[36]

Once an Apache detects the image of its intended victim, it flies slowly to an appropriate firing position. When ready, the Apache slowly rises above the horizon and fires one of its sixteen laser-guided Hellfire missiles at a target that may be as far as three miles away. Then it drops down and moves to another firing position to repeat the process. These are precision systems, and the crews that fight them are akin to surgeons at an operating table. However, in this case, limited visibility, burning oil-well fires, and the revetted nature of the enemy dictated a closer fight, often within Iraqi main-gun range. At 2245 Companies A and B arrived on station. After approximately thirty minutes of engaging Iraqi vehicles, the battalion aircraft returned to their rearming and refueling point (AA SKIP).[37]

Although the corps had not planned a second attack, the mission had been too successful not to return and exploit. From their vantage point over Objective MINDEN, McCauley's pilots had watched Iraqi vehicles escaping north, up the Basrah Highway, and asked permission to attack farther east. Franks asked that the fire-support coordination line, which divides area responsibilities between the air and ground commanders, be shifted farther east. His air liaison officers told him that it could not be done in time.[38] Therefore, at 0200 hours on 27 February, two attack companies returned for second strike at Objective MINDEN, flying over the huge tank battles below. After another thirty minutes of working over the targets, they returned to AA SKIP.[39] The final tally for both deep attacks included fifty-three tanks and thirty-five armored personnel carriers, essentially two heavy battalions' worth.[40]

When the 3d Armored Division arrived on Objective MINDEN in the closing hours of the war, it reported whole sets of abandoned enemy equipment. Fully operational, uploaded Iraqi tanks stood in revetted positions waiting for crews to man

them.[41] Most likely, the effect of the 4th Battalion, 229th Aviation's attack, combined with the Air Force attacks on the main highway to their rear, caused much of the *10th Armored Division* to panic and run. History's first example of an attack-helicopter deep attack at night against prepared enemy defenses was a success.[42]

Objective WATERLOO

On the VII Corps southern flank, the U.K. 1st Armoured Division continued its isolation of the Iraqi *VII Corps* front line and the destruction of its tactical reserves. General Smith's task on the evening of 26 February was to clear Objective WATERLOO, a control measure that encompassed several main routes on the southern portion of the Iraqi defenses.[43] For better maneuvering, Smith divided WATERLOO into smaller, force-oriented objectives that each brigade could attack independently.[44]

North to south, the objectives were LEAD, PLATINUM, and TUNGSTEN. The northernmost of these objectives was LEAD, located at the intersection of the border road and the IPSA Pipeline. LEAD contained remnants of the *80th Armored Brigade, 12th Armored Division*. This brigade, badly depleted by air attacks and a piecemeal deployment, anchored the southern portion of the entire Iraqi flank, extending north all the way to Basrah and the Euphrates. Once the British defeated this force, the IPSA Pipeline route north would be open if Franks decided to exploit it. The British named WATERLOO's southern portion Objective TUNGSTEN. East of the pipeline, TUNGSTEN was home to the *102d Brigade* of the *25th Infantry Division*. This brigade was the rear of the Iraqi *VII Corps* Wadi al Batin defenses. In addition to the dug-in infantry brigade, TUNGSTEN contained four or five artillery battalions.[45]

Around 0700 on the twenty-sixth, the divisional reconnaissance regiment, 16th/5th Queen's Royal Lancers, moved against Objective LEAD.[46] As the division staff predicted, numerous T–55 tanks and MT-LB personnel carriers defended the position.[47] At the first encounter, the Iraqis fired back and tried to stop the Lancers' movement. As in previous engagements, the Iraqi tank fire was ineffective. Sensing that the Lancers might be unsupported, the Iraqis tried to drive them away. The Lancers stopped this counterattack by well-directed indirect fire from the divisional artillery.[48] The British reconnaissance troops, however, lacked the firepower to secure the objective.

At the same time the Lancers attacked Objective LEAD, the bulk of Brig. Patrick Cordingley's 7th Armoured Brigade prepared to assault Objective PLATINUM. Originally, PLATINUM had been home to the recently defeated *52d Armored Division*. Since it was a large objective, Cordingley divided it into the two parts, PLATINUM I and II. PLATINUM I was, Cordingley believed, lightly defended, and he assigned the Queen's Royal Irish Hussars, under Lt. Col. Arthur Denaro, the task of clearing that objective. After a short artillery preparatory fire, the Hussars struck at noon. Within half an hour most of the objective was secure, with a large number of Iraqi soldiers surrendering to the British regiment.[49]

Taking Objective PLATINUM II was not as easy for Lt. Col. Charles Rogers' 1st Battalion, the Staffordshire Regiment. While in the process of exchanging one of

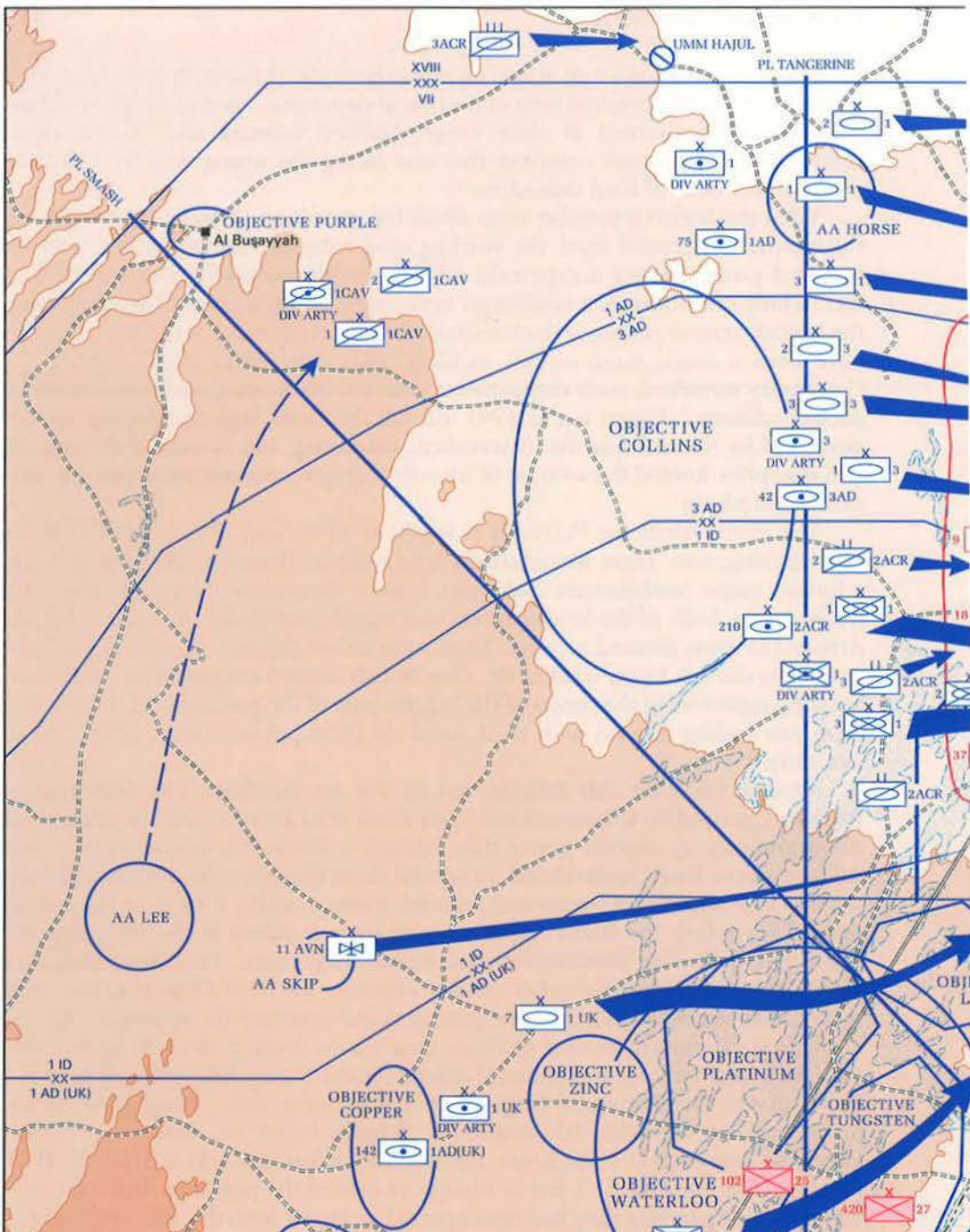
his infantry squadrons for an armor squadron from the Hussars, Rogers discovered an undetected Iraqi position west of his line of departure. Around 1000, in a short but violent engagement at close range, Stafford infantry and Hussar tanks destroyed the Iraqi tank company that was facing the wrong way. By 1100 the position was clear of Iraqi defenders.[50]

What the British remember most about the assault on Objective PLATINUM was the weather. At ground level, the swirling sand reduced visibility to less than six hundred yards, making it extremely difficult to differentiate between friend and foe. In only one instance, a Challenger tank from the Royal Scots Dragoon guards, the brigade reserve, engaged the Staffords' alternate command post. In what could have been a much more serious incident, only one officer was wounded. As Cordingley remarked, such engagements were the price one paid for maneuver in such conditions.[51] Desert war in 1991 was not the clean, high-technology conflict portrayed by the news media. It was dirty, confusing, and bloody. Only training and discipline limited the amount of friendly engagements and presented the illusion of simplicity.

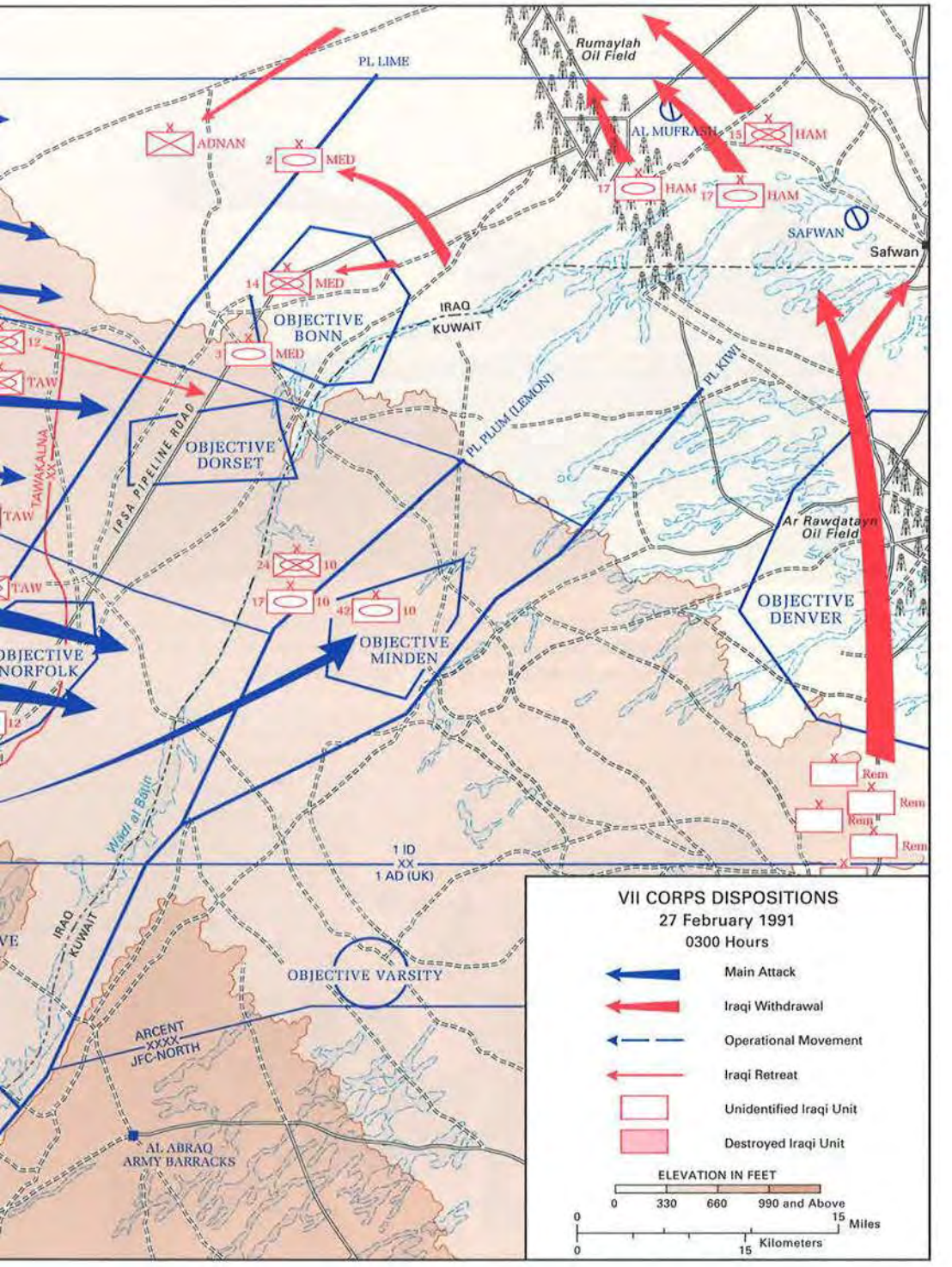
The actual battle for PLATINUM II began at 1245, and it took until 1730 to clear the objective. There was relatively little combat. However, since the area was a former major headquarters and logistics area, thousands of Iraqi soldiers who made up the bulk of the headquarters and supply personnel from the Iraqi *52d Armored Division* awaited capture. Most were either children or elderly soldiers, and many did not know what to do. One British captain remembered: "The most amazing sight was in the center of the biggest part of the position. All these Iraqis were just loafing around with their hands in their pockets, wandering around aimlessly."[52]

Around 1500 the 7th Brigade, led by the 1st Battalion, The Staffordshire Regiment, arrived on Objective LEAD to reinforce the Lancers. Now the British had the overwhelming combat power they needed to defeat the Iraqi defenders, but still not all the Iraqis surrendered. In several short engagements, British and Iraqi soldiers exchanged small-arms and antitank rocket rounds. Finally, at the cost of one soldier killed, the British captured over eight hundred Iraqis, including the *52d Armored Division* commander, and killed many more. They destroyed over forty tanks and numerous other combat systems. By 1740 Objective LEAD was secure.[53] As details rounded up the prisoners and searched the objective, the rest of the brigade moved forward to Phase Line SMASH. During all these maneuvers, the Iraqis fired artillery and antitank missiles at the Desert Rats to no effect.[54]

With the 7th Armoured Brigade set in the north along Phase Line SMASH, Brigadier Hammerbeck's 4th Armoured Brigade began its movement toward Objective TUNGSTEN at 1900 hours. Hammerbeck's first task was to cross the IPSA Pipeline. The Iraqis made a feeble attempt to defend the pipeline's obvious crossing points. Apparently, they had not expected an attack from the west and had not prepared a defensive plan. The British found no mines, wire, preplanned targets, or antitank kill zones. It was another instance of the Iraqi commanders' failing to put the terrain and their combat systems to their best use. Had the *25th Infantry Division* commander planted a few mines and antitank weapons at those crossings,


3ACR
UMM HAJUL
PL TANGERINE
XVIII
XXX
VII
PL SMASH
OBJECTIVE PURPLE
Al Buşayyah
DIV ARTY
1CAV
1CAV
DIV ARTY
1CAV
1 AD
XX
3 AD
AA HORSE
1AD
OBJECTIVE
COLLINS
DIV ARTY
3AD
3 AD
XX
1 ID
2ACR
210
2ACR
DIV ARTY
2ACR
2ACR
AA LEE
11 AVN
AA SKIP
1 ID
XX
1 AD (UK)
1 UK
1 ID
XX
1 AD (UK)
OBJECTIVE
ZINC
OBJECTIVE
PLATINUM
OBJECTIVE
COPPER
DIV ARTY
1 UK
1AD(UK)
OBJECTIVE
TUNGSTEN
OBJECTIVE
WATERLOO
1 UK
IRAQ
NEUTRAL ZONE
OBJECTIVE
BRONZE
OBJECTIVE
BRASS
OBJECTIVE
STEEL

MAP 20


PL LIME
Rumaylah Oil Field
AL MUFRASH
ADNAN
MED
HAM
SAFWAN
Safwan
IRAQ
KUWAIT
OBJECTIVE BONN
OBJECTIVE DORSET
IPSA PIPELINE ROAD
TAWAKALNA
PL PLUM (LEMON)
PL KIWI
Ar Rawdatayn Oil Field
OBJECTIVE DENVER
OBJECTIVE MINDEN
OBJECTIVE NORFOLK
TAW
Rem
Wadi al Batin
1 ID
XX
1 AD (UK)
OBJECTIVE VARSITY
ARCENT
XXXX
JFC-NORTH
AL ABRAQ
ARMY BARRACKS
VII CORPS DISPOSITIONS
27 February 1991
0300 Hours
Main Attack
Iraqi Withdrawal
Operational Movement
Iraqi Retreat
Unidentified Iraqi Unit
Destroyed Iraqi Unit
ELEVATION IN FEET
0
330
660
990 and Above
Miles
Kilometers



M110 8-inch Self-propelled Howitzer (These had been phased out of the Regular Army but were still used in the National Guard and British Army.); below, *M109 155-mm. Self-propelled Howitzer, the Backbone of U.S. Field Artillery Units*



they could have slowed the British advance. Without loss, the 4th Armoured Brigade crossed the obstacle and continued toward Objective TUNGSTEN.[35]

Hammerbeck now had priority for use of the division's indirect fires, and the U.S. 142d Field Artillery Brigade was in position to support his attack. At 2000 hours the brigade let loose with M110 203-mm. howitzers and MLRS rockets. British batteries with their M109s and MLRS's joined in the preparatory fire on the objective. As the battle groups advanced, they had American MLRS's and M110s firing over their heads and British MLRS's coming in from another direction. As the fires lifted, the brigade cleared what was left of the enemy artillery and infantry forces on TUNGSTEN. By 0430 on the twenty-seventh, the 4th Armoured Brigade controlled the objective.[36]

The British now held Objective WATERLOO, the large complex at the base of the Kuwaiti Theater of Operations. In addition, the VII Corps' logistics trains, moving across the desert to the northwest, were safe from any organized attack from the south. They had, in only forty-eight hours of sustained combat, eliminated the greater part of five divisions of the Iraqi *VII Corps*. Over seven thousand prisoners of war, including two division commanders and two other general officers, were moving to the rear.[37] While much of the Iraqi infantry gave up without a fight, some units, especially tank companies, had fought bravely. However, bravery was not enough against the coalition soldiers who maneuvered and fought in their Challengers and Warriors. In addition, the Iraqis fought ineptly: minimal local security, firing positions oriented in the wrong direction, poorly planned artillery fire, and miserable tank gunnery characterized almost all their engagements with the British.

On the morning of 27 February, after some refueling and maintenance, the Desert Rats' mission changed from attack to exploitation. Its next goal was Objective VARSITY, east of the Wadi al Batin. Farther north, just as General Smith was finishing off the Iraqi *VII Corps*, the rest of Franks' U.S. VII Corps slammed into the *Tawakalna Mechanized Division*.

Notes

[1]XVIII Abn Corps G–3, Daily Sitrep, 26 Feb 91; DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), pp. 277–83.

[2]VII Corps TAC, Staff Jnl, 26 Feb 91, entry 2.

[3]Peter S. Kindsvatter, VII Corps Historian's notes, p. 47; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 12 Apr 91, TRADOC.

[4]Interv, Kindsvatter with Franks, 11 Apr 91.

[5]Interv, Richard M. Swain with Stanley E. Cherrie, 29 Aug 91, Swain Collection, Fort Leavenworth, Kans.

[6]Intervs, Kindsvatter with Franks, 11 Apr 91, Swain with Cherrie, 29 Aug 91; Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), pp. 395–98.

[7]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p. 537. General Schwarzkopf's subsequent comments about Franks having the "usual last minute jitters that precede a crucial battle" are misleading and indicate that Schwarzkopf was not in touch with the corps' operation on the ground. The orders for the execution of FRAGO 140–91 were issued before Franks ever talked to the commander in chief. The division commanders were already executing these orders.

[8]Ltr, Tom Camp, U.K. Staff College, Camberley, to author, 30 Aug 95.

[9]Interv, Swain with Cherrie, 29 Aug 91; Hans Halberstadt, *Desert Rats: The British 4 and 7 Armoured Brigades, WWII to Today* (Osceola, Wisc.: Motorbooks International, 1993), p. 125.

[10]Interv, Kindsvatter with Franks, 11 Apr 91; Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* (February 1992):33.

[11]Intervs, Kindsvatter with Franks, 11 Apr 91, Swain with Cherrie, 29 Aug 91.

[12]Ibid.; Kindsvatter, "Ground Offensive," p. 33.

[13]Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps G–3, Staff Jnl, 26 Feb 91, entry 16; 1st Cav Div, Chron of the 1st Cav Div, pp. A3–A4, B15–B16; VII Corps, FRAGO 144–91, Corps Continues To Attack to North and East, 26 Feb 91.

[14]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. 119, tab G, in VII Corps AAR, Fort Leavenworth; Michael D. Krause, "The Battle of 73 Easting, 26 February 1991: A Historical Introduction to a Simulation," Unpubl Ms, 1991, CMH; Richard M. Bohannon, "Dragon's Roar: 1–37 Armor in the Battle of 73 Easting," *Armor* (May–June 1992):12.

[15]Helen Chapin Metz, ed., *Iraq: A Country Study*, 4th ed., DA Area Handbook Series (Washington, D.C.: Government Printing Office, 1990), pp. 140–44; W. B. Fisher, "Iraq: Physical and Social Geography," in *The Middle East and North Africa 1991* (London: Europa Publications, 1992), pp. 495–502.

[16]Krause, "Battle of 73 Easting," p. 24; Mark E. Vincent and Samuel C. Raines, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, in VII Corps AAR.

[17]Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey: Summary Report* (Washington, D.C.: Government Printing Office, 1993), pp. 24–25.

[18]Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 250; Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 533–34.

[19]DOD, *Conduct of the Persian Gulf War*, pp. 276–77.

[20]VII Corps G–2, "100-Hour Ground War," pp. 106–08, 115–17.

[21]Ibid., p. L–1–7.

[22]Jeffrey Record, *Hollow Victory: A Contrary View of the Gulf War* (Washington, D.C.: Brassey's, 1993), and Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), are two examples in which the title alone implies the inevitability of the outcome.

[23]Juan O. Tamayo, "Along with Debris, War Leaves Questions About Overestimation of Iraqi Might," *Baltimore Sun*, 12 Mar 91, pp. 4, 8.

[24]The art of battlefield reconstruction is difficult and imprecise. The assessment of the compo-

sition and disposition of the *Tawakalna Mechanized Division*—and all units for that matter—is based on numerous sources of varying quality. These sources include journals, intelligence reports, situation reports, and articles written after the war by the participants. All of this information needs evaluation, as all tanks are reported as "T–72s" and groups of five to eight vehicles are reported as "battalions." This process is further complicated because we do not yet have the Iraqi logs. It is highly possible that by the evening of 26 February even the Iraqi commander was unsure of the location of his subordinate units.

[25] VII Corps G–2, "100-Hour Ground War," tab L.

[26] Ibid., pp. 121–22.

[27] Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict," *International Security* 21, no. 2 (Fall 1996):157–61.

[28] VII Corps G–2, "100-Hour Ground War," pp. 121–22; Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), p. 439.

[29] DA, FM 100–15, *Corps Operations* (Washington, D.C.: Department of the Army, 1989), ch. 3.

[30] DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), pp. 38–39.

[31] VII Corps G–2, "100-Hour Ground War," pp. 78, L–1–7.

[32] Interv, Kindsvatter with Franks, 11, 12 Apr 91; Kevin Smith and Burton Wright III, *United States Army Aviation During Operations* DESERT SHIELD AND DESERT STORM: *Selected Readings* (Fort Rucker, Ala.: U.S. Army Aviation Center, 1993), p. 97.

[33] An often-heard joke during tactical exercises in field units and service schools.

[34] Interv, Kindsvatter with Franks, 12 Apr 91.

[35] Smith and Wright, *Army Aviation*, pp. 96–98; Interv, Kindsvatter with Franks, 12 Apr 91; Scales, *Certain Victory*, p. 289.

[36] Terry L. Johnson, "The 11th Aviation Brigade Story," [1991], pp. 29–30, in VII Corps AAR.

[37] Ibid.

[38] Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), pp. 382–84; Interv, Kindsvatter with Franks, 12 Apr 91.

[39] Smith and Wright, *Army Aviation*, pp. 96–100; Scales, *Certain Victory*, pp. 289–91.

[40] Clancy and Franks, *Into the Storm*, p. 384.

[41] VII Corps G–2, "100-Hour Ground War," p. 133; Vincent and Raines, "TF DEMO."

[42] Johnson, "11th Aviation Brigade Story," p. 30.

[43] VII Corps, FRAGO 140–91, 25 Feb 91.

[44] U.K. 1st Armd Div, FRAGO 12/91, 26 Feb 91; Ministry of Defence, *Operation* DESERT SABRE: *The Liberation of Kuwait, 1990–91, The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 2–11.

[45] VII Corps G–2, "100-Hour Ground War," tab L.

[46] Steven Rothwell, "Medium Reconnaissance in the Gulf: 16/5th Lancers and the Depth Battle for Objective LEAD–Part 1," *Army Quarterly & Defense Journal* (July–September 1994):165. A British regiment is the size of a U.S. cavalry squadron.

[47] VII Corps G–2, "100-Hour Ground War," p. 116.

[48] Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), pp. 104–07; Halberstadt, *Desert Rats*, p. 123.

[49] Patrick Cordingley, *In the Eye of the Storm: Commanding the Desert Rats in the Gulf War* (London: Hodder and Stoughton, 1996), pp. 269–75; Nicholas Benson, *Rats' Tales: The Staffordshire Regiment at War in the Gulf* (London: Brassey's, 1993), pp. 110–11.

[50] Cordingley, *Eye of the Storm*, pp. 271–72.

[51] Ibid., pp. 275–76.

[52] Benson, *Rats' Tales*, p. 116.

[53] Ministry of Defence, *Operation* GRANBY: *An Account of the Gulf Crisis, 1990–91, and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 5–17; Pearce, *The Shield and the Sabre*, p. 106; Benson, *Rats' Tales*, pp. 119–25.

[54] VII Corps, Sitrep 40, 26 Jan 91; Benson, *Rats' Tales*, pp. 120–25.

[55] Pearce, *The Shield and the Sabre*, pp. 113–14.

[56] Ibid.; Ministry of Defence, *Operation Granby*, pp. 5–19.
[57] Interv, Kindsvatter with Franks, 11 Apr 91.

17

Destruction of the Tawakalna Mechanized Division[1]

Kind-hearted people might of course think there was some ingenious way to disarm or defeat an enemy without too much bloodshed, and might imagine this is the true goal of the art of war. Pleasant as it sounds, it is a fallacy that must be exposed: war is such a dangerous business that the mistakes which come from kindness are the very worst.

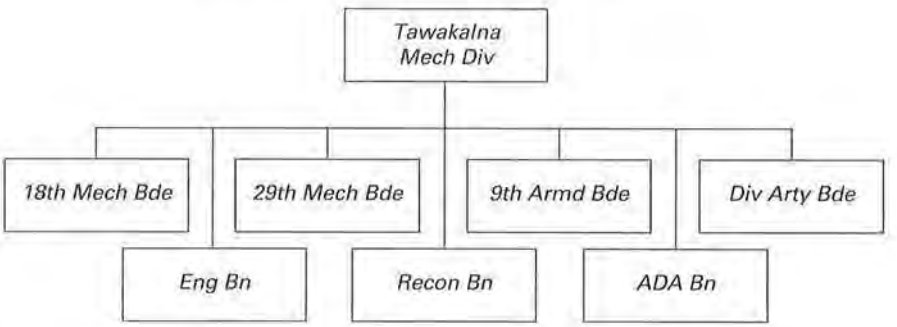
—Clausewitz[2]

The *Tawakalna Mechanized Division* blocked the VII Corps' advance on the evening of 26 February. In spite of weeks of aerial bombardment, this most powerful division of the Iraqi Army prepared to defend the western approach into Kuwait. General Schwarzkopf's perception that the Iraqi Army was in full retreat had little validity in the deserts of southeast Iraq that evening. Because General Franks had insisted on three heavy divisions for his main battle, VII Corps approached the *Tawakalna* with an almost four-to-one superiority in combat vehicles.

As the intelligence community predicted, the Iraqi mechanized unit deployed its security forces, the equivalent of a reinforced battalion, eight kilometers west of its main defensive area. This belt was approximately forty-five to sixty kilometers wide and ten kilometers deep. The division's rear area was only two to three kilometers deep and contained the division's service support units.[3] The *37th Armored Brigade* of the *12th Armored Division*, with three armor battalions and one mechanized battalion, defended the southern flank, along the IPSA Pipeline Road. This brigade was probably under the operational control of the *Tawakalna*'s commander. The division was in a good location and deployed to block the most important route in the sector, the Al Busayyah Road. It could also protect the logistics dump at the intersection of that road and the IPSA Pipeline Road and cover any units withdrawing up that route to the north.

Most VII Corps contact reports indicate that tanks were in every battalion of the *Tawakalna Division*. Like its American and British opponents, this division regularly organized its battalions into mission-oriented teams. Each mechanized battalion operated in a combat grouping, usually consisting of three mechanized companies, a tank company, an artillery battery, an engineer company, and an antiaircraft battery. In the *9th Armored Brigade*, the proportion of tank and mechanized infantry in such teams was reversed.[4]

CHART 10—*TAWAKALNA MECHANIZED DIVISION*



Authorized Equipment

220	T–72 Tanks
284	Infantry Fighting Vehicles
126	Artillery Tubes
18	Multiple Rocket Launchers
14,000	Soldiers

Source: VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], an. L, in VII Corps AAR; 177th Armd Bde, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), pp. 25–31.

The *Tawakalna* attempted to organize these battalions into triangular defensive arrays, with two company teams forward and one in depth. The Iraqis adapted these formations from the latest Soviet tactical doctrine and modified them based on their experience in the war with Iran. The base of this equilateral triangle, approximately three kilometers long, was oriented toward the coalition. A reinforced company team worked to establish a strong point at each corner. Infantry and supporting weapon systems fought from numerous trenches and defensive bunkers. Protected by a defensive berm if possible, each squad's BMP remained nearby. Often, a tank platoon (three tanks) or a tank company (ten tanks) occupied the center of the company position. Other tanks and fighting vehicles assumed fighting positions along the outer berm.[5]

In practice, however, the sophisticated planned defensive fortifications were seldom completed. Most fighting vehicles (tanks and armored personnel carriers) fought from shallow, scraped fighting positions with the earth pushed up on three sides. These mounds were more of a liability to the Iraqis, as they were usually observable at a great distance and so thin that American tank rounds passed right through the berm to destroy the Iraqi vehicles. In addition, they provided no overhead cover and were visible from the air. With little all-around security, these positions were often little more than lines arranged in triangular formation.[6] Since the *Tawakalna Division* was primarily an offensive force, the Iraqis apparently gave little thought to training and supplying it for defensive operations.

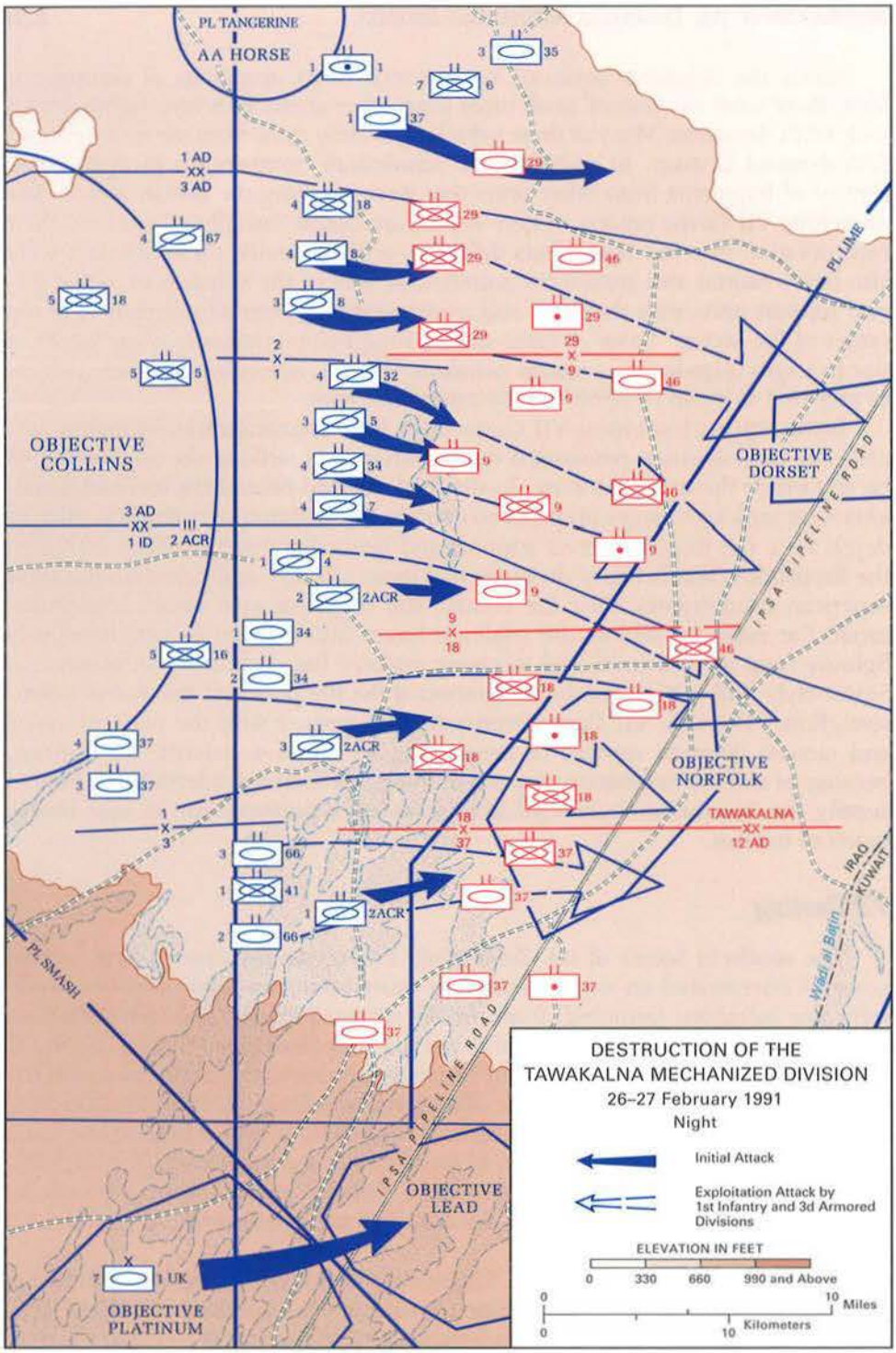
Inside the defensive positions were several other groupings of equipment. First, there were varieties of small units from other commands now fighting with each *RGFC* battalion. Many of these vehicles probably came from the now-reduced *12th Armored Division*. In addition, the *Tawakalna*'s commanders probably took control of fragments from other units that were escaping the British attack. The numerous VII Corps reports of non–*Republican Guard* "battalions" attest to their incorporation into the *Tawakalna*'s defensive scheme. Inside these defenses were also heavy mortar and antiaircraft batteries, as well as the battalion's combat service support units with their fuel and ammunition supplies all normally near the center of the sector.[7] Some of these small strong points, therefore, were closer in size to a light brigade than a simple battalion. Seldom, however, were these defenses prepared in detail or reinforced by mines and wire.

Battle reports from most VII Corps units note counterattacks by enemy formations. Iraqi doctrine recognized the importance of striking the attacker while he was inside the defensive zone. To that end, located behind the forward battalions were tank companies prepared to contain the coalition's penetration. Also in depth were the brigade's direct support and general support artillery. Although the *Republican Guard*'s heavy divisions had more artillery available than did their American counterparts, their fire control and targeting were rather unsophisticated. For example, seldom did coalition forces find themselves simultaneously fighting Iraqi ground units and receiving artillery fire, indicating an absence of Soviet-style "kill zones" and the integration of the fire plan into the overall defensive effort.[8] The U.S. VII Corps approached the enemy with the material assets and tactical doctrine capable of conducting an effective defense. In contrast, because of some combination of poor training, ineffective leadership, or limited supply, the *Tawakalna Mechanized Division* was not prepared for its next twelve hours of combat.

73 Easting

The southern sector of the *Tawakalna*'s line contained much of its combat power. Concentrated on an approximately thirty-kilometer front, north to south, were two battalions (armored) from the *9th Armored Brigade* and four battalions (three mechanized and one armored) from the *18th Mechanized Brigade*. As noted earlier, the *37th Armored Brigade*'s four battalions anchored the southern part of the sector. In addition, remnants of the *50th Armored Brigade, 52d Armored Division,* and other units moving from the south to escape the British attack on the flank thickened the line. Overall, the ratio of ten to twelve maneuver battalions defending against twelve 1st Infantry Division/2d Cavalry ground combat battalions should have been favorable enough, by conventional calculations, to stop the VII Corps attack.

American "combat multipliers," however, modified that ratio, significantly changing the odds. As elsewhere, superior equipment, especially the M1A1 tank and the Apache attack helicopter, for fighting at night took away much of the Iraqi defensive advantage. American artillery was far more responsive and effective than


PL TANGERINE
AA HORSE
1 AD
XX
3 AD
PL LIME
OBJECTIVE
COLLINS
OBJECTIVE
DORSET
IPSA PIPELINE ROAD
3 AD
XX
1 ID
III
2 ACR
2ACR
OBJECTIVE
NORFOLK
TAWAKALNA
XX
12 AD
IRAQ
KUWAIT
Wadi al Batin
PL SMASH
IPSA PIPELINE ROAD
OBJECTIVE
LEAD
1 UK
OBJECTIVE
PLATINUM
DESTRUCTION OF THE
TAWAKALNA MECHANIZED DIVISION
26–27 February 1991
Night
Initial Attack
Exploitation Attack by
1st Infantry and 3d Armored
Divisions
ELEVATION IN FEET
0
330
660
990 and Above
0
10
Miles
0
10
Kilometers

MAP 21

the Iraqi batteries. Moreover, weather permitting, coalition control of the air allowed almost unlimited Army and Air Force attacks on the Iraqi division's rear area. Finally, the American military trained its leaders and soldiers better. The battle in the south of the *Tawakalna Division's* sector demonstrated the cumulative effect of the Army's intensive training program.

Probably no aspect of the VII Corps story has received more attention then the 2d Cavalry's "Battle of 73 Easting," one of the best-documented accounts of an engagement with the *Republican Guard*. Several Army historians visited that site soon after the war and, along with participants of the battle, reviewed and analyzed it from almost every angle. The result became the base scenario for a computer simulation used in the Army's school system. Accounts of this battle have appeared in almost every publication that describes the action of the U.S. Army in the Gulf War.[9]

By 1500 hours, 26 February, the 2d Cavalry was moving across Phase Line TANGERINE, the "60 Easting." Since 0600 the Dragoons had fought a continuous battle with the withdrawing *50th Armored Brigade, 12th Armored Division*. The Iraqi soldiers never had a chance, even with the inclement weather. M1A1 tank and Bradley gunners could find the T–55s, MT-LBs, and other vehicles on the wide-open terrain and destroy them before coming into the Iraqis' view. By noon the 1st Squadron alone had destroyed almost two dozen T–55 tanks and another dozen infantry carriers. Mixed in among the older kinds of equipment were several T–72 tanks and BMP fighting vehicles, probably representing the *Republican Guard's* long-range reconnaissance efforts.[10]

Col. Leonard D. Holder maneuvered the 2d Cavalry in a standard movement-to-contact formation: 2d Squadron in the north, 3d Squadron in the center, and 1st Squadron in the south. Normally, each cavalry squadron (equivalent in size to an armored battalion task force) moved with its three cavalry troops (equivalent to armored company teams) on line, within their own sectors, with the tank company trailing the center of each squadron. The latter represented the squadron commander's reserve force to either exploit success or support a cavalry troop in trouble. Just behind the tank company was the squadron's own howitzer battery. This arrangement, normal in all armored cavalry regiments, was one of the few instances in which a battery was dedicated to a maneuver battalion. When the weather allowed, the 4th Squadron's Scout and Cobra helicopters flew forward of the ground troops to find the enemy. Holder's own resources for affecting the battle included the 210th Field Artillery Brigade and the Apaches of the 1st Armored Division's 2d Battalion, 1st Aviation.

At 1520 Holder ordered his squadrons to continue to attack to the east to "fix" the *Tawakalna Mechanized Division*.[11] His orders from Franks were to "gain and maintain contact, determine [the] size, disposition [and] strength [of the *Tawakalna*]," but, "Do not become decisively engaged."[12]

In the northern part of the sector, Lt. Col. Mike Kobbe's 2d Squadron moved adjacent to the old Al Busayyah trail that intersected the IPSA Pipeline. Because of its narrow sector, it moved with Troops E and G forward and Troop F and Company H (the tanks) in the rear. The road was a natural route for isolated units

of the Iraqi *VII Corps* to try to escape to the north and the primary route the Iraqis were trying to block. The squadron moved directly toward the southern portion of the *Tawakalna's* defensive line. At 1530 it began encountering more enemy vehicles, and Troop G destroyed three tanks near the 68 Easting.[13] Ten minutes later, as the squadron came closer to the Iraqi positions, it began receiving airburst artillery fire. Continuing to move in a howling sandstorm, "Eagle" Troop ran right into an Iraqi battalion strong point. It was built around a small village at an intersection of several trails on the 68 Easting, just north of the boundary with the 3d Squadron.[14]

The Eagle Troop commander, Capt. Herbert R. McMaster, ordered his unit forward. His troop attacked the enemy with two tank platoons abreast and McMaster leading. The scout platoons following the tanks provided "scratching fires" to protect the tanks from dismounted infantry. Eagle Troop swept down on the enemy's defensive position with every weapon firing. Iraqi vehicles exploded as 120-mm. rounds found their marks. Enemy infantry attempted to fight back with RPGs and AK–47s but were cut down by the fires of the following scouts. McMaster finally stopped his charge at the 73 Easting when he arrived at the rear of the Iraqi position. Just as he was moving onto the only high ground in the vicinity, the Iraqis launched a counterattack that Troop E stopped in its tracks. In twenty-three minutes, Eagle Troop had destroyed over half of the Iraqi battalion.[15]

Lt. Col. Scott Marcy's 3d Squadron was moving east, just to the south of Eagle Troop. His "Iron" Troop, commanded by Capt. Dan Miller, made contact with the southern portion of the same strong point about 1530. Like McMaster, Miller pressed the attack. His unit hit the same Iraqi battalion about twenty minutes after Eagle Troop and then destroyed whatever resistance remained. According to Captain Miller:

> Enemy tank turrets were hurled skyward as 120-mm. SABOT rounds ripped through T–55s and T–72s. The fireballs that followed hurled debris one hundred feet into the air. Secondary explosions destroyed the vehicles beyond recognition. Resistance was sporadic.... The unforgettable odor of burning diesel, melting metal and plastics, expended munitions and anything else that happened to be burning in bunkers, hung heavy in the air.[16]

At 1645 the Iraqis launched a counterattack against Iron Troop with a T–72 tank company, opening fire on the Bradley scout vehicles at 2,500 meters. The range was too great, and their rounds did little other than strike the earth just short of their intended targets. They were unable to shoot off many more rounds as the troop's M1A1 tanks bounded forward and at about 2,100 meters destroyed most of the attackers.[17]

How could these two armored cavalry troops, with only eighteen tanks and twenty-four cavalry fighting vehicles, destroy over thirty dug-in T–72s and twelve BMPs? The Iraqis should have stopped this assault and inflicted serious casualties on the Americans. The answers were simple. First, the Americans totally surprised the Iraqis, many of whom were out of their vehicles because of earlier air bombardments. Eagle Troop, supported by Iron Troop from the south, attacked so violently that the Iraqis never had time to put their vehicles back into operation.[18]



Destroyed T–72 of the Tawakalna Division

Second, the defending battalion had failed to deploy any effective security. While some units identified the 2d Squadron's approach, as evidenced by the firing of airburst artillery, the word never worked its way down to the individual crews and platoons. In addition, the battalion had not prepared its positions well; the obstacles were obviously incomplete, and it had placed only a few of its mines.

Full credit must be given to the Dragoons' excellent discipline, training, and crew drill. Tank and TOW gunners were ruthlessly efficient in acquiring and destroying enemy targets. There was no hesitation in choice and timing of weapons. The gunners moved through the position as though they had rehearsed its sequence a thousand times before. The squadron's howitzer battery effectively contributed to the victory by silencing any return fire from the Iraqi batteries and destroying targets beyond Troop E's main-gun range.[19] That demonstrated crew- and soldier-level training in marked contrast to the Iraqi crews' inept efforts to acquire and destroy the multiple American targets closing on their position. The engagement was a total mismatch of training and preparation rather than of equipment and tactics.

Nevertheless, Captains Miller and McMaster were extremely lucky. Had this Iraqi battalion done anything right, the results could have been vastly different. Some well-placed obstacles, accurate artillery fire, and a dozen good 125-mm. tank gunshots at relatively close range would have made it a much different battle. Nevertheless, none of that happened, and the Eagle and Iron Troops emerged almost unscathed from one of the most lopsided engagements of the war.

While not as dramatically as Eagle and Iron Troops' fight, Lt. Col. Tony Isaacs' 1st Squadron spent the day fighting the remainder of the *50th Armored Brigade* in the southern portion of the regimental sector. By the time Isaac's squadron arrived at the 70 Easting, it had destroyed another and probably the *50th Brigade*'s last organized battalion. By 1700 Isaacs' troopers were on line with the rest of the regiment and opposite the Iraqi *37th Armored Brigade*.[20]

General Franks had ordered Colonel Holder not to become decisively engaged. Holder's troops had successfully eliminated one Iraqi battalion, but there were still at least six or seven awaiting the regiment, which did not have the combat power to break through those defenses. Holder, therefore, ordered his squadrons to hold at their current positions and prepare to pass the 1st Infantry Division forward.

Disengaging from the battle proved somewhat difficult as the Iraqi soldiers continued to fight. In the north, Capt. Joseph Sartiano's "Ghost" Troop, of the 2d Squadron, had increasing contact, while Eagle and Iron Troops were in the battle to its south. Sartiano's troopers had moved into positions along a small wadi near the 73 Easting at 1615, opposite another company strong point of the *18th Mechanized Brigade*. Almost immediately the two sides began to exchange both direct and indirect fire. Iraqi airburst artillery exploded overhead, keeping the M1 and Bradley crews under cover. Around 1745 one Iraqi round hit and destroyed a Ghost Troop cavalry fighting vehicle, killing the gunner.[21]

Around 1800 the character of the battle changed, as dismounted infantry, T–55 tanks, and MT-LBs began a series of furious attacks on Troop G's positions. One can only speculate why the Iraqis attacked as they did. Some, such as Maj. Steve Campbell, the regimental intelligence officer, believed the Iraqis were trying to retreat north up the wadi in front of Ghost Troop.[22] Other attacks, especially those carried out by T–72 tanks, were possibly attempts to gain the high ground in order to flank Eagle Troop to the south. For whatever purpose, the attacks were brave but inept. Soon the troop was in a close-in firefight. Iraqi tanks and MT-LB personnel carriers raced toward the tank and Bradley platoons, firing their main guns and machine guns. Dismounted infantry, believing that the darkness and poor visibility would protect them, charged toward the American troopers, firing their AK assault rifles and RPG antitank rockets.

Ghost Troop's defensive firepower stopped the Iraqi attacks cold. TOW antitank missiles destroyed truck-mounted enemy soldiers before they could dismount, and 120-mm. tank rounds demolished T–55 and T–72 tanks long before they could close to within their own firing range. The troop's mortar section began firing airbursts at the dismounted Iraqi infantry, causing them to either retreat or entrench. During several hours of combat, Sartiano's troopers knocked out at least two companies of Iraqi armor. Hundreds of Iraqi infantrymen and their lightly armored transporters lay scattered on the wadi floor.[23] Low on TOW ammunition, Colonel Kobbe pulled Troop G off line to rearm and refuel. Anticipating further counterattacks, he moved Company H into Ghost Troop's sector.[24]

Beyond the sight of the ground troops, the *Tawakalna Division* had begun taking a beating in depth. Starting at 1630, the 2d Battalion, 1st Aviation's attack heli-

copters struck at artillery and support areas to the rear of the Iraqi front lines. They destroyed at least two artillery batteries and dozens of vehicles and support installations along the IPSA Pipeline Road.[25] Artillery from the squadron batteries and the 210th Field Artillery Brigade pounded the second line of Iraqi troops. Those missions destroyed troops and supply installations and interfered with the Iraqi command and control.[26] From the time the 2d Cavalry made contact until the following morning, when the 1st Infantry Division cleared Objective NORFOLK, the soldiers of the *18th* and *37th Brigades* found no respite from constant ground, artillery, and air attacks.

The 2d Cavalry had done its job and found the left flank of the *Tawakalna Mechanized Division*. In the process of gaining contact with the *Tawakalna*, it had destroyed the *50th Armored Brigade*, a mechanized battalion from the *18th Mechanized Brigade*, and hundreds of other vehicles and infantry squads from other mixed Iraqi units. The 2d Cavalry had led the VII Corps since crossing the border over four days before. Now the tired troopers prepared to pass the attack to the Big Red One.

Objective NORFOLK

Just as the soldiers of Troop G entered the fight of their lives, the 1st Infantry Division began its move toward the 73 Easting.[27] Not since the Second World War had a U.S. Army armored or mechanized division conducted a passage of lines in combat. In the space of only two days, the Big Red One had the opportunity to do it twice. The first time it had been the stationary unit, with the U.K. 1st Armoured Division passing to the east. Now the 1st Infantry Division was the passing unit in an operation that required the utmost in unit and personal discipline. Twelve battalions of mechanized infantry and armor (the 1st Infantry Division) approached three squadrons (the 2d Cavalry) that were engaged with the Iraqis. This time there were no rehearsals. At precisely the right points in the desert, the passing units moved through the lines of the exhausted cavalry troopers, turning their gun tubes toward the enemy and assuming control of the battle. Simultaneously, all artillery systems came under the control of the 1st Infantry Division. As the division's brigades, "Devil" (1st), "Iron Deuce" (3d), and "Dagger" (2d) passed into enemy contact, the 2d Cavalry ceased fire. From that point on, the regiment could only engage targets it positively identified. Any mistakes in the approach, passage, or battle handoff would spell disaster.

To preclude engaging each other by mistake and to minimize the natural friction of an operation conducted at night by tired soldiers, the leadership of both units tried to conduct the operation by the book. It was, however, a hasty passage, with little time for all of the procedures spelled out in the Army's field manuals. The corps staff directed the regiment to select coordination points on the 62 Easting.[28] At these points, one for each of the lead passing brigades, leaders from each unit worked through the innumerable details of the operation.[29]

At 1400 General Rhame had ordered Lt. Col. Robert Wilson's 1st Squadron, 4th Cavalry, to contact the 2d Cavalry and coordinate the division's forward pas-

sage. The S–3 (operations officer), Maj. John Burdan, moved forward and met the regimental commander at 2004 and prepared for the division's passage.[30] Friction, that cumulative effect of tired soldiers and leaders, darkness, great distance, and little time, began to interfere with the operation. The original plan had envisioned Wilson's squadron making the appropriate coordination and then guiding the 1st and 3d Brigades forward. However, the line of contact between the regiment and the Iraqis was fluid. Although the 2d Cavalry was on the 70 Easting when the 1st Infantry Division started moving toward it, the regiment ended up closer to the 73 Easting and in contact with at least two more *Tawakalna* battalions as the actual passage approached. Furthermore, Rhame had second thoughts about trying to fit his relatively light cavalry squadron between the 2d Cavalry and the defending Iraqi armor. Essentially, it would have been a double forward passage in the face of the enemy. Therefore, in keeping with the American Army's old adage of KISS ("Keep It Simple, Stupid"), Rhame directed the two brigades to pass directly through the regiment. While the change made tactical sense, especially in this dangerous environment, it drove the 1st Infantry Division's brigade and battalion commanders frantic. Col. Lon E. Maggart, the 1st Brigade commander, remarked:

> This FRAGO necessitated a complete change in direction for the brigade. It is difficult to describe how complicated it was to redefine the direction of attack and to change formations while bouncing across the desert [in a tank or Bradley] in the dead of night at high speed using a 1:250,000 scale map. Even with the Magellan [a brand of global positioning receiver], this was an incredibly difficult undertaking. Notwithstanding the problems of changing the plan enroute [sic], the brigade modified the zone of action and continued toward the passage point.[31]

In the 1st Brigade sector, facing the Iraqi *18th Mechanized Brigade*, the two lead battalions headed for their passage lanes. It soon became obvious that the original passage arrangements needed to be modified as a result of the rapidly changing battle. Maggart ordered both lead battalions, the 1st and 2d of the 34th Armor, to pass through one passage lane instead of two. That change simplified forward movement but limited the direct coordination and exchange of information between divisional battalion and regimental squadron commanders.[32] Col. David Weisman's 3d Brigade, moving in the south, coordinated a separate passage lane for each of his three battalions. Each commander had the opportunity to receive an appraisal of the enemy situation in his zone of attack.[33] The different procedures reflected the more dangerous enemy situation in the north of the sector.

As the 1st Infantry Division soldiers approached their passage lanes, they passed the wreckage of an Iraqi brigade whose burning hulks marked the way to the front lines. They drove by batteries of MLRS's and M109 systems firing at targets a dozen miles to the east. As the division's tank and Bradley crews neared the passage lane, main-gun and machine-gun tracers shot through the darkness just above the ground. The horizon, in Iraqi territory, was filled with blazing fires and massive explosions.[34] Approaching the rear of the 2d Cavalry's defenses, they could see the many multicolored chemical lights that each Dragoon vehicle had affixed to the friendly side of its turret.[35]

Shortly before 2230, 1st Infantry Division brigade and battalion S–3s and executive officers, moving slightly ahead of their main bodies, jumped down

from their vehicles and conducted last-minute coordination with their regimental counterparts. It was suddenly quiet across the thirty-kilometer front, as the Dragoons held their fire. Scouts on the forward line fired green star clusters to mark the exact passage lanes. Then, past the 2d Cavalry soldiers and burning T–72 tanks, the 1st Infantry Division assumed responsibility for the battle. The regimental squadrons remained in position to assist the other 1st Infantry Division units in their passage.[36]

Some of the fireworks the approaching 1st Infantry Division soldiers saw that night were caused by their own 1st Battalion, 1st Aviation's attack helicopters. Lt. Col. Ronald Richelsdorfer's Apaches attacked the *9th Armored* and *18th Mechanized Brigades'* second tactical echelon at about 2100 hours.[37] At least two battalions of the *Tawakalna Mechanized Division* and one from the *12th Armored Division* were deployed along that line. In addition, dozens of artillery batteries, command and control facilities, and much of the Iraqi triborder logistics complex were located there. The helicopter attack continued the pressure on the Iraqi commander and his artillery, preventing him from interfering with the 1st Infantry Division's passage of lines.

By 2230 five heavy battalions and the divisional cavalry squadron had passed through the 2d Cavalry and advanced on Objective NORFOLK. As the 1st Infantry Division took control of the sector, the 210th Field Artillery Brigade joined the attack with reinforcing fires.[38] In the 1st Brigade sector, Lt. Col. Patrick Ritter's 1st Battalion, 34th Armor, a pure M1 battalion, led the way through the single passage lane. Soon after the 1st Battalion completed its passage, it ran into a battalion of the *18th Mechanized Brigade*. Ritter's Bradley-mounted scouts were forward, screening the advancing battalion.[39] Iraqi gunners acquired two of the vehicles, probably silhouetted against the fires of burning Iraqi vehicles, and destroyed them. Ritter immediately pulled his scouts back and moved his tank companies forward. Unlike the enemy the division encountered in the breach, these Iraqis intended to fight.[40]

Lt. Col. Gregory Fontenot's task force based on the 2d Battalion, 34th Armor, followed Ritter's tanks through the passage lane. As Fontenot's task force moved through the lane, the two northern company teams strayed off their axis and began moving north rather than east.[41] Notwithstanding all the postwar celebration of technology, commanders on M1A1 tanks still had no sure way of knowing their direction while on the move. There was no vehicle-mounted compass or navigation system. The M1 did not even have the old azimuth indicator that tankers had used for years as a navigation aid. Unable to locate his two teams and sensing they were heading in the wrong way toward possible annihilation by the friendly 2d Cavalry in the rear or the 3d Armored Division in the north, Fontenot called the leading Team C commander. After a short radio discussion with the battalion commander, Company C's Capt. Robert Burns jumped off his tank to determine his actual direction of movement. Not knowing how close the enemy was or the condition of the ground, Burns moved away from his M1A1's protective mass of metal and pulled out his trusty Lensatic compass. Quickly realizing his directional error, he figured out his correction and returned to his tank before taking fire, friendly or enemy.[42]



Damaged Iraqi Radar Facility

Colonel Maggart, following in Fontenot's sector, reviewed the reports from his two battalion commanders. Although dismayed that his attack had come to a quick halt, he had worked with both Ritter and Fontenot for a long time, and he knew there was little he could do but calmly urge them to sort out their problems. Ritter and Fontenot both promised to resume their attacks soon, while Maggart notified the 2d Cavalry that one of his task forces was "pirouetting forward of their positions."[43] Within forty minutes, an extremely long wait for Maggart, both battalions were back on line and ready to resume their advance. The third battalion of the brigade, Col. Sidney "Skip" Baker's task force based on the 5th Battalion, 16th Infantry, was moving up quickly behind the northern task force.[44]

The passage of the 3d Brigade began much more smoothly. The brigade moved though three separate, well-marked passage lanes. The leading units made almost immediate contact with the Iraqi defenders. The primary enemy force in this sector consisted of the remaining two battalions of the *37th Armored Brigade*; but since the zone contained the southern flank of the *Tawakalna Mechanized Division*, they could expect to encounter T–72s and BMPs. Finally, remnants of the *50th Armored Brigade* and units from the *VII Corps* that the British were overrunning in the south were also present. Most of the Iraqi defenders were oriented toward the southwest. Hundreds of destroyed trucks and artillery pieces littered the area.[45]

Almost immediately after their passage, the northern battalion, Lt. Col. Taylor Jones' 3d Battalion, 66th Armor, ran into a T–55 equipped Iraqi tank battalion. Colonel Weisman, the brigade commander, believed the constant pounding by Army aviation and the Air Force had blinded the Iraqis to the reality of a ground attack. Although the assault of the 3d Brigade caught many Iraqi tank crews on the

ground in their shelters, their scattered deployments sometimes made a more organized battle difficult for the Americans. Many Iraqi tanks, for example, did not show on the M1's thermal sites because they had not been manned or their engines started.[46]

This part of the objective had been an Iraqi supply depot, and underground storage and living bunker complexes were everywhere. Constructed by non-*RGFC* soldiers, these were organized as mutually supporting defensive positions with tank ditches and a limited amount of wire and mines. The Iraqi fighting positions, however, were still poorly prepared and required a soldier to expose his head and shoulders to fire, making him a sure target for tank and Bradley machine gunners.[47]

After the passage, the 3d Brigade fought a confusing battle for the next several hours. The IPSA Pipeline ran through the sector and slowed the brigade's movement.[48] All night bypassed Iraqi infantry squads and tanks tried to engage the American vehicles crossing their sector. In one instance, 2d Battalion, 66th Armor's command sergeant major, Vincent Conway, was trailing the combat units with the battalion's combat trains.[49] His entourage was a little closer to the front line than it should have been, and he witnessed an Iraqi RPG team trying to take a shot at a Bradley on the battalion's left. Conway and two soldiers moved forward. Armed with only one M16 and two .45-caliber pistols, they surprised and killed the RPG team. Next they saw a bypassed T–55 tank slowly turn its turret toward the rear of the American battalion's lead units. Conway and his driver, Spc. James Delargy, ran toward the tank. Meanwhile, the other soldier, Sgt. John Rowler, used his M16 to suppress an Iraqi machine-gun position. Jumping on the tank, Conway dropped two incendiary grenades into its crew compartment. The tank exploded, knocking Conway to the ground. Undeterred, he jumped up and returned to his original location, where a small firefight was still in progress. Conway threw a couple of grenades at the offending Iraqi bunker, and the remaining Iraqis surrendered.[50] Such small fights were typical and took their own toll on both sides, at least slowing the American advance east.

In another instance, an M1 tank platoon passed by several Iraqi positions that appeared to contain nothing more than burning or destroyed vehicles. Hidden in this array were at least five operational T–55 tanks, with their engines off, hidden in revetments and invisible to the Americans' thermal sights. Iraqi infantry units, ranging in size from platoons to companies, also hid among the tanks. A slightly misoriented Bradley platoon, attempting to follow the M1 tanks, moved across the front of these Iraqi positions, illuminated by burning vehicles behind them. The Iraqis took advantage of this target and opened fire from three directions. The initial volley hit a Bradley, killing three American soldiers.[51]

An American tank company trailing the lead units saw the engagement to their front and joined the melee, quickly destroying three T–55s before they could fire another shot. At the same time several antitank missiles hit the Bradley platoon. From the perspective of the tank gunners looking through the thermal sights of the M1 tanks, these Bradleys appeared to be T–55 tanks shooting at them. The young and exhausted American gunners, convinced they were fighting a determined enemy, opened fire and hit three more Bradleys.[52]

When the confusing melee in the 3d Brigade's sector was over, 1st Infantry Division crews had destroyed 60-plus Iraqi tanks and 3 dozen armored personnel carriers. They ultimately captured 937 prisoners after having killed perhaps a third as many Iraqi soldiers. Unfortunately, they had also disabled 5 of their own tanks and 2 Bradleys. Six brigade soldiers perished in the fighting, and 25 others were wounded.[53] Rather than "press the attack" as those at Third Army and Central Command were demanding, Weisman decided to pull back the battalions, consolidate, and use artillery to destroy the remaining Iraqi infantry.[54] Once on line, they would be prepared to continue.

By 0030 on 27 February, one hour after the attack had begun, the two attacking brigades of the 1st Infantry Division were arrayed along the 75 Easting.[55] For the next three hours, they methodically crossed the remaining ten kilometers of Objective NORFOLK. The 1st Brigade commander, following just behind his lead battalions, thought he was "watching a vintage black and white movie. Everything seemed to move in slow motion." Such was the thunder of battle that "there was no noticeable sound that anyone could recall."[56] As they slowly advanced, M1A1 tank commanders acquired the thermal images of the Iraqi tanks or infantry fighting vehicles long before they were in visual range. Platoon leaders, team commanders, and even battalion commanders issued unit-wide fire commands. Before the defending Iraqis had any idea what was happening, their whole line of vehicles exploded.[57]

The concentration of Iraqi combat units and support units made Objective NORFOLK dangerous. Vehicle commanders of the 1st Infantry Division learned to engage all targets, not just those that were "hot" in their sights. Iraqi soldiers ran from bunkers to their vehicles and tried to fire their cannon at the M1s and Bradleys without starting the engines. There were Iraqi bunkers everywhere, and most of them housed RPG-equipped infantry. Finally, and most dangerous from the American perspective, there were large stocks of fuel and ammunition. At first the 1st Division's crews engaged them like any other target. The result, however, was unlike anything they had witnessed in training. The vehicles erupted with incredible violence, showering the passing battalions with dangerous munitions and increasing the obscuration of the battlefield. The coalition forces subsequently bypassed many of these support installations, when they could identify them, and later the following divisional elements or engineer demolition destroyed them.[58]

In the north of the 1st Infantry Division's sector, Colonel Wilson's 1st Squadron, 4th Cavalry, screened the division's flank with the 3d Armored Division. Around 0330 the squadron's command group was moving toward the front line and bumped into an Iraqi position in a gap between the two divisions. With both T–55 and T–72 tanks, as well as many dismounted infantry, it was probably a fragment of the force that had fought 2d Squadron, 2d Cavalry, the night before. In a short firefight, the command group and some of the screening platoons destroyed some of the enemy. Since they were unequipped for heavy combat, Wilson pulled back his screen line temporarily. When all its forces were consolidated in the north of NORFOLK, the squadron returned in force to the enemy positions around 0615.

Within two hours, it had destroyed another eleven tanks and many infantry vehicles, artillery batteries, and logistics bunkers.[59]

By dawn the 1st Infantry Division controlled Objective NORFOLK. The combined attack of the 2d Cavalry and the Big Red One had destroyed almost four Iraqi armored or mechanized brigades. In addition, they had captured the remainder of the massive logistics installation at the confluence of the IPSA Pipeline, Al Busayyah, and Saudi border roads. The *Republican Guard's* left flank was gone, and the way was now open for exploitation.

The Center of the Line

At the same time the 2d Cavalry was making contact with the *Tawakalna*, Maj. Gen. Paul Funk's 3d Armored Division was starting its battle. Funk had two sequential objectives: DORSET, the original location of the *Tawakalna Mechanized Division*, and MINDEN, the defenses of the *10th Armored Division*. In addition to combat troops, Funk expected both objectives to contain large supply dumps and other logistics support facilities. By 1630 hours, 26 February, the 3d Armored Division had found the center of the Iraqi division's defenses. Like the 2d Cavalry on its southern flank, the 3d Armored Division first encountered the enemy's security zone outposts. Brushing those and remnants of the *50th Armored Brigade* aside, the Spearhead hit the center of the Iraqi line around the same time as the 2d Dragoons found their prey.[60] The Iraqi defenses in this sector consisted of three mechanized battalions from the *29th Brigade* and at least two armored and one mechanized battalion from the *9th Armored Brigade*. In addition, they faced one battalion from the *46th Mechanized Brigade, 12th Armored Division*, which was intermingled in the sector. There is also evidence that at least one T–62 tank battalion, most likely from the *10th Armored Division*, was also attached to the *Tawakalna* here.[61] Approximately eight Iraqi heavy battalion groupings faced the attacking 3d Armored Division's ten heavy battalions.

In a space of only 270 square kilometers, Iraqi defenders had thus massed over 122 tanks, 78 BMPs, and hundreds of other combat vehicles and fighting systems. Almost every meter of ground was covered by several weapon systems. Thousands of infantrymen had dismounted their combat carriers and, once on the ground, constructed dug-in company strong points and prepared to use their Sagger antitank missiles and RPGs to engage the attacking Americans. Finally, there were approximately a dozen field artillery batteries arrayed along the rear of the *Tawakalna's* operations zone in this sector. The Iraqi defenses were thick, and General Funk had no soft or exposed Iraqi flanks to exploit.

In an era of highly publicized "high tech" weaponry, the basic conditions of armored combat have changed very little since Rommel's and Montgomery's tankers faced each other in the North African desert during the Second World War. One side waited in the best possible defensive position, hoping to get a good shot at his attacker. Even with the best theater intelligence available, the individual tank or scout crew still had to physically locate the defender. Without a covering force, the role the 2d Cavalry performed for the 1st Infantry Division, the 3d

Armored Division's troops had to find the specific enemy locations themselves. Then brigade and battalion commanders had to use their tactical expertise to determine the best way to defeat the defenders.

General Funk deployed his division to maximize its flexibility in the face of the uncertain situation. The division's formation resembled an inverted "V" moving to the east. Col. Robert Higgins' 2d Brigade led the northern wing of the formation, while Col. William Nash's 1st Brigade led in the south. When the two brigades reached the edge of the *Tawakalna*'s operations zone, there was a six-kilometer gap between them. Col. Rob Goff's 3d Brigade, located at the base of the V formation, prepared to support the attacking brigades, assume the battle, or exploit their success.[62] Behind each of the two lead brigades were the direct support artillery battalions and the batteries from the 42d Field Artillery Brigade. Also in support of each brigade was an attack helicopter company from Funk's 2d Battalion, 227th Aviation. To influence the battle, the division commander kept his MLRS batteries under his control. The 4th Squadron, 7th Cavalry, moved along the southern flank of the division to screen that sector.[63]

In the south, the 1st Brigade moved on a relatively narrow sector, less than five kilometers wide, in a brigade wedge. An infantry task force, organized around the 3d Battalion, 5th Cavalry, moved at the tip of the formation, while Task Force 4th Battalion, 32d Armor, advanced on the northern flank and Task Force 4th Battalion, 34th Armor, attacked in the south. The brigade's fourth task force, 5th Battalion, 5th Cavalry, supported the 3d Armored Division's rear operation.[64] Late in the afternoon division headquarters released the 5th Battalion back to the 1st Brigade, but the unit did not physically rejoin the brigade until early the next morning.[65]

Task Force 3d Battalion, 5th Cavalry's scouts screened the forward movement of the entire 1st Brigade. At 1702 they ran into the reinforced northern Iraqi battalion of the *9th Armored Brigade*. Deployed in their triangular sector, the Iraqis had sufficient time to prepare each company's individual and crew bunkers. That battalion of the *Tawakalna Division* was prepared to fight.[66] The lead American company team established a base of fire as two other company teams moved on line. Not inclined to hastily assault the center of this complex, Lt. Col. John M. Brown's battalion moved into firing positions and began acquiring Iraqi targets. Long-range tank and TOW fires, high-explosive and DPICM rounds, and even Copperhead rounds ravaged the Iraqi complex. For the next twelve hours, however, the battalion advanced no farther.[67]

Around 1920 Lt. Col. John F. Kalb's 4th Battalion, 32d Armor, moving on the left flank of the brigade, identified a T–72 covered with infantry heading toward them from the southeast at a range of around five hundred meters. That vehicle may have been a patrol seeking the flank of the battalion assaulting the strong point farther south or moving to establish a new squad fighting position. In a short, confused fight, American Bradleys destroyed the tank and scattered its passenger infantry. Soon a platoon of T–72s and other dismounted infantry joined the fight, forcing a draw. By 2100, in the end, the American task force made little progress in the zone and shot up one of its own Bradley scout vehicles, killing two soldiers and wounding two more.[68]

Lt. Col. Michael A. Burton's 4th Battalion, 34th Armor, task force attacked on the right, or southern, flank and made no better progress than its two sister battalions. After closing with Iraqi units that had stopped the 4th Squadron, 7th Cavalry, to the south, the 4th Battalion remained generally along the 71 Easting for the remainder of the twenty-sixth. The 1st Brigade, 3d Armored Division, pounded the Iraqi defenders for the next twelve hours. All night U.S. A–10 ground-attack aircraft, Apache helicopters, and indirect artillery fire hit identified and suspected enemy targets. Abrams and Bradleys fired at identified targets; the brigade had some success in clearing the defensive complex, especially in the 3d Battalion, 5th Cavalry's task force sector.[69]

Around 1800 Troop A, 4th Squadron, 7th Cavalry, screening the division's southern flank, ran into the same battalion that was fighting the 2d Squadron, 2d Cavalry, just to the south. Like other Iraqi defenses, the unit was hastily entrenched and waiting for a fight. The Bradleys were out of their element in such an engagement. After more than an hour of fighting, the cavalry began to pull back from the Iraqi position, when a friendly tank, probably from the approaching 4th Battalion, 34th Armor, fired at one of Troop A's Bradleys and killed the gunner. The 2d Cavalry in the south engaged and disabled another vehicle. Before the 2d Cavalry could back off and pass the fight to the 4th Battalion, 34th Armor, Iraqi fire hit and damaged nine of thirteen M3 cavalry fighting vehicles, in addition to the two hit by friendly fire. Troop A lost two soldiers killed and twelve wounded. When given the opportunity, the Iraqi Army could inflict serious losses on the attacking coalition and its well-trained soldiers.[70]

While these Iraqi defenders were indisputably badly bruised by the effects of the bombardment, they had stopped the 1st Brigade's advance. In twelve hours, in spite of overwhelming firepower and night vision capabilities, the American brigade had moved forward only four kilometers and had failed to clear the Iraqi battalion position. The enemy's tactical success here, however, had little effect on the battle's outcome. Before 2100 General Funk had determined that his main effort was in the north, and he was planning a coordinated attack to defeat the enemy in that sector. Nevertheless, the engagements demonstrated that the Iraqis were not running away and had the will and combat power to stop the Americans in a straight fight.

General Funk, of course, did not intend to fight those battalions on equal terms. His main effort was in the northern portion of his sector, where Colonel Higgins' 2d Brigade moved across Phase Line TANGERINE at 1645 hours. Each of Higgins' battalions was organized as a combined arms task force. The brigade moved in a wedge formation with the 4th Battalion, 8th Cavalry, in the lead; 4th Battalion, 18th Infantry, on the left (north); and 3d Battalion, 8th Cavalry, on the right (south). Like the 1st Brigade, the 2d attacked on a relatively narrow front, less than five kilometers wide. Funk had already pushed most of his two artillery brigades forward, with much of it in position to range the northern sector. In addition, behind the 2d Brigade was Lt. Col. Billy Stevens' 2d Battalion, 227th Aviation, with Apache helicopters waiting to break away from the close fight and strike to the *Tawakalna*'s tactical depth. Finally, impatiently waiting less than ten

kilometers behind the 2d Brigade, was Colonel Goff's 3d Brigade, whose four battalions were eager to join the fight at the first opportunity.

Until 1720 the 2d Brigade had moved slowly through the Iraqi *29th Mechanized Brigade's* security zone. As the 2d Brigade advanced, scouts reported and occasionally destroyed BTR–60 type vehicles.[71] Those wheeled and lightly armored vehicles and their Czechoslovakian-made OT–64 counterparts were probably part of the *46th Mechanized Brigade, 12th Armored Division*, still trying to cover the *Tawakalna*.[72] As darkness arrived, the scouts of the 4th Battalion, 8th Cavalry, crossed into the Iraqis' operations zone, but backed off after a quick firefight with an Iraqi infantry squad. Behind the Iraqi infantry was a platoon of four BMPs, which engaged the battalion's scout platoon with direct and indirect fire.[73] Like its counterparts in the adjacent sector, that battalion of Iraqis prepared their defenses according to doctrine. Bunkers, dug-in vehicles, and preplanned fires made a formidable barrier.[74]

Like Colonel Nash, Colonel Higgins pulled back his forward units and began to pound the Iraqi defenses. Direct, indirect, air, and targeted counterbattery fire all ripped into the Iraqi strong point. In order to bring his most effective artillery, his MLRS systems, into range of the enemy targets, the commander of Battery A, 40th Field Artillery Regiment (MLRS), had to turn his launchers around and move them back outside the eight-kilometer-minimum safe distance range. In response to the artillery's move to the rear, "several HMMWVs" in the words of the author of the 2d Brigade's history, "bugged out."[75] Fortunately, local commanders on the scene restored order and discipline. Further confusing the situation, Iraqi prisoners told their 2d Brigade captors that a tank battalion was waiting to ambush them just behind the forward battle line. Higgins held back, contacted General Funk, and continued to pound the Iraqi positions. Quickly, the division and brigade intelligence officers prepared a template of the probable battalion location and assessed the enemy to their front.[76]

Subsequently, General Funk and his staff planned and orchestrated an effective destruction of the center of the *Tawakalna's* defensive line. Without maneuver space, flanking attacks were out of the question; instead Funk had to rely on mass and shock action to break the will of the Iraqis. First he planned to strike the Iraqi positions with all the indirect fire available: almost five battalions of artillery firing at identified and suspected targets in a nine-square-kilometer box.[77] Then Stevens' attack-helicopter battalion would cross the forward line of troops, remaining east of the 73 Easting, and engage rear units from the *29th* and *46th Mechanized Brigades*.[78] In the southern part of the sector, the 1st Brigade would continue its secondary attack against the reinforced battalion's defensive line. Finally, when all the parts were in place, General Funk would again order his 2d Brigade forward.

At 2200 Higgins' three battalions and supporting artillery provided the Iraqis a classic demonstration of a coordinated combined-arms attack. For the next four hours disciplined tank and Bradley crews moved through the *29th Mechanized Brigade's* defenses. Tank companies bounded forward by platoons, using their thermal sights at standoff range to engage Iraqi vehicles on their own terms. Outranged and fighting blind, the *Republican Guard* soldiers returned fire without any

noticeable effect. Attack helicopters and MLRS's destroyed Iraqi artillery almost as soon as it fired. As the brigade line moved forward, Iraqi infantrymen emerged from their hiding places and tried to engage American armor at close range. They had little chance of success—the line of Bradley fighting vehicles moving just behind the tanks killed them with machine-gun fire.[79]

Nevertheless, the Iraqi *29th Brigade* commander continued to resist the American advance, directing several counterattacks by armored and mechanized platoons and companies. Many of those were effectively targeted against the 2d Brigade's flank; but concentrated tank, Bradley, and artillery fire stopped these attacks before they could interfere with the 2d Brigade's progress. To some it was a confusing melee, with rounds flying in all directions. Beyond the range of the advancing tank and Bradley crews, attack helicopters and artillery continued to suppress or destroy any Iraqi units that moved or appeared to threaten the advance. Given the depth of the American attack, the Iraqi brigade had no way of countering the effects and no choice but to stand and fight or surrender. Most enemy soldiers continued to fight.[80]

By 0200 hours, 27 February, the 2d Brigade had fought through the *29th Brigade*'s first defensive echelon to the 73 Easting. It had destroyed over a battalion of T–72/BMP vehicles, as well as large numbers of other vehicles and supplies. Just beyond that line was the wreckage of the night's deep artillery and aviation battle. Those attacks in depth had seriously weakened two reserve heavy battalions and destroyed much of the Iraqis' combat service support infrastructure. The situation was right for Funk to order Colonel Goff's 3d Brigade forward. That morning Goff's brigade passed through the thin front line and started the 3d Armored Division's exploitation through Objective DORSET to Objective MINDEN.[81]

The 3d Armored Division's battle against the *Tawakalna Mechanized Division* illustrated that good tactics are just as important as good technology. Had General Funk chosen to attack the Iraqi defenses without evaluating the enemy—deciding on a main effort, massing his forces, and using his systems as they were designed—the outcome might have been different. In addition to the good tactics of 3d Armored Division ground units, the Iraqi defenders in that sector were undermined by the division's deep operations. Funk's constant bombardment of combat and combat service support units positioned in depth made Iraqi counterattacks, resupply, or reinforcement almost impossible. Those incessant attacks destroyed Iraqi artillery, broke up units assembling for counterattacks, and thoroughly disrupted Iraqi command and control. When the 3d Brigade passed through at dawn, there were no more Iraqi strong points to slow the attack.

Often forgotten in the backslapping after a victory is the role of the staff. Those officers and noncommissioned officers perform innumerable unappreciated but essential tasks that ensure tactical success. Intelligence officers gathered information and updated their battlefield projections. These templates were passed to the operations and plans cells. Operations cells in both the tactical command post and tactical operations center matched those intelligence projections with the reports they received from the front-line and air units. The G–3 (operations) officers made recommendations to the battalion, brigade, and division commanders. Once

approved, the orders were disseminated to subordinate unit commanders. Logistics officers monitored the fight and directed combat service support assets, including fuel, ammunition, maintenance, and medical units, to support the main effort. That staff effort ensured the 3d Armored Division's Apaches could fly, the artillery had ammunition, and the tanks and Bradleys had fuel. The 3d Armored Division's command and control system worked and that, as much as the bravery and skill of the front-line soldiers, destroyed the center of the *Tawakalna Division's* line.

The Exposed Northern Flank

At the same time the 2d Cavalry and the 3d Armored Division were attacking the *Tawakalna's* forward defenses, the Iraqis' northernmost battalion lay in the path of the 1st Armored Division. It is doubtful that General al-Rawi, the *Republican Guard* commander, knew that the 1st Armored Division was part of the same attacking force that was assaulting his forces just west of the IPSA Pipeline Road. He probably believed that it was part of the XVIII Airborne Corps heading north. Since most U.S. corps during the Cold War period had two divisions and an armored cavalry regiment, such an assumption was reasonable. In this case, however, it was erroneous.

After capturing the logistics site at Al Busayyah, Old Ironsides advanced east on a twenty-kilometer front. That movement brought it through the area held by the right (northern) flank battalion of the *Tawakalna Division*, although General Griffith's primary objective was the *Medina Armored Division*, about thirty kilometers farther east.[82] The one battalion of the *29th Mechanized Brigade* that occupied positions in this intermediate sector, however, was too good a target to overlook. Those fighting positions, as many in the *Tawakalna's* sector, had been prepared in advance. They were empty when the war began, but the Iraqis began occupying them on the twenty-fourth.[83] The battalion lay in the path of Col. Dan Zanini's 3d Brigade. While Zanini maneuvered his battalions into position, the 1st and 2d Brigades continued to move east, toward the *Medina*.[84]

Colonel Zanini deployed his three task forces for a hasty attack. Lt. Col. Ed Dyer's 1st Battalion, 37th Armor, became the assault force; Lt. Col. Ward Critz's 7th Battalion, 6th Infantry, provided support and overwatching fires; Lt. Col. Ed Kane's 3d Battalion, 35th Armor, remained in reserve; and Lt. Col. David A. Hahn's 3d Battalion, 1st Field Artillery, had responsibility for direct-support fires. Around 1930 Hahn's battalion began firing at the Iraqi positions with 155-mm. self-propelled howitzers. Colonel Critz's infantry-heavy task force moved to the 68 Easting and assumed firing positions oriented toward the Iraqis two and a half kilometers to the southeast. By 2000 hours it was adding TOWs and 120-mm. tank guns to the artillery fire hitting the Iraqi battalion. Colonel Dyer's armor-heavy task force then moved on line and deployed its scout platoon on the southern flank to maintain contact with the 3d Armored Division.[85]

Colonel Zanini synchronized the fight to maximize his firepower and minimize battlefield confusion. Artillery, Apaches, and Critz's infantry task force pro-

vided overwatching suppressive fires as Dyer's armored task force began to move toward the Iraqi defenses. Forty-five Abrams tanks attacked on line, moving at less than ten kilometers per hour. Behind that wall of steel came the task force's infantry company mounted on its Bradleys, following about one thousand meters behind the tanks to help destroy any threat to the tanks from their rear. As the tankers crossed the 69 Easting, Critz's infantry lifted its fires and began shooting illumination rounds from the mortar platoon. The brigade commander now turned the fight over to the 1st Battalion, 37th Armor.[86]

In the words of the unit's journal, the "T[ask] F[orce] *charged*!"[87] Dyer's three tank companies rushed forward in the dark and began engaging "hot spots" two to three thousand meters, almost two miles, away. Only after the gunners came much closer, less than fifteen hundred meters from the thermal images, could they positively identify the targets as T–72 tanks and BMP fighting vehicles. By 2130 the battalion closed on the objective, finding Iraqi vehicles behind a low ridge, protected by an antitank minefield. As they crested the ridge, the M1s lost their range advantage and were now in a close fight.[88]

As was the case with the entire *Tawakalna Division*, the Iraqi soldiers fought to the best of their capabilities. Many tanks had kept their engines off to dupe the American thermal sights. U.S. tankers, however, were often able to locate those vehicles because of the strange white spot, the tank commander's head, seemingly suspended in thin air.[89] However, when not found first, the Iraqis were able to turn their turrets by hand and engage the M1s close in their flanks and rear. Iraqi infantry moved in three-to-five-second rushes in the hope of moving close to the attacking American armor. Burning vehicles and explosions "washed out" the thermal sights, making target acquisition difficult.[90] In the confusion of the fight, 3d Armored Division Apache helicopters, working in the sector just to the south, unleashed a barrage of Hellfire missiles that damaged four M1A1 tanks. The quality of the American armor was obvious, as all four tank crews walked away with only minor injuries.[91]

That Iraqi battalion, however, never had a chance. It was receiving direct fire from at least three American battalion task forces.[92] Several field artillery and attack helicopter battalions had engaged it throughout the depth of its position. Moreover, it was assaulted by a tank battalion with arguably the best gunnery skills in the entire U.S. Army.[93] When Dyer's battalion emerged on the far side of the objective, the Iraqi unit was in shambles. By 2300 the American infantry company commander reported the objective clear and prisoners captured; and the 1st Brigade prepared to continue its mission east. The 1st Battalion, 37th Armor, lost four tanks and six soldiers wounded. Because of good luck, good training, and the effectiveness of the Abrams' enhanced armor, there were no American fatalities. The 1st Brigade had swept through two Iraqi tank companies and one mechanized infantry company: approximately twenty-four T–72 tanks and fourteen BMPs were burning hulks. Part of one BMP company escaped and fled due east, away from the brigade.[94]

After the war 1st Armored Division officers returned to the scene of the battle to determine what tactical lessons they could learn. In that sector and in the

adjoining portion that was in the 3d Armored Division's zone, over seventy-six Iraqi tanks and eighty-four infantry fighting vehicles were destroyed. That northern *Tawakalna* strong point contained almost two combat battalions. At dusk on the twenty-sixth, they and all the battalions of this *Republican Guard* division had been deployed and ready to fight the attacking VII Corps. Nevertheless, Colonel Zanini's 1st Brigade destroyed the Iraqi unit in less than three hours of combat.

In sum, soon after the 1st Armored Division's attack started at 2000 on 26 February, the 3d Armored Division launched its attack just to the south. One hour later the 1st Infantry Division passed through the 2d Cavalry and captured all of Objective NORFOLK. The *Tawakalna Division's* commander, who probably perished in this battle, had been decisively engaged by a force four times the size of his command, from the beginning of the battle until his unit was annihilated during the early morning hours of the twenty-seventh. He never had an opportunity to maneuver, use reserves, or even use his artillery to any effect. His spirited defense, however, confirmed Franks' concern that the *Republican Guard* did not enter the battle already defeated. They did not run away but fought with extreme bravery. The *Tawakalna* also had good equipment, although its soldiers proved no match for the American troops in tank gunnery and other combat skills.

More important than equipment problems, this Iraqi division was simply overwhelmed and unable to inflict any significant losses on its opponent. In General Franks' most significant tactical success of the war, he had massed six heavy brigades and a cavalry regiment directly against the *Tawakalna*, while flanking it to the north and south with two more brigades. Franks used a little luck and good tactics to effect a double envelopment on this once-proud Iraqi unit. By attacking the *Tawakalna* in depth with helicopters and long-range artillery systems, VII Corps provided a textbook example of land combat at the end of the twentieth century. It was, however, the application of the Army's AirLand Battle Doctrine, executed by well-trained and motivated soldiers, led by experienced leaders, which defeated the Iraqi force. By dawn, the devastating effects of synchronized combat power stretched along forty kilometers of the 73 Easting.

Notes

[1] Much of this chapter appeared previously as Stephen A. Bourque, "Correcting Myths about the Persian Gulf War: The Last Stand of the Tawakalna," *Middle East Journal* 51 (Autumn 1997):567–83.

[2] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), p. 75.

[3] U.S. Army Battle Command Training Program (BCTP), *Iraq: How They Fight*, 3d ed. (Fort Leavenworth, Kans.: Battle Command Training Program, 1990), pp. 30–31; 177th Armd Bde, *The Iraqi Army: Organization and Tactics* (Fort Irwin, Calif.: National Training Center, 1991), p. 96.

[4] 177th Armd Bde, *Iraqi Army*, pp. 51–52; VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], pp. 116, L–1–8 to L–1–10, in VII Corps AAR, Fort Leavenworth, Kans.

[5] V. G. Reznichenko, *Tactics* (Washington, D.C.: Foreign Broadcast Information Service, 1987), fig. 9; DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), p. 253; BCTP, *How They Fight*, p. 34.

[6] Peter S. Kindsvatter, VII Corps Historian's notes, pp. 82–83; Michael D. Krause, "The Battle of 73 Easting, 26 February 1991: A Historical Introduction to a Simulation," Unpubl Ms, 1991, CMH, p. 24; Richard M. Bohannon, "Dragon's Roar: 1–37 Armor in the Battle of 73 Easting," *Armor* (May–June 1992):13.

[7] BCTP, *How They Fight*, p. 34; Lon E. Maggart, "A Leap of Faith," *Armor* (January–February 1992):29.

[8] 177th Armd Bde, *Iraqi Army*, pp. 98, 117–26, 124–25; VII Corps G–2, "100-Hour Ground War," pp. 37–47.

[9] *Stars and Stripes* reporter Vince Crawley first described this story in "Minute by Minute, Death by Death," *Stars and Stripes*, 9 Mar 91, pp. 14–16. His article was then reprinted in *Armor* (May–June 1991):7–12. In June, after extensive on-site research, Col. Michael D. Krause's team produced "The Battle of 73 Easting." Accounts, all very similar, have also appeared in Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 261; U.S. News and World Report, *Triumph Without Victory* (New York: Times Books, 1993), pp. 336–42; Steve Vogel, "A Swift Kick: The 2d ACR's Taming of the Guard," *Army Times*, 5 Aug 91, pp. 12–13, 28–30; Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), pp. 429–34; Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), pp. 391–92; Tom Clancy, *Armored Cav* (New York: Berkley Books, 1994), pp. 254–62.

[10] 2d ACR, Op Sum, 23 Feb–1 Mar 91; Vogel, "A Swift Kick," p. 30.

[11] Fix, to a cavalryman, means to identify the enemy's location and composition.

[12] VII Corps TAC, Staff Jnl, 26 Feb 91, entry 13.

[13] Vince Crawley, "Ghost Troop's Battle at the 73 Easting," *Armor* (May–June 1991):8.

[14] Krause, "Battle of 73 Easting," sketch map.

[15] Ibid., pp. 11, 25.

[16] Ibid., p. 20.

[17] Ibid.; Vogel, "A Swift Kick," p. 30.

[18] Krause, "Battle of 73 Easting," p. 3.

[19] John Hillen, "2nd Armored Cavalry: The Campaign to Liberate Kuwait," *Armor* (July–August 1991):10.

[20] 2d ACR, Op Sum; Vogel, "Swift Kick," pp. 30, 51.

[21] Crawley, "Ghost Troop's Battle," p. 10.

[22] Ibid.

[23] Ibid., pp. 9–10.

[24] Krause, "Battle of 73 Easting," p. 16.

[25] Ibid., p. 3.

[26] Hillen, "2nd Armored Cavalry," p. 11.

[27] 1st Inf Div TAC, Staff Jnl, 26 Feb 91, entries 24, 29, 30; Maggart, "Leap of Faith," p. 24.

[28] 2d ACR, Op Sum; 1st Inf Div TAC, Staff Jnl, 26 Feb 91, entry 43.

[29] DA, FM 71–100, *Division Operations* (Washington, D.C.: Department of the Army, 1990), pp. 6–17 to 6–18, FM 100–15, *Corps Operations* (Washington, D.C.: Department of the Army, 1989), pp. 7–15 to 7–16.

[30] VII Corps TAC, Staff Jnl, 26 Feb 91, entry 8; Intervs, Thomas A. Popa with Robert Wilson, 28 Jul 91, with Thomas G. Rhame, Jul 91, both at CMH.

[31] Maggart, "Leap of Faith," p. 25.

[32] Gregory Fontenot, "Fright Night: Task Force 2/34 Armor," *Military Review* (January 1993):42.

[33] Steve Vogel, "Hell Night: For the 2d Armored Division (Fwd) It Was No Clean War," *Army Times*, 7 Oct 91, p. 15.

[34] Maggart, "Leap of Faith," p. 27; Fontenot, "Fright Night," p. 44.

[35] Vogel, "Swift Kick," p. 61.

[36] Interv, Popa with Rhame, Jul 91; Vogel, "Hell Night," p. 15; Maggart, "Leap of Faith," p. 27.

[37] 1st Inf Div Comdr's Rpt, 26 Feb 91; 1st Inf Div TAC, Staff Jnl, 26 Feb 91, entry 53.

[38] VII Corps, FRAGO 144–91, 26 Feb 91.

[39] Each tank and mechanized infantry battalion contained a Bradley-mounted scout platoon.

[40] Maggart, "Leap of Faith," p. 27; "The Centurions on Operation DESERT STORM," in *1st Brigade, 1st Infantry Division, DESERT SHIELD/STORM History*, ed. Jim Stockmoe [Fort Riley, Kans.: 1st Brigade, 1st Infantry Division, 1991], p. 68.

[41] Team C had two tank platoons and one mechanized platoon; Team D had two mechanized platoons and one tank platoon.

[42] Interv, Robert Cook with Robert A. Burns and Robert P. Harn, Jr., 28 Mar 91, CMH; Fontenot, "Fright Night," p. 45.

[43] Fontenot, "Fright Night," p. 45.

[44] Maggart, "Leap of Faith," p. 28.

[45] John S. Brown, "Desert Reckoning: Historical Continuities and the Battle for NORFOLK, 1991," Unpubl Ms, U.S. Naval War College, Newport, R.I., 1992, p. 3.

[46] Vogel, "Hell Night," p. 15.

[47] Brown, "Desert Reckoning," pp. 4–5.

[48] Scales, *Certain Victory*, p. 284. The sector-wide "antitank" ditch to which this report refers is most certainly the IPSA Pipeline.

[49] Battalion combat trains usually consist of the combat service support assets needed to supply the immediate needs of the combat companies. These include ammunition and fuel vehicles, maintenance and recovery teams, and the battalion medical aid station.

[50] Vogel, "Hell Night," p. 18; Brown, "Desert Reckoning," pp. 20–21.

[51] Brown, "Desert Reckoning," pp. 18–19.

[52] Ibid.

[53] Ibid.

[54] VII Corps TOC, Staff Jnl, 26 Feb 91, entry 28; Tom Donnelly, "The Generals' War," *Army Times*, 2 Mar 92, p. 16. Both Generals Powell and Schwarzkopf suggest in their memoirs that they had little idea of the intensity of the unit fight in the VII Corps sector. Colin Powell and Joseph E. Persico, *My American Journey* (New York: Ballantine Books, 1995), p. 504; H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), p. 540. Vogel, "Hell Night," p. 18.

[55] VII Corps G–3, Staff Jnl, 27 Feb 91, entry 3.

[56] Maggart, "Leap of Faith," p. 28.

[57] Scales, *Certain Victory*, p. 291; Fontenot, "Fright Night," p. 47.

[58] Fontenot, "Fright Night," pp. 47–48; Vogel, "Hell Night," p. 18; Maggart, "Leap of Faith," pp. 28–29; Mark E. Vincent and Samuel C. Raines, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, in VII Corps AAR.

[59] 1st Sqdn, 4th Cav, Op Staff, "Riders on the Storm," *Armor* (May 1991):16; 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 42; Interv, Popa with Wilson, 28 Jul 91.

[60] VII Corps G–3, Staff Jnl, 26 Feb 91, entry 28; "Chronology of the 3d Armored Division in Operation DESERT SPEAR, 24–28 February 1991," n.d., in VII Corps AAR.

[61] Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 91, pp. 13, 16; VII Corps G–2, "100-Hour Ground War," p. 128; Vincent and Raines, "TF DEMO"; Interv, Peter S. Kindsvatter with Paul E. Funk, 4 Apr 91, Swain Collection, Fort Leavenworth.

[62] Vogel, "Tip of the Spear," p. 13.

[63] Interv, Kindsvatter with Funk, 4 Apr 91; Scales, *Certain Victory*, pp. 274–75.

[64] During the early 1980s, several units in the 3d Armored Division received "cavalry" designations. The intent, never realized, was to rotate these units with the 1st Cavalry Division, actually a mechanized infantry stationed at Fort Hood, Texas. Units of the 5th Cavalry were actually organized as infantry, while 8th Cavalry units were configured as tank battalions. The only true cavalry unit in the 3d Armored Division was the 4th Squadron, 7th Cavalry. Interv, author with Roma Danysh, Apr 98, CMH.

[65] K. Weber and J. Aiello, "History of the Ready First Combat Team: First Brigade, Third Armored Division, November 1990–22 March 1991," Unpubl Ms, Iraq, [1991], p. 8.

[66] 3d Armd Div TOC, Staff Jnl, 26–27 Feb 91, entry 44; Weber and Aiello, "Ready First Combat Team," pp. 8–9.

[67] Weber and Aiello, "Ready First Combat Team," pp. 8–9; Scales, *Certain Victory*, p. 273.

[68] Scales, *Certain Victory*, pp. 273–74; 3d Armd Div, "Chronology of the 3d Armored Division in Operation DESERT SPEAR, 24–28 February 1991," n.d., in VII Corps AAR; Weber and Aiello, "Ready First Combat Team," pp. 8–9; Vogel, "Tip of the Spear," pp. 14–16.

[69] Weber and Aiello, "Ready First Combat Team," pp. 9–10.

[70] 3d Armd Div TOC, Staff Jnl, 26–27 Feb 91, entries 55, 63–64; U.S. News and World Report, *Triumph Without Victory*, pp. 351–56; Vogel, "Tip of the Spear," p. 13.

[71] 2d Bde, 3d Armd Div, Hist Sum.

[72] David Nilsen and Greg Novak, "The 1991 Persian Gulf War: On the Brink of a New World Order," *Command Post Quarterly*, no. 5 (April 1995):42.

[73] Scales, *Certain Victory*, pp. 276–79.

[74] 3d Armd Div TOC, Staff Jnl, 26–27 Feb 91, entry 60; 2d Bde, 3d Armd Div, History: Opn DESERT SHIELD," [1991].

[75] 2d Bde, 3d Armd Div, Opn DESERT SHIELD.

[76] Interv, Kindsvatter with Funk, 4 Apr 91; 3d Armd Div, "DESERT SPEAR"; 2d Bde, 3d Armd Div, Hist Sum.

[77] 3d Armd Div Arty, Hist Sum; 3d Armd Div TOC, Staff Jnl, 26–27 Feb 91, entry 66.

[78] Kevin Smith and Burton Wright III, eds., *United States Army Aviation During Operations DESERT SHIELD and DESERT STORM: Selected Readings* (Fort Rucker, Ala.: U.S. Army Aviation Center, 1993), pp. 55–67; Scales, *Certain Victory*, p. 276; 3d Armd Div TOC, Staff Jnl, 26–27 Feb 91, entry 69.

[79] Interv, Kindsvatter with Funk, 4 Apr 91; 3d Armd Div, "DESERT SPEAR"; 3d Armd Div, Opn DESERT SHIELD; Scales, *Certain Victory*, p. 280.

[80] 3d Armd Div, "DESERT SPEAR"; 2d Bde, 3d Armd Div, Opn DESERT SHIELD; VII Corps G–2, "100-Hour Ground War," pp. 120–21.

[81] Interv, Kindsvatter with Funk, 4 Apr 91; 3d Armd Div, "DESERT SPEAR"; VII Corps G–3, Staff Jnl, 27 Feb 91, entries 2, 15; Smith and Wright, *Army Aviation*, pp. 55–67.

[82] 1st Armd Div, Staff Jnl, 27 Feb 91; 1st Bde, 37th Armor, Official Jnl of Our Dragon Bn, entries for 26 Feb 91; VII Corps, Sitrep 4, 26 Feb 91; Bohannon, "Dragon's Roar," p. 11.

[83] VII Corps G–2, "100-Hour Ground War," p. 120.

[84] HQ, 1st Armd Div, and Guy C. Swan III, "1st Armored Division Battle Summary for Combat Operations Conducted in Support of Operation DESERT STORM, 23–28 February 1991," 10 Mar 91, in VII Corps AAR.

[85] 1st Bde, 37th Armor, Official Jnl; Bohannon, "Dragon's Roar," pp. 12–13.

[86] Bohannon, "Dragon's Roar," pp. 12–13; Scales, *Certain Victory*, p. 268.

[87] 1st Bde, 37th Armor, Official Jnl, entry for 26 Feb 91.

[88] Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), pp. 246–47; Scales, *Certain Victory*, p. 268.

[89] Thermal imagery requires some amount of heat. With their engines not running, armored vehicles generally have the same temperature as the surrounding countryside and therefore do not

show up on the sights.

[90] Bohannon, "Dragon's Roar," pp. 14–16.

[91] Swan, "Battle Summary."

[92] Task Force 4th Battalion, 18th Infantry, 3d Armored Division, in the south and 1st Battalion, 7th Infantry, and 1st Battalion, 37th Armor, 1st Armored Division.

[93] Company D, 1st Battalion, 37th Armor, was one of the Army's selections for the upcoming Canadian Army Trophy Competition, a demanding, NATO-wide tank gunnery competition.

[94] Bohannon, "Dragon's Roar," p. 17; VII Corps TAC, Staff Jnl, 27 Feb 91, entry 19.

18

Battle of Medina Ridge

The *Medina Armored Division* began moving on the afternoon of 26 February, before the *RGFC* knew the fate of the *Tawakalna Mechanized Division*. The *Medina*'s task was to prepare a defensive line west of the IPSA Pipeline and northeast of the *Tawakalna* to defend the massive theater logistics site just to the rear. The *Medina*'s *2d Armored Brigade* moved first into a defensive sector west of the Rumaylah Oil Fields in the early morning hours of the twenty-seventh. The *14th Mechanized Brigade* occupied the center of the line to the southwest. Defending on the division's left flank was the *3d Armored Brigade*. Elements from the *10th* and *12th Armored Divisions* were interspersed within the *Medina*'s formation.[1] Not all these formations made it into proper positions before the arrival of the U.S. VII Corps because of coalition air attacks.[2] In some cases, Iraqi commands oriented their vehicles to the southeast, as though still defending against an coalition attack up the Wadi al Batin. Others were lackadaisical about preparing their defensive sectors for the impending attack, as though it was only a temporary halt.[3]

One reason not all of the *Medina Division* arrived in position or completed the construction of defenses was the massive pounding it was taking from the air. Air campaign planners had devised a system of kill boxes. These boxes, each thirty miles square, were the primary control measures for coalition aircraft. The *Medina*'s box, "AF7," received 30 percent more sorties than any other box in the theater. While air attacks spared most of the Medina's tanks and fighting vehicles, they greatly diminished the unit's overall combat capability. Equipment maintenance, resupply, and refueling became almost impossible. Moving supply vehicles often attracted the attention of coalition pilots with devastating consequences. The pressure from the air continued until the fire support coordination line moved near the Kuwait City–Basrah Highway at 1250 hours.[4]

The lack of synchronization between the operations of the VII and XVIII Airborne Corps began to show during the early morning of 27 February. While the 1st Armored Division's forward line approached Phase Line LIME, thousands of soldiers remained in the division's rear. These included combat service support personnel moving supplies, engineers building depots and roads, and rear headquarters installations trying to keep the support process as orderly as possible. In addition, there were dozens of broken down or lost vehicles throughout the division sector. These included three 1st Armored Division M548 ammunition carri-

ers that had stopped that morning at the small airfield of Umm Hajul, about twenty miles northwest of Al Busayyah.

On the division's left flank, the XVIII Airborne Corps' 3d Cavalry was twenty miles behind Old Ironsides. Around 0100 Capt. Bo Friesen's Troop I strayed across the boundary between the two corps and approached the small airfield, observing buildings and troops on the runway. Friesen received permission from his squadron commander, Lt. Col. John H. Daly, Jr., to fire warning shots at the enemy troops. While his scouts dismounted, the troop commander looked through his thermal sights and discovered that the soldiers they were about to attack wore American kevlar helmets. As Friesen shouted "Cease fire," Colonel Daly arrived on the scene and joined what he presumed to be the attack. Machine-gun rounds from Daly's Bradley pierced the night, killing one American soldier and wounding several others.[5] Although the 1st Armored Division's 2d Brigade had previously denied the 3d Cavalry's request to attack that airfield, somehow the cavalry's squadron commander ignored the message.[6] At best, the incident was a result of poor coordination between the two corps, a problem that could only have become worse in a climactic battle around Al Basrah.

The Security Zone

Meanwhile, the 1st Armored Division's attack continued to the east. A serious problem during the movement was the navigation of the division's logistics support. Most fuel and ammunition truck convoys moved without navigation aids such as global positioning systems. Without roads, trails, or other terrain features, it was relatively easy for such convoys to become lost. With thousands of vehicles crisscrossing the wet desert sand, "following the [preceding] unit's tracks" was not an option. One solution, which the 2d Brigade developed, was to construct a "log [logistics] line." Col. Montgomery C. Meigs IV, the brigade commander, detailed a platoon from the 54th Engineer Battalion to follow the brigade and erect a string of wooden stakes, each about four hundred meters apart, for the brigade's support units to follow. From Al Busayyah in the west to Medina Ridge in the east, this wooden, "low-tech" solution ensured that his brigade never stopped because of fuel vehicles lost in the desert.[7]

As Maj. Gen. Ronald H. Griffith, the 1st Armored Division commander, was giving his instructions to Col. Dan Zanini, the 3d Brigade commander, to attack the *Tawakalna*, a new obstacle emerged to block the movement of the remainder of Griffith's forces toward the *Medina Armored Division*. Approximately one brigade from the *Republican Guard's Adnan Motorized Division* appeared on the 1st Armored Division's left flank. The *Adnan* was one of the more recently organized divisions in the *Republican Guard*. Its organization was similar to a regular infantry division, except that it had sufficient trucks and possibly light wheeled armored personnel carriers to transport its infantry, making it one of the more mobile units in the Iraqi Army. Although fast, the *Adnan* clearly lacked the defensive firepower to stop an American armored division. Nevertheless, it had a battalion of tanks added to improve its antiarmor capabilities. This unit may have

been moving forward to secure the *Tawakalna Division*'s northern flank, but there is a more logical explanation for its deployment. With the *Medina Armored Division* now moving into its blocking positions, General Ayad Futayih al-Rawi, the *Republican Guard* commander, needed a covering force for the unit. Rather than slow-moving T–55s or MT-LB infantry carriers, the motorized brigade would serve that purpose admirably.[8]

Once the 1st Armored Division identified the Iraqi brigade, it began a deep battle operation. The 75th Field Artillery Brigade, having left the breach site the day before, finally joined Old Ironsides around noon. Within an hour its three battalions were in position to support the attack. Around 1624, just as the battle along the 73 Easting was starting, Griffith launched the attack helicopters of Lt. Col. William J. Hatch's 3d Battalion, 1st Aviation. Air Force A–10 close-support aircraft added their weight to the attack. Throughout the night the Apaches struck the *Adnan*. Long-range Hellfire missiles destroyed the tanks and other armored vehicles one by one. By 1915 the 1st Armored Division Artillery was in place and began a series of MLRS raids on the Iraqi positions. The aviation brigade's aero scouts were on station, and they were able to adjust this fire and ensure it was accurate and effective.[9]

The deep fight continued for several hours as the 1st Armored Division moved through the dark. Around 0300 the Iraqis launched at least one FROG (free-rocket over ground, essentially an unguided projectile) missile toward the Americans. It was one of the most successful Iraqi artillery attacks of the war. Twenty-three 1st Squadron, 1st Cavalry Division, soldiers, located just to the rear of the 1st Armored Division, were wounded and several vehicles damaged. Fortunately, the missile launcher had no further success. Quick intelligence and direction-finding located the suspected battery just south of Basrah in the XVIII Airborne Corps sector. Because the battery was out of the 1st Armored Division's sector, the division received permission to attack the target and several others emitting signals. The 75th Field Artillery Brigade had an ATACMS battery assigned; the targets, although far away (93–148 kilometers), were well within its range. At 0450 the 75th Field Artillery fired its missiles, ending the problem with this FROG site.[10]

While Griffith fought the deep battle against the *Adnan*, he began locating and attacking the *Medina Armored Division* as well. In the vicinity of the *Medina*'s planned defensive line were seven logistics sites for the Kuwaiti Theater, hidden among the numerous oil wells and service roads of the Rumaylah Oil Fields. As the target came within range, the 1st Armored Division Artillery and 75th Field Artillery Brigade moved to engage it with MLRS's and M110 8-inch howitzers. Not only did this artillery fire wreak havoc in the supply area, it also thoroughly disrupted the movement of part of the *Medina Division* into its defensive positions.[11]

By dawn on the twenty-seventh, the *Adnan Brigade* had had enough. Some soldiers escaped into the thirty or so trucks they still had available and headed back north. The 1st Armored Division's 1st and 3d Brigades attacked and captured those who had not been lucky enough to flee. All that was left for the advancing brigades was the task of processing hundreds of prisoners of war who had lacked the ability to move out of the Americans' way.[12]

By 0930 all three brigades (the 3d Brigade had rejoined the division) had cleared their sectors of Iraqi units and refueled their combat vehicles. Fuel was becoming a problem for Griffith's combat battalions, which had moved almost 220 kilometers, farther than any other units in VII Corps. Since M1A1 tanks could run for only eight hours on their internal 500-gallon fuel tanks, they needed to refuel at least three times a day to keep moving. Of course these requirements do not include the needs of the M3 Bradleys, M113 maintenance vehicles, engineer equipment, and the host of other vehicles traveling with each battalion. The battalion's twelve 2,500-gallon heavy expanded mobility tactical trucks carried all this fuel. While these HEMTTs were more than adequate to support training exercises or maneuver over short distances, they could barely keep a battalion supplied over extended desert distances. In addition, since the entire corps was on the move, there were few additional trucks to allocate to the forward units. After each refuel operation, the HEMTTs had to race back to the rear, find the closest logistics supply point, take on a new load of fuel, and return to the battalion before the combat vehicles had used more than half of their fuel capacity—all this in poor weather, at night, cross-country, and with both logistics supply points and combat units simultaneously moving. By the morning of the twenty-seventh, Old Ironsides was stretching this fragile system to its limit, and all units were reporting serious fuel shortages.[13]

The battle in the *Medina*'s security area was not yet finished. While the 1st Armored Division was replenishing its badly needed petroleum supplies, the Iraqis opened up with artillery. Hundreds of rounds landed near the 2d Brigade behind preregistered markers, but none of them hit any U.S. personnel or vehicles. For over twenty minutes the Iraqi artillery pounded the empty desert without a single adjustment—but there was always potential for more effective action. Again, it was a matter of poor Iraqi training rather than poor equipment.[14]

Battery B, 25th Field Artillery, the division's target acquisition battery, oriented an AN/TPQ–37 fire-direction radar southeast but failed to locate the Iraqi firing units. The battery commander then set up another Q–37 and aimed it at the northeast. Almost immediately it found the Iraqi batteries firing from the XVIII Airborne Corps' sector. Receiving permission to fire across the corps boundary took almost thirty minutes, but then a hail of MLRS rockets took two Iraqi battalions (fifteen D–30 152-mm. howitzers and thirteen GHN–45 155-mm. howitzers) out of commission. The target acquisition battery then began bounding its radars forward to ensure constant coverage while the division was moving.[15]

General Griffith had already demonstrated his use of the deep attack at Al Busayyah and against the *Adnan Division*'s covering brigade. He continued this pattern against the *Medina*. As the *Adnan Brigade* was beginning to pull out, he shifted his efforts east. Starting at 2000 on 26 February, Colonel Hatch's 3d Battalion, 1st Aviation's Apaches attacked the *Medina*'s defenses several times with their weapon of choice: the Hellfire missile. Fired at long range, six to eight kilometers, these missiles were guided to their targets by either the firing aircraft or OH–58D Scout helicopters. The effect on the Iraqi tankers was demoralizing: Vehicle after

vehicle exploded as if by magic.[16] By 0930 Lt. Col. John M. Ward's 2d Battalion, 1st Aviation Brigade, had returned to the 1st Armored Division from its temporary assignment with the 2d Cavalry. It would pick up the deep battle as the crews and equipment of Hatch's battalion, after almost forty hours of continuous combat operations, took a well-earned rest.[17]

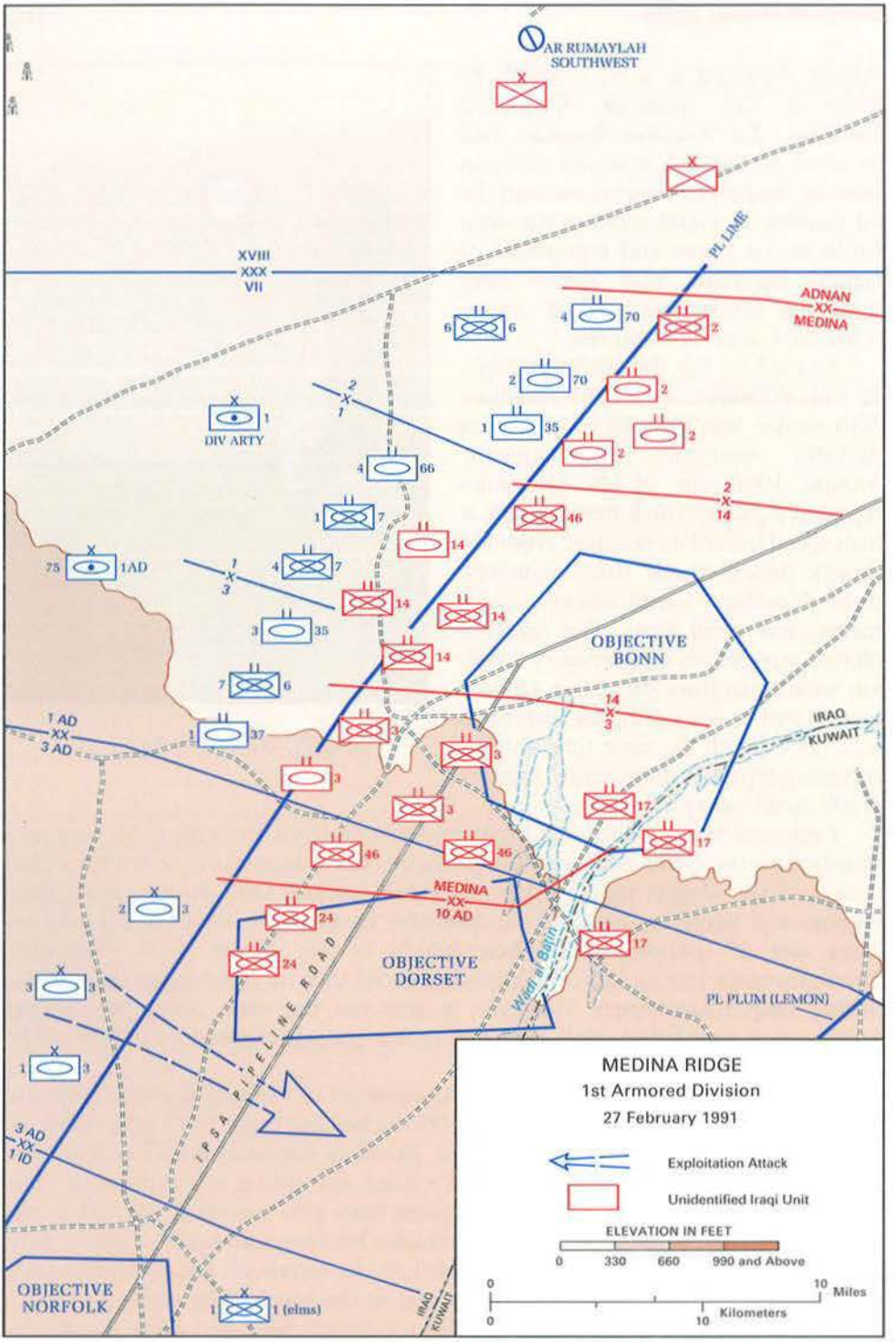
Located on the division's left flank, Lt. Col. William C. Feyk's 4th Battalion, 70th Armor, was stopped to refuel and perform equipment maintenance. Around 1000 one of his companies reported a pickup truck moving west at high speed toward its position. Captured shortly thereafter, the truck contained three *Republican Guard* officers, documents, and small arms. The captured officers reported an Iraqi infantry battalion with tanks from the *Adnan Division* located just to the north that wanted to surrender. About the same time another company reported dismounted infantry 2,500 meters away.[18]



AN/TPQ–37 Fire Finding Radar

Feyk sent his Company D with its fourteen tanks to investigate. Moving cautiously into the XVIII Airborne Corps sector, the troops came to within 2,300 meters of the closest Iraqi vehicle. Suddenly, several Iraqi tanks started their engines and began moving behind defensive berms while dismounted infantry came out of foxholes with their hands in the air as if to surrender. Simultaneously trucks full of soldiers appeared to start shooting at the surrendering Iraqi infantrymen. However, it was not the case. Soon the "fallen" infantrymen were firing small arms and rocket-propelled grenades (RPGs) at the American vehicles.[19]

With little hesitation, Feyk ordered Company D to destroy the Iraqi unit and sent Company A for support. Company D knocked out three T–72 tanks and one American-made Improved TOW Vehicle, probably captured from the Kuwaitis; Company A destroyed another tank and a truck attempting to escape. Both units engaged the Iraqi infantry, which fired almost forty RPG rounds at the Americans. For some reason, while several rocket grenades hit American tanks, none of them exploded. Meanwhile, Iraqi artillery fire fell on the battalion's position, disrupting its resupply activities. Since his mission was to the east and he needed to move with the brigade, Feyk decided to pull his companies back and allow the surviving Iraqi infantrymen to escape or remain in place.[20]


AR RUMAYLAH SOUTHWEST
XVIII
XXX
VII
PL LIME
ADNAN
XX
MEDINA
DIV ARTY
1AD
OBJECTIVE BONN
1 AD
XX
3 AD
IRAQ
KUWAIT
MEDINA
XX
10 AD
OBJECTIVE DORSET
IPSA PIPELINE ROAD
Wadi al Batin
PL PLUM (LEMON)
3 AD
XX
1 ID
OBJECTIVE NORFOLK
1 (elms)
IRAQ
KUWAIT
MEDINA RIDGE
1st Armored Division
27 February 1991
Exploitation Attack
Unidentified Iraqi Unit
ELEVATION IN FEET
0
330
660
990 and Above
0
10
Miles
0
10
Kilometers

MAP 22

The Medina



Meigs, Having Attained Four Stars and Command of USAREUR

By late morning on 27 February the depleted Iraqi Army was trying to block the Americans' push toward al Basrah. In the VII Corps sector, these defenses were based on the *Medina Division*, defending just west of the Rumaylah Oil Fields. Extending south for almost fifty kilometers, just west of the Kuwait border, was a line of mixed units from *10th*, *12th*, and *17th Armored Divisions* and other surviving units. Despite the destruction of the *Tawakalna* and supporting units, the Iraqi *High Command* still hoped to stop the Americans long enough to evacuate most of its troops from Kuwait.[21]

Around 1130 soldiers of the *Medina's 2d Armored Brigade* began preparing lunch. Although previously under attack from the air, they obviously believed that special precautions were now unnecessary. It was so rainy and overcast that the American A–10 aircraft were unable to find and attack them. Although Colonel Meigs' 2d Brigade had overrun their forward security element around 0900, apparently they were unaware of its fate or that of other *RGFC* units farther west. The brigade arrayed its combat vehicles to take advantage of a low ridge—a rear slope defense. Such a defensive arrangement seeks to draw an attacker's lead vehicles over a hill and into a prearranged kill zone, while the following vehicles, still on the back of the hill, are unable to observe the engagement. Defenders can improve the effectiveness of these kill zones by using mines and other engineer obstacles, as well as prearranged artillery fires, to destroy and disrupt the following units.

However, as was the case of most *Republican Guard* units, the *2d Armored Brigade* had prepared its positions poorly. All its own vehicles were entrenched but only superficially and with very few obstacles. Iraqi unit commanders had not verified their weapons' ranges to the top of the hill and were unaware that their battle line was too far back from the ridge to hit the attacking American armor when it crested the top. While these may have been some of Iraq's best troops, their tactical ability, especially on the defense, was not up to the standard expected of an elite force.[22]

Colonel Meigs' 2d Brigade resumed its advance west almost the same time as the *Medina's 2d Armored Brigade* began its lunch. All of the brigade's four battalions were organized as combined-arms task forces. Meigs had no idea that this large Iraqi formation was less than 7,000 meters away. Visibility was poor, and vehicle

commanders could see no more than 1,500 meters without the aid of thermal sights. At 1217 Colonel Feyk's 4th Battalion, 70th Armor, moved over a small rise with his three tank companies on line. As the battalion reached the top of the ridge, its thermal sights went wild with images of hundreds of Iraqi vehicles 3,000 meters away. The naked eye even with binoculars would have missed the targets. But now, thanks to thermal imagery, an entire reinforced armored brigade lay arrayed as if stationary targets on a tank range at Grafenwoehr or the National Training Center. Moments later, Lt. Col. Steve Whitcomb's 2d Battalion, 70th Armor, crested the ridge, unmasking the Iraqi brigade.[23]

The U.S. vehicles soon opened fire, interrupting the Iraqis' lunch. With an effective range of less than 2,000 meters, the Iraqi crews in their T–72 tanks were unable to see the Americans on the ridge. Although they returned fire toward the flashes of the M1A1's cannons, most of their rounds landed harmlessly in the dirt in front of the American line. Whitcomb's tankers showed discipline, control, and deliberate gunnery. There was no special haste, as they picked off their targets with impunity beyond the Iraqis' range.[24]

To the south of Whitcomb's battalion, Lt. Col. Jerry Wiedewitsch's 1st Battalion, 35th Armor, moved to the top of the same hill and also began to acquire targets in the valley. His Company D, the first on the hill, destroyed two BMPs about 2,700 meters away. Suddenly the valley came alive as Iraqi crews returned fire. As Wiedewitsch's companies each crested the low rise, they replied to the ineffective Iraqi fire with platoon and company volleys of tank and TOW fire. M1 crews registered hit targets out to 4,200 meters, over two miles away. For almost forty minutes the battalion fired away at the hapless Iraqi defenders.[25] Meanwhile, William Feyk's task force pulled on line in the northern portion of the brigade sector. At ranges of 2,600–2,800 meters, his armor began shooting at an Iraqi mechanized battalion in the distance.[26]

The Iraqis called for artillery fire, and the guns, all preregistered to targets previously engaged, overshot the Americans and caused no initial damage. Lt. Col. James E. Unterheseher, Meigs' fire-support coordinator and commander of the 2d Battalion (155-mm. SP), 1st Field Artillery, joined the counterartillery fire battle by shooting at any Iraqi battery his target acquisition radars could identify, as well as at the Iraqi reserve force. As in previous engagements, the Iraqis adjusted none of the artillery missions, so identification was rather easy. Within a few minutes, Old Ironsides counterbattery fire destroyed the *Medina* firing batteries, allowing Unterheseher to shift his artillery fire to help Meigs' committed battalions.[27]

Colonel Meigs positioned himself as he had trained, to the right-rear of the most committed battalion commander, Steve Whitcomb. Although he was unable to see all of the battle, he had probably the best view of any brigade commander during the war. While his tank crews and artillery pounded the *2d Armored Brigade*, he struggled to direct Apache helicopters and Air Force ground attack aircraft into the battle. However, they did not show up until after 1300, after Meigs' "Iron Brigade" eliminated the Iraqi *2d Armored Brigade*.[28]

Meanwhile, Col. James Riley's 1st Brigade, 1st Armored Division, encountered the Iraqi defensive line just south of Meigs' unit. In this sector, many of the vehi-



BMP Destroyed by 1st Brigade, 1st Armored Division; below, *Destroyed T–72 near Medina Ridge*





Franks' Black Hawk. The large fuel tanks could have allowed it to be mistaken for a Hind (enemy) aircraft.

cles were still facing south, as though the attack was coming from that direction. Using the standoff capabilities of the M1A1 and Bradley, the brigade shot first at almost maximum range, killing several T–72s and T–55s before they were able to rotate their turrets and return fire. A handful of T–72s were out in the open, apparently receiving supplies, and were quickly destroyed by U.S. armor. The remaining Iraqis fought back but were incapable of hitting the Americans so far away.[29]

In the southern part of the 1st Armored Division sector, Colonel Zanini's 3d Brigade struck the left of the *Medina*'s line around 1300 hours. Here, as in the 1st Brigade sector, the foe constituted a mixture of units caught generally out of position, and the earlier scenario repeated itself as tankers continued to methodically engage and destroy Iraqi tanks and fighting vehicles. Now Apache helicopters joined the firing line, sending Hellfire missiles over the heads of the American tankers. Air Force close-support aircraft arrived and began attacking Iraqi forces beyond the range of the U.S. ground troops. In only a few hours of intense combat, the *Medina Armored Division* and several smaller units essentially ceased to exist. The valley was littered with hundreds of burning tanks and armored personnel carriers.[30]



An Iraqi Hind-D Helicopter Abandoned during DESERT STORM

Around 1330 General Franks flew out to see General Griffith. Such was the confusion that his pilots overshot the 1st Armored Division commander's location and headed straight across the front line of troops and over the Iraqi units. Franks, studying his maps, didn't notice the error, but his crew did and turned the helicopter around. His Black Hawk, equipped with external fuel tanks, looked very similar to a Soviet-made Hind helicopter, and it was fortunate that none of the American soldiers on the ground shot at the aircraft.[31] Soon Franks was on the ground with Griffith, working over plans for the next phase of the operation. Barrage after barrage of Iraqi artillery landed behind them, but each round hit in the exact same place. Finally, to avoid the noise of incoming Iraqi and outgoing American artillery, they flew back to Griffith's tactical command post, about five kilometers to the rear, to work out the next day's attack.[32]

Already, by 1300 on the twenty-seventh, the rest of the corps was well into its exploitation phase. At one level it had been a series of small tactical successes. Better gunnery, better drill, better training, and better equipment had all contributed to the overwhelming success of the VII Corps armor and infantry crews. At another level the success reflected the sophistication of the corps and division commanders and their staffs. Each tactical engagement was part of an operational concept that simultaneously massed overwhelming combat power against the enemy's front and struck him with artillery and air throughout the depth of his battle position. Franks and his commanders fought the battle exactly as the U.S. Army doctrine, developed in the years after Vietnam, prescribed.

Now the exploitation could begin in earnest. The Jayhawks had hemmed Iraqi forces into a small area around the city of al Basrah. In addition to the VII Corps



Generals Franks and Griffith

attack from the southwest, the XVIII Airborne Corps' 24th Division (Mechanized) and 3d Cavalry were charging toward al Basrah from the northwest. The routes across the Euphrates were under constant interdiction by coalition and Army air power. The stage was set for a climactic battle of annihilation. The only choice for the Iraqi Army was to surrender or die.

Notes

[1] Apparently, the *Republican Guard* commanders had the authority to incorporate any local units into their formation. The *Tawakalna* incorporated some of the *12th Armored Division*, and the *Medina* did the same with elements of the *10th Division* and the remainder of the *12th Division*. The result was an often-confused amalgamation of vehicles from numerous battalions and brigades, which affected the American understanding of the battle. For example, units in the U.S. 1st Armored Division continued to report contact with the Iraqi *52d Armored Division*, although the British 1st Armoured Division had destroyed it much farther south.

[2] VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], pp. 121, 132–33, in VII Corps AAR, Fort Leavenworth, Kans.; U.S. Central Intelligence Agency (CIA), *Operation DESERT STORM: A Snapshot of the Battlefield* (Springfield, Va.: National Technical Information Service, 1996).

[3] VII Corps G–2, "100-Hour Ground War," pp. 131–32; Steve Vogel, "Killer Brigade: 3d Infantry Division 'Phantoms' Hunt the Enemy," *Army Times*, 11 Nov 91, p. 22.

[4] VII Corps G–2, "100-Hour Ground War," pp. 58–66; Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, D.C.: Government Printing Office, 1993), pp. 104–08; Third Army TAC, G–3 Fires, Staff Jnl, 27 Feb 91, entry 6.

[5] Edward T. Pound and Bruce B. Auster, "A GI's Death in the Fog of War," *U.S. News and World Report*, 24 Apr 95 (on-line edition); The Associated Press, "Army Revoking Awards for Valor," 19 Apr 95 (Associated Press on-line press release).

[6] Interv, Norm Johnson with 2d Bde, 1st Armd Div, 26 Mar 91, CMH. This incident generated a series of investigations and news reports. The General Accounting Office found Colonel Daly's conduct during and after the incident unacceptable. The Army ultimately reprimanded Daly and forced him to resign as a major. For Captain Friesen's perspective and greater detail, see "Fratricide at Umm Hajul," at *www.geocities.com/Pentagon/Quarters/2061*.

[7] Interv, Johnson with 2d Bde, 26 Mar 91. There were several instances of battalions' not being able to attack because of lost fuel trucks, most notably the 4th Battalion, 37th Armor, 1st Infantry Division. See David W. Marlin, *History of the 4th Battalion, 37th Armored Regiment in Operation DESERT SHIELD/STORM* (Carlisle Barracks, Pa.: Army War College, 1992), pp. 442–45. The log line was designed primarily to allow medic tracks to find their way to the brigade aid station, move to the center of the formation, and follow the stakes down the line of march. Montgomery C. Meigs, note to author, 11 Apr 00, author's files.

[8] VII Corps G–2, "100-Hour Ground War," p. 111; David Nilsen and Greg Novak, "The 1991 Persian Gulf War: On the Brink of a New World Order," *Command Post Quarterly*, no. 5 (April 1995):41; Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), p. 275.

[9] HQ, 1st Armd Div, and Guy C. Swan III, "1st Armored Division Battle Summary for Combat Operations Conducted in Support of Operation DESERT STORM, 23–28 February 1991," 10 Mar 91, in VII Corps AAR; VII Corps TAC, Staff Jnl, 27 Feb 91, entry 14; Carhart, *Iron Soldiers*, pp. 274–78.

[10] VII Corps TAC, Staff Jnl, 27 Feb 91, entry 25; VII Corps Arty, Opn DESERT STORM: A Fire Spt Perspective, 1991.

[11] VII Corps G–2, "100-Hour Ground War," p. 122; Swan, "Battle Summary."

[12] Swan, "Battle Summary"; VII Corps G–2, "100-Hour Ground War," p. 121; Carhart, *Iron Soldiers*, p. 277.

[13] Swan, "Battle Summary"; Interv, Johnson with 2d Bde, 26 Mar 91; 125th Spt Bn (Fwd), Opn DESERT SHIELD/DESERT STORM. The 2d Brigade had used its last fuel tanker to give fifty gallons to each M1 tank. Each brigade had already been issued ten extra fuel HEMTTs, but this was not enough given the distance they traveled and the fuel requirements of each M1. The brigade's fuel status was now critical—it was down to only the fuel onboard the combat vehicles. Meigs, note to author, 11 Apr 00.

[14] Swan, "Battle Summary"; Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, p. 22; Meigs, note to author, 11 Apr 00.

[15] Swan, "Battle Summary"; VII Corps G–2, "100-Hour Ground War," p. 131; Meigs, note to author, 11 Apr 00.

[16] VII Corps G–2, "100-Hour Ground War," p. 121; Kevin Smith and Burton Wright III, *United States Army Aviation During Operations* DESERT SHIELD *and* DESERT STORM: *Selected Readings* (Fort Rucker, Ala.: U.S. Army Aviation Center, 1993), pp. 67–68.

[17] Vogel, "Metal Rain," p. 22; Carhart, *Iron Soldiers*, p. 288.

[18] Interv, Johnson with 2d Bde, 26 Mar 91; James S. Goldberg, note to author, 30 Mar 00, author's files.

[19] Ibid.

[20] Ibid.

[21] ARCENT, DESERT STORM Intel Sum, Apr 91; VII Corps G–2, "100-Hour Ground War," pp. 133–34.

[22] Meigs, note to author, 11 Apr 00. VII Corps G–2, "100-Hour Ground War," p. 132; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 293.

[23] Interv, Johnson with 2d Bde, 26 Mar 91; Roy S. Whitcomb, AAR, Opn DESERT VIPER, 5 Jun 91; Scales, *Certain Victory*, pp. 292–93.

[24] Interv, Johnson with 2d Bde, 26 Mar 91; Whitcomb, AAR, 5 Jun 91.

[25] Interv, Johnson with 2d Bde, 26 Mar 91; Meigs, note to author, 11 Apr 00. Volley fire is nothing more than all the weapons in a unit firing at the same time. It creates a positive psychological impression on the attacker and, if effective, a negative one on the defender, who starts to fear the effects of the next volley.

[26] Interv, Johnson with 2d Bde, 26 Mar 91.

[27] Carhart, *Iron Soldiers*, pp. 279–302; Interv, Johnson with 2d Bde, 26 Mar 91; Scales, *Certain Victory*, p. 293; Meigs, note to author, 11 Apr 00.

[28] Interv, Johnson with 2d Bde, 26 Mar 91; Carhart, *Iron Soldiers*, pp. 279–302; Meigs, note to author, 11 Apr 00.

[29] Steve Vogel, "Killer Brigade," p. 16; Swan, "Battle Summary."

[30] Swan, "Battle Summary"; Interv, Johnson with 2d Bde, 26 Mar 91; Vogel, "Metal Rain," p. 22.

[31] Interv, author with Frederick M. Franks, Jr., 8 Sep 95, CMH.

[32] Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), pp. 419–20.

19

Exploitation and Pursuit

By the afternoon of 27 February the coalition had defeated thirty-three Iraqi divisions. Across the entire battlefront, Iraqi units were in headlong flight north toward the Euphrates Valley. The U.S. Defense Intelligence Agency estimated that eighty thousand retreating Iraqi soldiers were in and around Al Basrah. Other Iraqi units were fleeing across the Hawr al Hammar causeway out of the Kuwaiti Theater.[1] Squeezing these Iraqi forces into the Basrah Pocket was VII Corps. Its five heavy divisions, along with the armored cavalry regiment and supporting artillery and attack helicopters, continued to pressure the Iraqis from the southwest. From the northwest, Lt. Gen. Gary Luck's XVIII Airborne Corps prepared to block the Iraqi escape routes on the Euphrates. His 24th Infantry Division (Mechanized) and 3d Cavalry attacked down the south side of the Euphrates Valley, while the 101st Air Assault Division prepared to use its attack helicopters and heliborne infantry to interdict any Iraqi crossing of the Euphrates. With total dominance of the air, the combat power of these two corps could destroy or force the surrender of most of the remaining Iraqi combat units in the Basrah Pocket within twenty-four hours. It promised to be a military victory of monumental proportions.

Such a decisive success, however, was not to be. With Saddam Hussein's center of gravity, the *Republican Guard*, within reach of the coalition juggernaut, the American political authorities called off the offensive. While the campaign achieved the immediate political objective of ejecting the Iraqi Army from Kuwait, it failed to achieve its major military objective of destroying the entire *RGFC*. Like the German Army at the end of World War I, much of the Iraqi Army was able to withdraw into the nation's heartland generally intact. It would remain a potent force to suppress internal rebellion and form the foundation for a resurgent Iraqi military.[2]

On the night of 27 February, however, Franks' VII Corps appeared to be on the verge of a decisive victory. To the west of VII Corps, the XVIII Airborne Corps' 82d and 101st Air Assault Divisions had interdicted Iraqi movement along the Euphrates River Valley and its road network from As Samawah southeast to An Nasiriyah. On the afternoon of the twenty-seventh the 101st Air Assault Division, demonstrating the flexibility of modern rotary-wing aviation, relocated 200 kilometers east to Forward Operating Base (FOB) VIPER. From this location, attack helicopter battalions struck deep near Al Basrah and across the Hawr al Hammar.[3]

On the morning of 27 February the 24th Infantry Division, with the 3d Cavalry under its operational control, seized the Jalibah and Tallil Air Bases. That afternoon the division began its attack down Highway 8 toward the Rumaylah Oil Fields.[4] The XVIII Airborne Corps had blocked the Iraqi escape routes to the northwest.

To the east of VII Corps, the two Arab corps and the U.S. I Marine Expeditionary Force reached their limits of advance. That morning Saudi Arabian and Kuwaiti troops had begun liberating Kuwait City. The once beautiful city looked like it had been captured by an ancient barbarian army. Over 170,000 homes and apartments had been ransacked, the markets looted, and anything that could be moved carried north to Iraq.[5] In addition to destroyed property, the returning Kuwaitis had to contend with the human toll of the Iraqi occupation. Between eight and ten thousand Kuwaiti citizens had disappeared, many horribly tortured to death. Another twenty-five to thirty thousand had been taken to Iraq to serve as hostages or slave laborers.[6] It would be a long time before the effects of the Iraqi occupation were erased.

Meanwhile, the air campaign continued against Iraqi targets. Coalition fighter-bombers destroyed thousands of wheeled vehicles near the Multa Ridge, north of Kuwait City, and the Hawr al Hammar causeway. However, poor weather, burning oil wells, and congested terrain limited the ability of fixed-wing aircraft to interdict the movement of Iraqi troops during these last hours of the conflict.[7] In one important way, the air campaign was ineffective. The authors of the Air Force's postwar study believed the *RGFC* was immobilized and at 50 percent effectiveness because of the air campaign.[8] However, air power alone had done relatively little damage to the three *Republican Guard* heavy divisions. The *Tawakalna Mechanized Division*, the most severely damaged of the three, still had over 60 percent of its armored personnel carriers and about 70 percent of its tanks when it faced the VII Corps. One of the *Tawakalna*'s tank battalion commanders commented after the war: "When the air operations started, I had 39 tanks. After 38 days of the air battle, I had 32 tanks. After 20 minutes against the 2d Armored Cavalry Regiment, I had zero tanks."[9]

Air strikes had damaged only one brigade of the *Medina Armored Division* while it was on the move, and it arrived with almost two full armored brigades intact. The *Hammurabi Armored Division*, now moving to the north, still had over 80 percent effective combat strength.[10] The Air Force's own history documents at least some of the reasons behind this situation: Its theater leaders had ignored Schwarzkopf's guidance to destroy Iraq's center of gravity, the *Republican Guard*. While they went after every other conceivable target, the key to Iraq's possession of Kuwait was hardly affected.[11]

On 27 February, however, the destruction of the next two *Republican Guard* heavy divisions seemed imminent. At dawn the M577s of the VII Corps Jump Tactical Command Post pulled into position behind the 3d Armored Division. By 0700 General Franks had arrived and begun developing a plan for the corps' future operations. DESERT SABER was working just as he had briefed it months before. At least two of the three heavy *Republican Guard* divisions had not run



Kuwait City after DESERT STORM *and the Iraqi Retreat;* below, *This charred building typifies the damage that shelling and air bombardments caused in Kuwait City.*





Rescued Kuwaiti Citizens Who Would Otherwise Have Been Taken Captive to Iraq

away, but had chosen to stand and fight and were soon destroyed. Earlier that day the 1st Infantry Division had secured Objective NORFOLK and destroyed the southern portion of the *RGFC* line. With its right flank protected by the U.K. 1st Armoured Division, the Big Red One was in position to drive east to the sea or northeast toward the port city of Al Basrah. In a few hours the U.S. 1st Armored Division would close with the *Medina Division*, engaging the northern portion of the *RGFC* defenses. At this point the *Hammurabi Armored Division* was still somewhere behind the *Medina*.[12]

The corps commander's new task was to develop a scheme of maneuver that would set up a decisive tactical engagement with the *Hammurabi Division* twenty-four hours later. As Franks saw it, the air operation would be able to keep that division from escaping. The 24th Infantry Division and the 3d Cavalry, moving down the Euphrates Valley, would block the escape routes to the northwest. He hoped the air campaign would prevent their escape across the Euphrates River. Therefore, Franks believed the *Hammurabi* had nowhere to go and would be forced to fight somewhere in northeast Kuwait or southeast Iraq. If he could slide the fast-moving 1st Cavalry Division around to the left of the 1st Armored Division and drive the 1st Infantry Division to the northeast, then the last of the *RGFC* heavy divisions would be caught in a classic double envelopment.[13]

Franks sketched this plan in the sand for his Jump TAC officer in charge, Lt. Col. David McKiernan, and then took off to the front in his UH–60 to solicit assessments from his subordinate commanders.[14] At the 1st Infantry Division, Brig. Gen. William Carter III, the assistant division commander for maneuver,

assured him that the Big Red One was now in the exploitation role and could be on Objective DENVER, astride the Basrah Road, by nightfall.[15] Franks then flew to the 1st Cavalry Division and briefed its commander, Brig. Gen. John Tilelli, on his plan to pass it around the 1st Armored Division. Next he flew to the 1st Armored Division, as noted earlier, and caught up with General Griffith, who was orchestrating his attack against the *Medina Division*. They worked out the details of the 1st Cavalry Division's passage and began the interdivision coordination.[16] Franks believed it was essential, especially as commanders and staff officers grew tired, to move forward and explain his ideas in clear and colorful language.[17] Radios and telephones were only a supplement to his personal style of command.

At 1250 the remainder of the tactical command post arrived at the Jump TAC location. The G–3 plans chief, Lt. Col. Bob Schmitt, arrived by helicopter from the corps' main command post. The Corps G–3, Col. Stanley F. Cherrie, and the staff went to work on a fragmentary order for the double envelopment. The final plan directed the 1st Infantry Division to orient on Objectives HAWK and DENVER on the Kuwait City–Basrah Highway. The U.S. 1st Armored Division would narrow its sector and pass the 1st Cavalry Division around the left flank to attack toward Objective RALEIGH to destroy the remaining elements of the *Medina* and *Hammurabi Armored Divisions*, assisted by the 1st Infantry Division and 2d Cavalry attacking from the south. Meanwhile, the 1st and 3d Armored Divisions would attack due east and destroy the Iraqi forces that still faced them.[18] The U.K. 1st Armoured Division would continue to protect the corps' right flank and drive across Kuwait until it reached the Bay of Kuwait (*Khalij al-Kuwayt*).[19] This plan assumed there were at least twenty-four to forty-eight hours of combat remaining.

While the corps commander and staff were planning the next step of the operation, the heavy divisions were completing their tactical battles and moving into the final stage of combat operations: exploitation and pursuit.[20] In Franks' scheme of maneuver, each of his divisions in contact would transition into an exploitation. The VII Corps plan provided an encircling force to catch the *Hammurabi Armored Division*, the last of the heavy *RGFC* divisions, and destroy it. In the end, however, the VII Corps forces could not prevent the *Hammurabi*'s movement beyond the corps' northern boundary. The combat power to seal the northern exits, such as ground attack aircraft and heliborne infantry, would have to come from either the Third Army or the coalition's air forces.

The Problem of Air Coordination

While the VII Corps appeared to be part of a theaterwide encirclement of the remaining units of the *Republican Guard*, this operation was not as coordinated as it looked. The VII Corps was trying to envelop the *Hammurabi* from the south. The XVIII Airborne Corps' 24th Infantry Division and the 3d Cavalry were attacking from the north, advancing down the south side of the Euphrates River. Both of those army corps relied on the coalition's ground-attack aircraft to hold the *Hammurabi* in place until they could reach them. Such a mission required an integrated air campaign, General Schwarzkopf's responsibility, to keep the pressure on the *Hammurabi*

Division until Generals Luck and Franks could maneuver against and destroy the Iraqis.[21] The coalition air forces were unable to pin the *Hammurabi* in position.

General Schwarzkopf had not appointed an overall ground force commander, as U.S. Army doctrine had prescribed.[22] However, the commander in chief knew the Arab forces, led by Lt. Gen. Prince Khalid ibn Sultan, would never agree to serve directly under an American general officer. He and his deputy commander, Lt. Gen. Calvin A. H. Waller, would have to act informally in that capacity.[23] Because of this political arrangement, General Charles A. Horner, the air component commander, had no Army counterpart with whom to coordinate the ground and air campaigns. Thus there were numerous targeting, coordination, and perception problems between the ground commanders and the air component commanders.[24] During the last stages of the ground offensive this problem is best illustrated in the movement of the fire support coordination line (FSCL).

The ground commander, to ensure coordination of air and ground fires not under his control but which would affect his tactical operations, established the FSCL. Within the line, all Air Force aircraft, normally A–10s, flew under the supervision of air controllers coordinating with ground force commanders. Forward of that line, pilots could strike at enemy targets at will, knowing there was no probability of bombing or strafing their own ground troops. With no overall ground force commander, Schwarzkopf's own headquarters was responsible for the FSCL. Given the fast-moving pace of operations in the VII Corps sector, Central Command was too senior a headquarters to manage this responsibility effectively.[25]

Early on the twenty-seventh the FSCL was located just west of the Basrah–Kuwait City Highway.[26] That arrangement allowed coalition aircraft to attack escaping Iraqi vehicles and equipment at will. However, at 1400 Central Command imposed a new FSCL that essentially ran from just west of Basrah southeast to the Persian Gulf.[27] Franks continued to assume the Air Force was attacking and interdicting the *Hammurabi Armored Division* and other Iraqi forces. An underlying scenario in all theater planning sessions was that if the *RGFC* attempted to escape across the Euphrates or through Basrah, air power would stop it.[28] However, the new FSCL prematurely halted the air attacks before the ground forces were in position to intervene.

Schwarzkopf himself believed the escape routes out of Kuwait were closed. At his triumphant briefing on 27 February he told reporters: "When I say the gate is closed, I don't want to give you the impression that absolutely nothing is escaping. Quite the contrary. What isn't escaping is heavy tanks. What isn't escaping is artillery pieces. What isn't escaping is that sort of thing."[29]

Unfortunately, he was wrong. Almost 90 percent of the remaining *Hammurabi*'s tanks, 70 percent of its armored personnel carriers, and about 75 percent of its artillery ultimately escaped into Iraq.[30]

Objectives BONN and DORSET

From the time the 1st Armored Division ran into the *Medina Armored Division;* from the early afternoon of 27 February until late that evening, it was involved in

close battle. Although the fight at Medina Ridge took only two hours, Old Ironsides continued to move through the western portion of Objective BONN. At the end of the day, the division had defeated the defenses of the *Medina* and brigades from the *10th* and *17th Armored Divisions*. In addition, the 1st Armored Division overran the Iraqi theater-level logistics complex, capturing at least eight major logistics sites that contained over a thousand supply trucks and thousands of bunkers full of fuel and ammunition.[31] The division consolidated and reorganized that night and prepared for resumption of the offensive early the next day.

As noted previously, the race across southern Iraq and the subsequent battle with the *Medina* and other Iraqi units had taken quite a toll on the division's fuel supply.[32] General Griffith notified the corps commander that he was low on fuel early on the twenty-seventh, even before closing with the *Medina Division* east of Phase Line LIME. By late morning the situation was serious enough for Franks either to find a temporary fuel supply or to pass the 1st Cavalry Division, now resupplying in an assembly area just to the rear, through the 1st Armored Division to keep pressure on the Iraqi forces. Fortunately, General Funk's 3d Armored Division solved the problem by sending over a brigade's worth of the precious liquid.[33] Not until 2200 hours, however, was Old Ironsides refueled and ready to continue. It was a close call: Colonel Meigs' 2d Brigade had only two hours of fuel remaining at the end of the day.[34]

As part of his revised attack plan, Franks sought to bring the 1st Cavalry Division into the battle. He directed General Tilelli's troops to move that evening through the 1st Armored Division's left flank brigade and attack toward Objective RALEIGH, forty-five kilometers to the east, in hopes of catching the *Hammurabi* off guard. However, around 1700 General Griffith called Franks and told him that his northern brigade was still in combat with the *Medina* and other Iraqi forces. He judged it unwise to pass the 1st Cavalry Division around the northern flank until that fight was over. With great hesitation, Franks accepted Griffith's assessment but told him to be prepared to pass the 1st Cavalry Division at first light. He radioed Tilelli, informing him of the delay.[35]

To the south, the two brigades of Funk's 3d Armored Division had fought through the center of the *Tawakalna Division*'s defensive positions during the night of 26–27 February. The *Republican Guard* defended this part of the sector better than any other. Reinforced by troops from other units, dug in, with both flanks secure, it forced the Spearhead brigade commanders to use all the weapons in their arsenal. By the early morning hours of 27 February, however, the *Tawakalna* was no longer effective.

At 0345 Funk ordered the 2d Brigade to pass Col. Rob Goff's 3d Brigade forward at first light. He wanted his fresh brigade to pick up the pace and exploit the success of the night battle. During the ensuing passage, brigade tactical command posts were collocated, fire plans coordinated, and guides posted to ensure that the battle handoff was done correctly. At 0720 the division's artillery shot a preparatory fire on known Iraqi positions, and the 3d Brigade began to pass into the attack. The 2d Brigade reverted to division reserve and began clearing the area passed by the 1st and 3d Brigades.[36] The passage itself proceeded slowly, and not

until 1000 was Goff's unit in control of the battle. Almost immediately, his unit made contact with various disorganized units from the Iraqi *10th*, *12th*, and *17th Armored Divisions*. Colonel Goff pushed his commanders relentlessly as they began to exploit the success of the previous night. They encountered companies and platoons instead of battalions. Many of the Iraqi vehicles they discovered had been abandoned during the night.[37]

While the 3d Brigade began its passage around 1000, the 1st Brigade, 3d Armored Division, continued its movement to the east. As one task force bounded forward, another provided overwatching fire support. The 4th Battalion, 34th Armor, task force executed the initial bound in the southern part of the sector. It moved with its two pure tank companies forward, while the two mechanized company teams followed. At a distance they could see Iraqi armor and tried to engage at maximum range. The enemy vehicles, probably a reconnaissance screen, soon withdrew from sight and departed the task force's sector. That advance put the task force about two to three kilometers to the east of the rest of the brigade.

At 0700 the second task force, the 4th Battalion, 32d Armor, began its bound. This movement resulted in almost immediate contact with an Iraqi mechanized battalion strong point of fifteen tanks, twenty-five armored personnel carriers, and a bunker complex defended by dismounted infantry. The commander, Lt. Col. John F. Kalb, directed all forty-three of his M1A1 tanks to come on line with the lead company. Simultaneously, he directed his eighteen M2 Bradleys to move to the task force's right flank, thus engaging Iraqi vehicles with TOWs at maximum range. One of the early shots destroyed a vehicle almost four thousand meters away and served as the task force's target reference point. In spite of the screen the Iraqis had posted to their front, this violent engagement surprised them. The shocked Iraqi forces milled about without any apparent purpose. Some troops dove into fighting positions; others fled. Iraqi direct and indirect fire was ineffective, and it failed to injure any of the attacking American soldiers. Colonel Kalb received additional fire support, and the Iraqis were raked by a combination of direct ground fire, indirect artillery fire, Apache fire, and A–10 attacks.[38]

As this fight began to wind down around 0730, two events occurred almost simultaneously. First, Iraqi forces began to surrender, exiting their fighting positions within the bunker complex and moving toward the U.S. task force. About the same time the commander of Kalb's right flank company reported that the Iraqis were counterattacking with twenty to thirty tanks and personnel carriers from the southeast. The task force maneuvered to engage those attackers with both direct and indirect fire. Simultaneously, it accepted the surrender of the Iraqis from the bunker complex. Colonel Kalb's tank and Bradley crews destroyed another four tanks and fifteen BMPs in this short engagement. For the next two hours the brigade remained near the bunker complex, processing prisoners and destroying enemy facilities and equipment.[39]

By 1030 the 3d Armored Division's exploitation was under way toward Objective DORSET, twenty kilometers to the east. As the Spearhead advanced, its maneuver battalions continued to encounter small groups of armored vehicles. The disorganization of the enemy was obvious as the division engaged retreating



Destroyed MT-LB, Outskirts of Safwan

Iraqi units. By 1230, just as the 1st Armored Division was about to demolish the *Medina Division's 2d Brigade,* the 3d Armored Division was on its objective.[40] It had little time to rest and continued to push toward the next objective, MINDEN, twenty kilometers to the southeast. As the division advanced, it continued to encounter small units of T–72 and T–62 tanks, BMPs, and all sorts of other vehicles. With no pattern to the enemy defense, tank engagements that afternoon were as close as 300 meters and as distant as 2,800. By late afternoon hundreds of burning Iraqi vehicles lay in the wake of the passing American armor.[41]

The 3d Armored Division crossed into Kuwait at 1643 on the twenty-seventh. Again, the pace of the attack caught the Iraqis unprepared. Lt. Col. Dan Merritt's 2d Battalion, 67th Armor (3d Brigade), caught one Iraqi tank company with many crewmembers sitting on top of their vehicles. The U.S. troopers held their fire, hoping for a surrender. Instead, the Iraqis jumped into their tanks and began moving toward the Americans. Merritt's tankers destroyed this unit before it could get off a shot.[42]

As the 3d Armored Division closed toward Objective MINDEN, it overran more than a brigade's worth of abandoned equipment from the *10th Armored Division.* The crews had probably vanished after the devastating attack by the 11th Aviation Brigade the night before.[43] By 2100 the division was crossing the IPSA Pipeline complex. Rather than defensive firepower, Spearhead troopers were greeted by surrendering Iraqi soldiers. Many of them were probably not combat troops but

headquarters and logistics specialists who ran the numerous support facilities scattered around the area.[44]

The pipeline road was as serious a barrier here as it was in the British sector farther south. The two elevated pipelines, each protected by a berm, required most wheeled vehicles to use a limited number of crossing sites. Isolated Iraqi defenders could block those crossings, separating the advancing combat vehicles from their precious fuel. In addition, the dispersed crossing sites delayed and separated the brigade trains from the lead elements, a situation made worse by the rapid eastward movement of the maneuver units. To ensure that the trains crossed through this barrier, a special task force of one mechanized and one tank company was organized and dispatched to ensure that the badly needed fuel followed the task forces safely.[45]

By 2130 the 3d Armored Division had reached its limit of advance, Phase Line KIWI. To prevent fratricide incidents between the Spearhead and the 1st Infantry Division moving in a northerly direction just east of KIWI, the corps established a five-kilometer buffer zone.[46] Pinched out by the advancing Big Red One, the 3d Armored Division would become the corps reserve, prepared to respond to the situation on the twenty-eighth.[47]

Objective DENVER

In the early morning hours of 27 February, Maj. Gen. Thomas G. Rhame's 1st Infantry Division was reorganizing and refueling on the eastern side of Objective NORFOLK.[48] Still burning in its wake were two full heavy brigades of the Iraqi Army and tons of supplies stored along the IPSA Pipeline Road.[49] Although Franks wanted the 1st Infantry Division to continue the attack at first light, the fueling process took longer than the brigade commanders had hoped.[50] Shortly after 0600 Col. Lon E. Maggart, the 1st Brigade commander, notified Rhame that his unit would not be prepared to resume operations until 0830. Col. David Weisman reported that his 3d Brigade could attack no earlier than 0800 hours.[51] As frustrating as those delays were to senior commanders, there was little they could do but wait until the process was complete. Fuel and ammunition for the 1st Infantry Division had to travel through the dangerous, smoldering wasteland of NORFOLK. Iraqi vehicles and ammunition continued to burn and explode, the ground was littered with unexploded munitions, and some Iraqis continued to fight.[52] Considering the unit had traveled over 130 kilometers in the preceding twenty-four hours, the fuel problem appears even more daunting. Nevertheless, by dawn it appeared that the division's chain of command had solved its supply problems.

At 0700 General Rhame ordered the 4th Brigade to launch its Apaches and the 2d Brigade to start moving forward through the 1st Brigade and to continue the attack to the east at 0830.[53] The 3d Brigade would resume its attack on the division's southern axis at the same time. As 3d Brigade crews began moving on line around dawn, they discovered a line of Iraqi tanks at a great range. Using thermal sights, gunners from 2d Battalion, 66th Armor, and 1st Battalion, 41st Infantry, destroyed several before the Iraqi crews had any inkling of their danger. Before

beginning its formal attack, the 3d Brigade thus accepted another battalion's worth of Iraqi prisoners.[54]

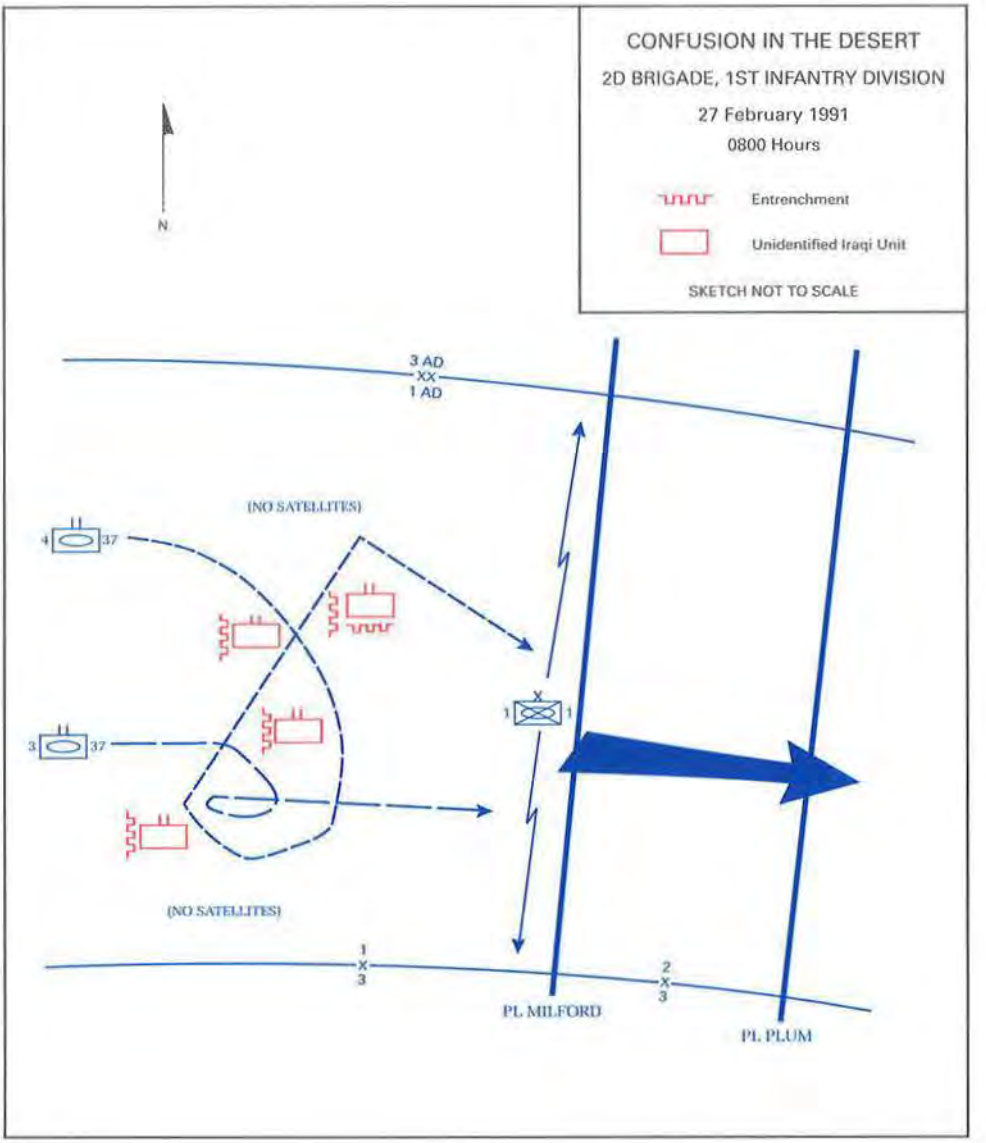
Shortly after 0800 Rhame and his G–3, Col. Terry Bullington, jumped back into their M1A1 tanks and began moving into a position behind the 3d Brigade. The division commander reminded his brigade commanders to keep all gun rounds heading east. The division TAC made a communications check with VII Corps, and the Big Red One began to move.[55]

The division did not, however, move very far. At 0835, one hour after the attack was supposed to begin, the 2d Brigade was still behind the 1st Brigade. Apparently, the satellite that the brigade's global positioning system (GPS) devices had acquired gave the wrong reading. Rather than go straight to the east, its two battalions (the third was still back at the breach site) literally drove around in a big circle before discovering the error. After locating a new satellite, the two battalions headed for their line of departure.[56]

Col. Anthony Moreno reported to Rhame that it would take his 2d Brigade another thirty to sixty minutes to pass through the 1st Brigade and begin the attack. A frustrated division commander put off the attack until 0900, over three hours after the original advance was supposed to begin. Finally, at 0915 the 2d and 3d Brigades moved forward. The 1st Squadron, 4th Cavalry, resumed its screening mission, protecting the left flank of the division from Iraqi probes from the north.[57]

The morning's delay had set the division back several hours, a testimony that technology, in this case the GPS, was not a foolproof answer to war's friction and confusion. Of course, General Rhame was straining to attack the Iraqis and urged his brigade and battalion commanders not to waste a minute.[58] Lt. Col. David Marlin, commander of 4th Battalion, 37th Armor, later remembered racing through the desert at 30–35 miles per hour in an attempt to get to the line of departure, observing "tanks with plows almost flying through the air as they hit small berms and rough spots on the terrain."[59] The Big Red One's delay did not escape the notice of the omnipresent corps commander, who arrived at the division tactical command post at 0920, while Rhame was already forward with his lead brigades.[60] Franks talked to General Carter and by radio to General Rhame. Rhame promised Franks to keep his division moving and to cut the Basrah Highway by that evening.[61]

After the morning's disruption, the 1st Infantry Division spent most of the day in exploitation across Kuwait. Rhame's concern to avoid more fratricide incidents was reinforced around 1130 when a 3d Brigade tank destroyed a British reconnaissance vehicle on its flank. Fortunately, the crew was not inside and escaped injury.[62] Staffs at both divisions and corps continued to work at refining the boundaries to prevent further interdivisional incidents, with the lack of terrain features, as elsewhere, making it a difficult chore.[63] Meanwhile, the attack continued and by 1230, while the 1st Armored Division was fighting at Medina Ridge, the 1st Squadron, 4th Cavalry, had reached the division's first objective, Phase Line BERLIN, a line between the 3d Armored Division's Objective MINDEN and the U.K. 1st Armoured Division's Objective VARSITY.[64] Soon the rest of the 1st Infantry



MAP 23

Division came on line and paused for yet another refueling operation. In a little more than an hour the division was on its way.[65]

The Big Red One's mission was to attack east and seize a large objective, called DENVER, on the Basrah Highway 100 kilometers away. The 1st Squadron, 4th Cavalry, now performed two screening tasks: the division's left flank and its zone of advance, far in front of the rest of the 1st Infantry Division.[66] Franks expected

Rhame's armor to be on the objective by nightfall. With the highway cut from the south, the corps commander would have the southern portion of his double envelopment complete and would be well on the way to destroying the remaining *Republican Guard* units to the northwest.[67]

The attack, however, did not go as planned. The 2d Brigade moved forward slowly, coordinating with both the 3d Armored Division on its left flank, passing the 1st Brigade to its right, and destroying isolated pockets of Iraqi armor. The 1st Brigade, now in the division's center, ran into a firefight as soon as it completed its passage of lines. The 3d Brigade working on the division's right flank was also in contact with Iraqi defenders. For a short time the division's three brigades were all on line and engaged in a confusing battle.[68]

The 3d Brigade on the division's right flank fought a series of short, sharp battles with Iraqi tank platoons as it moved across the Wadi al Batin into Kuwait. The situation was so fluid that Colonel Weisman left a tank platoon behind to protect his direct support artillery, the 4th Battalion, 3d Field Artillery. Later that evening an Iraqi tank unit did attack the battalion but the American platoon destroyed it before it could do any damage.[69]

Rather than an exploitation, the division was fighting through isolated Iraqi defenses in the worst terrain the division encountered during the entire war, a twenty-square-kilometer open-faced mining area. Although the terrain was gently rolling, heavy mining equipment had dug huge craters one or two kilometers wide. In the 1st Brigade sector, this man-made moat could be traversed by only two trails. On the far side of this obstacle waited Iraqi armor and dismounted infantry. While the defense was not well organized, it did slow the 1st Infantry Division's advance in what 1st Brigade soldiers called the Valley of the Boogers.[70]

Lt. Col. Robert Wilson's cavalry squadron, however, continued moving with little opposition.[71] General Rhame gave the squadron an objective astride the Basrah Highway. Without a clear area of operations, the squadron operations officer, Maj. John Burdan, developed, in conjunction with the 2d Brigade, a series of points along the way for the squadron to use as a path toward its objective.[72] Somehow these points were well north of the 2d Brigade's sector and avoided most Iraqi defenders and the mining quarry.

Given the hilly terrain and the speed at which the squadron was moving, some interruption of communications was to be expected. In most cases, the radio operators in the command post vehicles could hear radio messages over the division command frequency. As they began to lose contact with the division, they relayed their messages through the 2d Brigade, which was closer to them than the division tactical command post. No one at division or brigade called the cavalry and told it to stop or slow down. By 1600 Colonel Wilson found himself out of contact with the rest of the Big Red One.

Wilson discussed his options with Burdan and his two ground troop commanders. They were comfortable with their mission and assumed that the rest of the division was on its way. It was obvious to all that organized Iraqi resistance had evaporated. The aero scouts reported no meaningful enemy activity in the area and no organized units within ten kilometers of the squadron. The best decision was

to secure the road and wait for the arrival of the rest of the division.[73] General Rhame, because of the mission orders he had given his cavalry, had kept his promise to the corps commander about blocking the Basrah Highway. As darkness approached, and still out of radio contact, Wilson consolidated his screen line into a circular defense to prevent Iraqi withdrawal north.[74]

The rest of Rhame's division, however, had not followed the cavalry squadron. The northeasterly movement of the 1st Infantry Division was bringing it across the front of the easterly moving 3d Armored Division. Franks wanted the Big Red One to stop its advance northeast before it reached the Basrah Highway. Colonel Cherrie, Franks' operations officer working from the VII Corps' tactical command post, ordered the division to stop moving at 1846, while he worked out plans for the corps' attack. He wanted to coordinate the operations of all the corps' divisions. Impatiently, the 1st Infantry Division's TAC called back to the VII Corps a half-hour later and asked permission to continue, but a duty officer told them to keep waiting. Once Cherrie finished his current crisis, he intended to send a new set of instructions to General Rhame, defining his new avenue of advance. However, they never arrived. Organized around five M577 command post vehicles and about two dozen other vehicles, the corps TAC at that moment was a very busy place.[75] In all the confusion and working on little sleep for the last several days, Cherrie, as he admitted later, simply "forgot to tell [the 1st Infantry Division] to start again."[76]

Staff problems in the Big Red One further complicated the cavalry squadron's situation. General Rhame's fire support officer told the 1st Infantry Division's tactical command post about Wilson's squadron cutting the Basrah Highway at 1828. For some reason the duty officer changed the location in the log from the correct location to ten kilometers south.[77] To confuse the issue further, at 1905 the 1st Infantry Division's TAC reported to the VII Corps that Wilson's squadron was twenty-three kilometers southwest of its actual location.[78] Around 0130 the next day, the VII Corps staff found out there was a unit, probably from the 1st Infantry Division, astride the Basrah Highway. In spite of the fact that the 1st Squadron, 4th Cavalry, had regained radio contact with the 2d Brigade, the 1st Infantry Division's TAC continued to deny that they had any units in that area.[79]

Rhame, who was forward, commanding his division from inside an M1A1 main battle tank, failed to challenge the order to halt his division. He would later regret his inaction.[80] Because of sloppy staff work, however, Rhame had no idea of the squadron's actual location and assumed it was next to the 2d Brigade. With the suspension of hostilities announced at 2245 and scheduled to resume at 0500 the next day, neither Rhame nor Franks felt any reason to change the tactical alignment that night.[81] For the next twelve hours, therefore, the 1st Squadron, 4th Cavalry, was the easternmost and most exposed unit in VII Corps. By the end of the night, the squadron would capture over fifteen hundred prisoners.[82]

Objective VARSITY

Maj. Gen. Rupert Smith's U.K. 1st Armoured Division had not traveled as far as the rest of the VII Corps, but it had been in almost forty-eight hours of constant

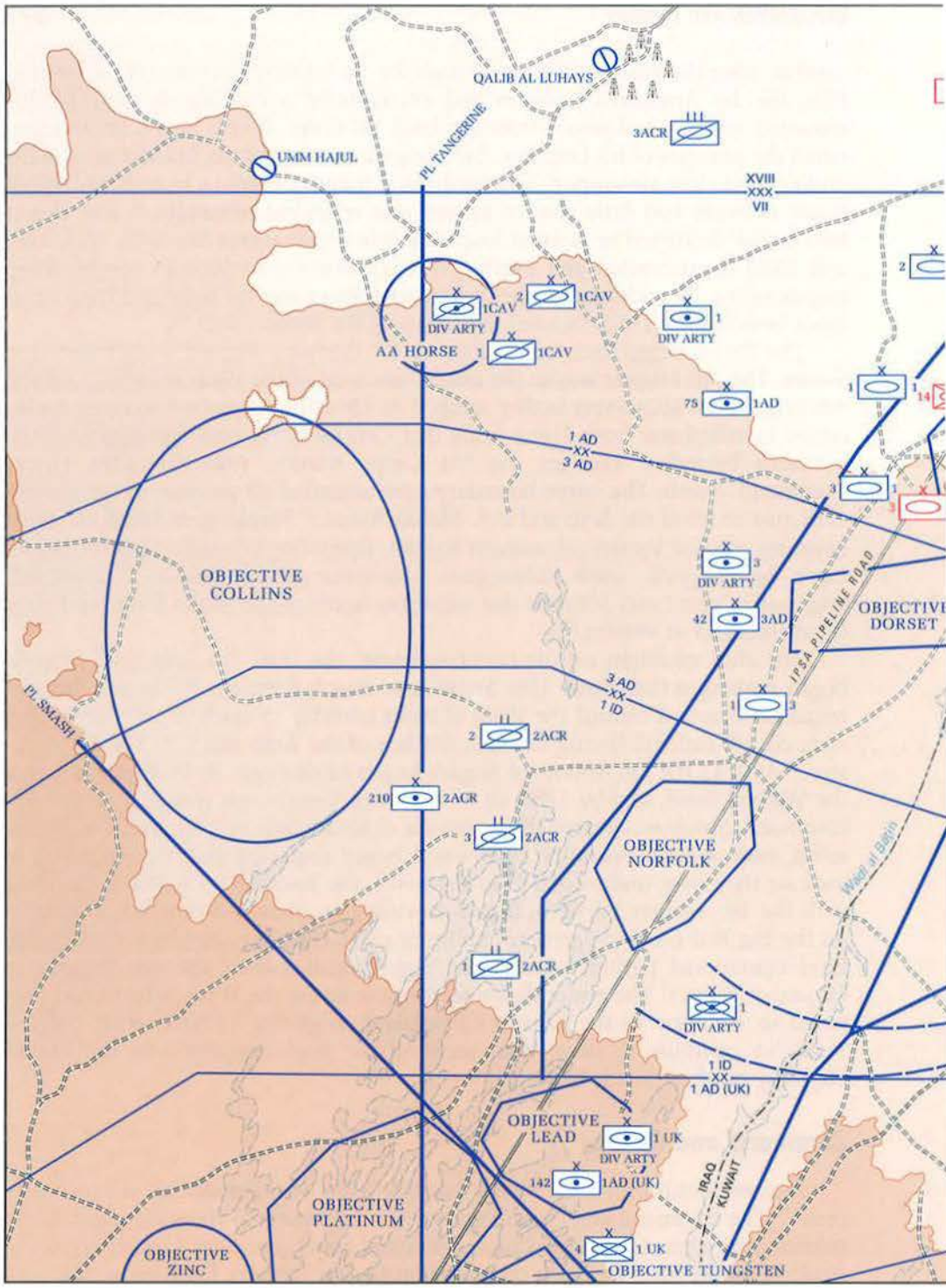
combat. After the passage of lines through the 1st Infantry Division on the twenty-fifth, the 1st Armoured Division had encountered a continuous array of dismounted infantry and armor from the Iraqi *VII Corps*. Like a boxer, Smith alternated the punches of his brigades. Each brigade attack had the full attention of his artillery and close air support. Uncoordinated Iraqi counterattacks and inadequate linear defenses had little chance against this relentless onslaught.[83] The Desert Rats' attack destroyed or isolated four Iraqi infantry divisions (the *26th, 48th, 31st*, and *25th*) in succession and overran the *52d Armored Division* in several sharp engagements. By midnight on the twenty-sixth there was no organized Iraqi resistance between the 1st Armoured Division and the Persian Gulf.[84]

The British began their exploitation on 27 February, aligned along Phase Line SMASH. The 7th Brigade was to the north, just west of the Wadi al Batin, with the 4th Brigade ten kilometers farther south.[85] At 1850 the corps G–3 received notification by telephone from Third Army that Central Command had approved the southern boundary changes the VII Corps wanted with the Joint Forces Command–North. The corps boundary now extended all the way to the Persian Gulf, just north of the Arab and U.S. Marine forces.[86] Franks gave Smith an initial objective, named VARSITY, in western Kuwait, thirty-five kilometers east of SMASH. Later, he assigned Smith subsequent objectives on the Kuwait City–Basrah Highway (COBALT and SODIUM) that were just north of the Multa Ridge and sixty kilometers east of VARSITY.[87]

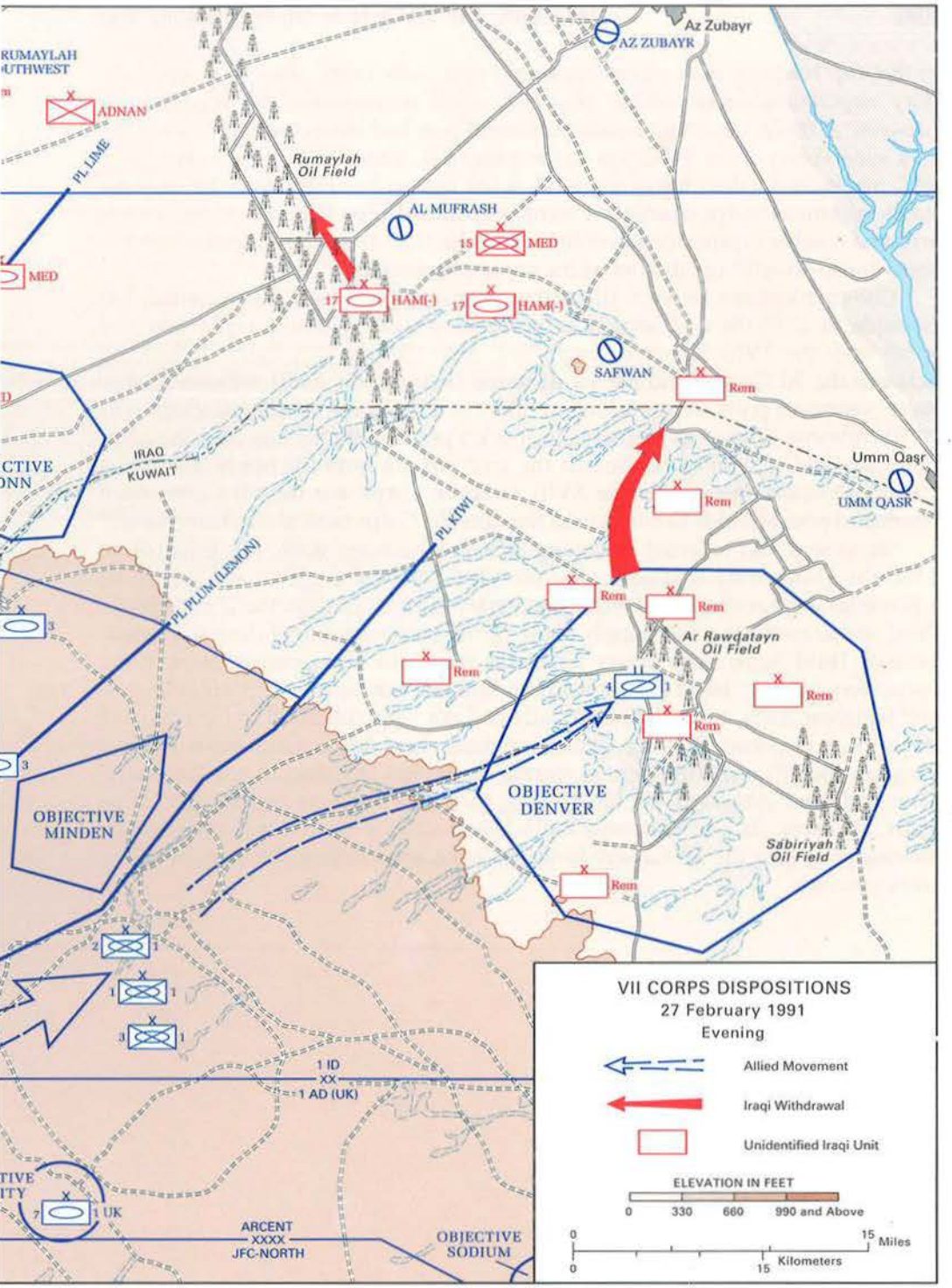
Just after midnight on the twenty-seventh, the U.K. 7th Armoured Brigade began moving across Phase Line SMASH into attack positions.[88] The 4th Brigade remained oriented toward the Wadi al Batin corridor to catch enemy forces that were cut off and still fleeing north in the face of the Arab and U.S. Marine offensive.[89] At 0712 the 7th Armoured Brigade began its race east. By 0820 it was across the Wadi al Batin, and by 1230 all of Objective VARSITY was secure.[90] As the day continued, Smith recognized the weariness of his soldiers and his staff. He started using more written operation orders and began requiring positive responses to indicate they were understood.[91] To the north, the British liaison officer, traveling with the 1st Infantry Division, began providing an increased number of updates on the Big Red One's progress to minimize cross-boundary incidents during this fluid operational period.[92] Later that night Smith moved the 4th Brigade to Objective VARSITY. The entire division was now across the Wadi al Batin and prepared to continue to the Kuwait City–Basrah Highway.[93] Franks then ordered Smith to continue to drive east, securing the final objectives on the Basrah Highway north of Multa Ridge.

Command and Control

General Smith later commented that VII Corps was "stressed by our own success."[94] The command and control system was beginning to show the effect of the intense campaign. In the VII Corps command posts, the duty logs reflected the strain of battle. After a cryptic comment on the 1st Infantry Division at 0645, 27 February, the VII Corps G–3 (Operations) log reflected a major gap in its account


QALIB AL LUHAYS
UMM HAJUL
PL TANGERINE
3ACR
XVIII
XXX
VII
1CAV
DIV ARTY
AA HORSE
1CAV
1CAV
DIV ARTY
75 1AD
1 AD
XX
3 AD
OBJECTIVE
COLLINS
3
DIV ARTY
42 3AD
IPSA PIPELINE ROAD
OBJECTIVE
DORSET
PL SMASH
3 AD
XX
1 ID
2 2ACR
210 2ACR
3 2ACR
OBJECTIVE
NORFOLK
Wadi al Batin
1 2ACR
DIV ARTY
1 ID
XX
1 AD (UK)
OBJECTIVE
LEAD
1 UK
DIV ARTY
142 1AD (UK)
IRAQ
KUWAIT
OBJECTIVE
PLATINUM
OBJECTIVE
ZINC
4 1 UK
OBJECTIVE TUNGSTEN

MAP 24


Az Zubayr
AZ ZUBAYR
ADNAN
PL LIME
Rumaylah Oil Field
AL MUFRASH
15 MED
MED
17 HAM(-)
17 HAM(-)
SAFWAN
Rem
IRAQ
KUWAIT
Umm Qasr
UMM QASR
PL KIWI
PL PLUM (LEMON)
Ar Rawdatayn Oil Field
OBJECTIVE MINDEN
OBJECTIVE DENVER
Sabiriyah Oil Field
1 ID
XX
1 AD (UK)
1 UK
ARCENT
XXXX
JFC-NORTH
OBJECTIVE SODIUM
VII CORPS DISPOSITIONS
27 February 1991
Evening
Allied Movement
Iraqi Withdrawal
Unidentified Iraqi Unit
ELEVATION IN FEET
0 330 660 990 and Above
0 15 Miles
0 15 Kilometers

of the war. Nothing more was documented until early in the afternoon, when the duty noncommissioned officer obviously tried to ascertain the situation. In between, at 0842, the corps tactical command post had moved out and passed the staff supervision of the VII Corps to the Jump TAC until 1930. If the corps Jump TAC maintained a duty log of any kind, it has not yet been discovered. Over four hours of critical corps operations went unrecorded. For that period the largest armored combat organization ever fielded by the U.S. Army depended on the personal "push-to-talk" capabilities of the corps commander.[95]

Communications between the corps command posts were also strained. For example, at 1345 the G–3 section in the corps tactical operations center received a call from the XVIII Airborne Corps G–3. After the previous fratricide incident between the 3d Cavalry and the 1st Armored Division, the XVIII Airborne Corps' main command posts were working to improve cross-corps communications. The XVIII Airborne Corps was preparing to attack a possible enemy unit near the corps boundary and wanted to ensure that the unit was not from the newly arrived 1st Cavalry Division. But neither the XVIII Airborne Corps' nor the VII Corps' main command post was able to contact the forward VII Corps tactical command post.[96]

Stress was also reflected in communications between staffs. For example, at 1500 the Third Army engineer called the VII Corps staff engineer and passed on a potential fragmentary order requiring corps engineers to clear the IPSA Pipeline Road and to establish a fuel supply point. In the action column of the log, an exasperated Third Army duty officer noted the results of his conversation with the corps duty officer: "asked for update from him and got no Info!"[97] Unlike brigade and battalion staffs, corps' staffs normally had not been subjected to the recurring stress of a National Training Center exercise. Few Battle Command Training Program (BCTP) scenarios were as intense as the last five days of combat operations had been. Although still functioning, the corps staff was beginning to come apart. Mistakes, such as the corps staff's failure to keep the 1st Infantry Division moving or to pass the 2d Cavalry forward, had a pronounced effect on the offensive's outcome.

Notes

[1]DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), p. 285; Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Survey Summary Report* (Washington, D.C.: Government Printing Office, 1993), p. 115.

[2]Michael Eisenstadt, "The Iraqi Armed Forces Two Years On," *Jane's Intelligence Review* (March 1993):124–25.

[3]DOD, *Conduct of the Persian Gulf War*, pp. 286–87.

[4]Jason K. Kamiya, *A History of the 24th Mechanized Infantry Division Combat Team During Operation DESERT STORM* (Fort Stewart, Ga.: 24th Infantry Division (Mechanized), 1992), pp. 51–54; DOD, *Conduct of the Persian Gulf War*, pp. 286–87.

[5]Rick Atkinson, *Crusade: The Untold Story of the Persian Gulf War* (Boston: Houghton Mifflin Co., 1993), p. 460.

[6]Michael Kelly, "The Rape and Rescue of Kuwait City," in *Triumph in the Desert*, ed. Peter David (New York: Random House, 1991), pp. 194–95.

[7]Keaney and Cohen, *Gulf War Air Power*, p. 115; DOD, *Conduct of the Persian Gulf War*, p. 147.

[8]Keaney and Cohen, *Gulf War Air Power*, pp. 116–19.

[9]Douglas W. Craft, *An Operational Analysis of the Persian Gulf War* (Carlisle Barracks, Pa.: Strategic Studies Institute, 1992), p. 37.

[10]CIA, *Operation DESERT STORM: A Snapshot of the Battlefield* (Springfield, Va.: National Technical Information Service, 1996), Chart: "Status of Iraqi Heavy Divisions."

[11]Eliot A. Cohen, ed., *Gulf War Air Power Survey, Volume II: Operations and Effects and Effectiveness* (Washington, D.C.: Government Printing Office, 1993), pp. 212–16.

[12]VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. 134, in VII Corps AAR, Fort Leavenworth, Kans.

[13]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 12 Apr 91, TRADOC.

[14]Peter S. Kindsvatter, VII Corps Historian's Notes and Observations During Operation DESERT STORM, 26 Apr 91, p. 52.

[15]Frederick M. Franks, Jr., "Message: Fighting a Five Armored Division Corps," 31 Mar 91, in VII Corps AAR.

[16]Interv, Kindsvatter with Franks, 12 Apr 91.

[17]Interv, author with Frederick M. Franks, Jr., 8 Sep 95, CMH.

[18]Franks, "Fighting a Five Armored Division Corps."

[19]VII Corps, Sitrep 41, 27 Feb 91; Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* 72, no. 2 (February 1992):33.

[20]DA, FM 101–5–1, *Operational Terms and Symbols* (Washington, D.C.: Department of the Army, 1985), pp. 1–31, 1–57. These two terms, often used interchangeably, have slightly different meanings. An exploitation is an offensive operation that usually follows a successful attack to take advantage of weakened or collapsed enemy defenses. Its purposes are to prevent the reconstitution of enemy defenses, to prevent enemy withdrawal, and to secure deep objectives. A pursuit is force oriented and targeted against a retreating enemy, following a successful attack or exploitation. Its object is nothing less than the destruction of the retreating force. According to Army doctrine, at least two tactical elements are required to consummate a successful pursuit: a direct pressure force and an encircling force. The direct pressure force maintains constant pressure on the retreating enemy unit, denying it any chance to rest, regroup, or resupply. While the pressure keeps the enemy from moving as he would like, an encircling force maneuvers around the flanks and rear of the enemy force, cuts its escape route and destroys it.

[21]Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 337–38.

[22]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), pp. 170–71; William W. Mendel and Floyd T. Banks, Jr., *Campaign Planning* (Carlisle Barracks, Pa.: Army War College, 1988), p. 103.

[23]Intervs, Joe Huddleston with Calvin A. H. Waller, 25 Apr, 16 May 91.

[23] Cohen, *Air Power Survey, Volume II*, p. 259; Interv, Charles W. Robinson with Frederick M. Franks, Jr., 10 Nov 93, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kans. (hereafter cited as CGSC).

[24] DA, FM 101–5–1, pp. 1–32; Williamson Murray, *Air War in the Persian Gulf* (Baltimore: Nautical and Aviation Pub. Co., 1995), pp. 292–94; Interv, Charles W. Robinson with Frederick M. Franks, Jr., 28 Oct 93, TRADOC.

[25] ARCENT Lucky TAC, Fire Spt, Staff Jnl, 27 Feb 91, entry 6.

[26] ARCENT TAC, Fire Spt, Staff Jnl, 27 Feb 91, entry 9; Interv, Robinson with Franks, 10 Nov 93; ARCENT, "U.S. Army Forces Central Command Battlefield Chronology," [Mar 91], Swain Collection, Fort Leavenworth.

[27] Interv, author with Franks, 8 Sep 95.

[28] H. Norman Schwarzkopf, Jr., "Central Command Briefing, 27 February 1991," in *Military Review* 63 (September 1991):108.

[29] CIA, *Snapshot of the Battlefield*, Chart: "Status of Heavy Divisions," Cohen, *Air Power Survey, Volume II*, pp. 212–16.

[30] VII Corps G–2, "100-Hour Ground War," pp. 132–34; VII Corps, Sitrep 41, 27 Feb 91.

[31] 1st Armd Div G–3, Staff Jnl, 27 Feb 91, entry 15; Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, p. 61; 125th Spt Bn (Fwd), Opns DESERT SHIELD & STORM Hist Sum, 9 Nov 90–29 Apr 91, pp. 5–7.

[32] Interv, Kindsvatter with Franks, 12 Apr 91; Franks, "Fighting a Five Armored Division Corps."

[33] Vogel, "Metal Rain," p. 22; Montgomery C. Meigs, note to author, 11 Apr 00.

[34] Franks, "Fighting a Five Armored Division Corps"; Interv, Kindsvatter with Franks, 12 Apr 91; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), pp. 427–28.

[35] Interv, Peter S. Kindsvatter with Paul E. Funk, 4 Apr 91; 2d Bde, 3d Armd Div, Hist Sum.

[36] 2d Bn, 67th Arm, Staff Duty Log, 27 Feb 91; 3d Armd Div, "Chronology of the 3d Armored Division in Operation DESERT SPEAR, 24–28 February 1991," n.d., in VII Corps AAR; The Thundering Third Brigade Combat Team [AAR], n.d.; Steve Vogel, "Tip of the Spear," *Army Times*, 13 Jan 92, p. 54.

[37] K. Weber and J. Aiello, "History of the Ready First Combat Team: First Brigade, Third Armored Division, November 1990–22 March 1991," Unpubl Ms, Iraq, [1991], pp. 11–12.

[38] Weber and Aiello, "Ready First Combat Team," p. 12; 3d Armd Div, "DESERT SPEAR"; Vogel, "Tip of the Spear," p. 16.

[39] Ibid.; 2d Bn, 67th Arm, Staff Duty Log, 27 Feb 91.

[40] Weber and Aiello, "Ready First Combat Team," p. 12; 3d Armd Div, "DESERT SPEAR"; 2d Bn, 67th Arm, Staff Duty Log, 27 Feb 91.

[41] 2d Bn, 67th Arm, Staff Duty Log, 27 Feb 91; 3d Armd Div, "DESERT SPEAR"; Vogel, "Tip of the Spear," p. 54.

[42] VII Corps G–2, "100-Hour Ground War," p. 133.

[43] 3d Armd Div, "DESERT SPEAR."

[44] Weber and Aiello, "Ready First Combat Team," p. 13.

[45] Kindsvatter, "Ground Offensive," p. 33; 3d Armd Div, "DESERT SPEAR."

[46] VII Corps, Sitrep 41, 27 Feb 91.

[47] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 12.

[48] VII Corps G–2, "100-Hour Ground War," pp. 128–30; Samuel C. Raines and Mark E. Vincent, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, in VII Corps AAR; VII Corps, Sitrep 41, 27 Feb 91.

[49] VII Corps TAC, Staff Jnl, 27 Feb 91, entry 31; Interv, Kindsvatter with Franks, 12 Apr 91.

[50] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entries 20, 29, 30, 31.

[51] Lon E. Maggart, "A Leap of Faith," *Armor* (January–February 1992):29.

[52] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entries 36, 37, 39.

[53] Steve Vogel, "Hell Night: For the 2d Armored Division (Fwd) It Was No Clean War," *Army Times*, 7 Oct 91, pp. 18–24.

[54] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entries 45–50; VII Corps TAC, Staff Jnl, 27 Feb 91, entry 38.

[56] David W. Marlin, *History of the 4th Battalion, 37th Armored Regiment, in Operation* DESERT SHIELD/STORM (Carlisle Barracks, Pa.: Army War College, 1992), pp. 432–34.

[57] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entries 52, 54, 59, 61; 1st Bde, 4th Cav, Opns Staff, "Riders on the Storm," *Armor* (May 1991):17.

[58] Interv, Thomas A. Popa with Thomas G. Rhame, 26 Jul 91, CMH.

[59] Marlin, *History of the 4th Battalion*, p. 439.

[60] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 60.

[61] Interv, Popa with Rhame, 26 Jul 91.

[62] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 66; VII Corps Main CP, G–3, Staff Jnl, entries 15, 17; Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), p. 107.

[63] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 68.

[64] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 17; 1st Inf Div G–3, 1st Inf Div on DESERT STORM (briefing to CGSC students), 7 Aug 91.

[65] Interv, Popa with Rhame, 26 Jul 91.

[66] Ibid.; Maggart, "Leap of Faith," p. 30; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 17.

[67] Interv, Kindsvatter with Franks, 12 Apr 91.

[68] Maggart, "Leap of Faith," p. 30; Vogel, "Hell Night," pp. 18, 24.

[69] Vogel, "Hell Night," pp. 18, 24.

[70] Interv, Popa with Rhame, 26 Jul 91; Maggart, "Leap of Faith," p. 30; Author, personal notes, 27 Feb 91.

[71] Portions of this section were previously published in Stephen A. Bourque and John Burdan, "A Nervous Night on the Basrah Road," *The Quarterly Journal of Military History* 12, no. 1 (1999):88–97.

[72] John Burdan, personal notes, 28 Feb 91. Burdan was the squadron's operations officer.

[73] Interv, John Burdan with Michael Bills, 6 Jan 96, author's files; Burdan, personal notes; Robert Wilson, "Tanks in the Division Cavalry Squadron," *Armor* 101 (May 1991):10.

[74] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," pp. 17–18; Intervs, Popa with Rhame, 26 Jul 91, Kindsvatter with Franks, 12 Apr 91.

[75] Kindsvatter, VII Corps Historian's Notes and Observations, 27 Feb 91.

[76] Interv, Richard M. Swain with Stanley F. Cherrie, 12 Sep 91, Swain Collection, Fort Leavenworth; 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 9; VII Corps G–3, Staff Jnl, 27 Feb 91, entries 38, 41, 51; Clancy and Franks, *Into the Storm*, pp. 429–30. It is important to keep in mind the many tasks this small staff was trying to coordinate simultaneously. These included passing the 1st Cavalry Division around the flank of the 1st Armored Division, moving the 2d Cavalry into position to support the 1st Infantry Division, and limiting the movement of the 3d Armored Division. A few hours later Third Army sent VII Corps the initial order for a theaterwide suspension of offensive action against the Iraqi armed forces. The TAC had only recently moved into position, and everyone was exhausted. This small command post's capabilities were now stretched to the limit.

[77] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 8. There are several separate channels of communication within a modern combat division, one of which is the fire-support channel. Through these radio frequencies, field artillery officers can exchange target information and request field artillery support. Apparently, the squadron's fire-support officer did his job and sent an accurate list of his unit's locations. This information then worked its way up the fire-support channel to the VII Corps TAC. There, an operations officer compared notes with a fire-support officer and noted the 1st Infantry Division unit on the Basrah Road.

[78] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 10.

[79] Ibid., 28 Feb 91, entries 1, 2; Interv, John Burdan with William Wimbish, 28 Sep 93, John Burdan's Collection.

[80] Interv, Popa with Rhame, 26 Jul 91.

[81] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," pp. 17–18; Intervs, Popa with Rhame, 26 Jul 91, Kindsvatter with Franks, 12 Apr 91. Poor staff work at this stage of the operation reflects the exhaustion of the personnel in each of the command posts. The 1st Infantry Division's TAC, for

example, had been controlling the division's operations, with only marginal help from the division's small Jump TAC, for almost four days. Most of the division's main command post was still on the move in the middle of Iraq. It would not be set up and operational until six hours after the cease-fire on 28 February.

[82] Interv, Popa with Rhame, 26 Jul 91; 1st Bn, 4th Cav Opns Staff, "Riders on the Storm," p. 18.

[83] VII Corps, Sitrep 40, 26 Feb 91; Rupert Smith, "The Gulf War: The Land Battle," *RUSI Journal* (February 1992):1, 5.

[84] VII Corps G–2, "100-Hour Ground War," pp. 125–27, 139.

[85] VII Corps TAC, Staff Jnl, 27 Feb 91, entry 21.

[86] ARCENT, FRAGO 63 to OPORD 001 DESERT STORM: Boundary Change between VII Corps and JFC-N, 27 Feb 91; VII Corps G–3, Staff Jnl, 27 Feb 91, entry 39.

[87] Interv, Kindsvatter with Franks, 11 Apr 91; VII Corps, FRAGO 144–91, VII Corps Continues To Attack North and East To Destroy Enemy Forces in Zone, 26 Feb 91.

[88] VII Corps TAC, Staff Jnl, 27 Feb 91, entry 21; Hans Halberstadt, *Desert Rats: The British 4 and 7 Armoured Brigades, WWII to Today* (Osceola, Wisc.: Motorbooks International, 1993), p. 126.

[89] VII Corps, Sitrep 42, 28 Feb 91.

[90] VII Corps G–3, Staff Jnl, 27 Feb 91, entry 10; 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entries 41, 50, 51.

[91] Pearce, *The Shield and the Sabre*, pp. 113–14.

[92] 1st Inf Div TAC, Staff Jnl, 27 Feb 91, entry 51, for example.

[93] VII Corps, Sitrep 41, 27 Feb 91.

[94] Ministry of Defence, *Operation DESERT SABRE: The Liberation of Kuwait, 1990–91, The Planning Process and Tactics Employed by 1st Armoured Division* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 4–8.

[95] VII Corps G–3, Staff Jnl, 27 Feb 91, entries 8, 9; VII Corps TAC, Staff Jnl, 27 Feb 91, entries 43, 44. "Push-to-talk" is Army slang for basic radio communications. The implication is that the command and control system rests solely on the senior commander and one or two assistants.

[96] VII Corps G–3, Staff Jnl, 27 Feb 91, entry 22.

[97] ARCENT TAC, Eng Staff Jnl, 27 Feb 91, entry 9.

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Battle's End

Once it has been determined, from the political conditions, what a war is meant to achieve and what it can achieve, it is easy to chart the course. But great strength of character, as well as great lucidity and firmness of mind, is required in order to follow through steadily, to carry out the plan, and not to be thrown off course by thousands of diversions.

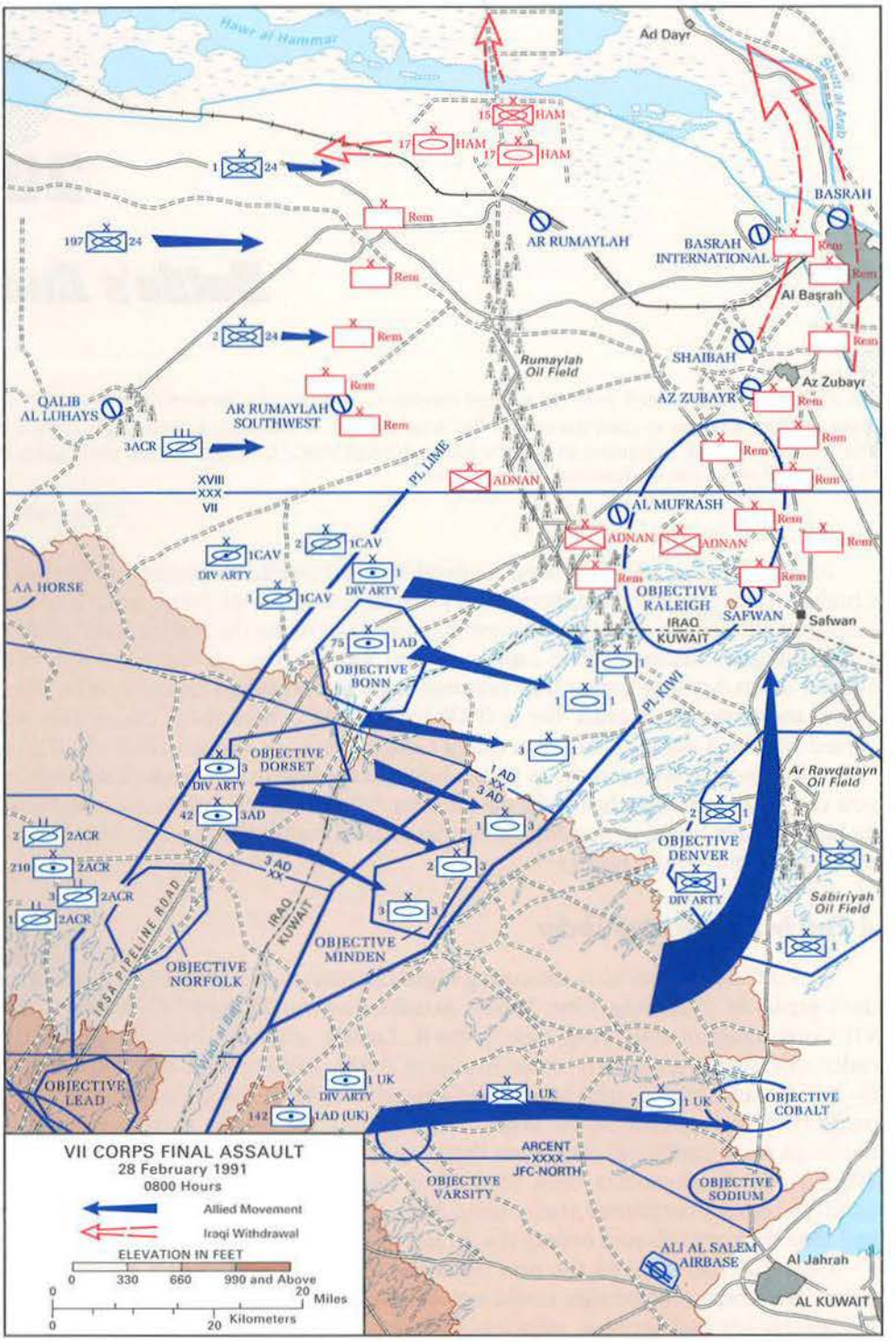
—Clausewitz[1]

At 2230 hours, 27 February, General Colin Powell, chairman of the Joint Chiefs of Staff, spoke by telephone with General Schwarzkopf. News reports of the killing and destruction in Kuwait were beginning to make the political authorities in Washington uneasy. If the campaign was almost over, as Schwarzkopf had alleged in his briefing earlier that evening, then the president wanted go on television and announce a cease-fire at 0500 local time.[2] Schwarzkopf claims to have agreed with that decision. He then called General Yeosock and gave him the word. "Until five o'clock it's business as usual. I encourage you to do as much damage as you can with your Apaches right up till then."[3] Yeosock was now concerned that he had only six hours to communicate this order through the "nine levels of command from him to the soldier."[4]

A Poorly Coordinated Order

At VII Corps, units were executing night operations and planning for the next day's push. At 2320 Brig. Gen. Steven Arnold, General Yeosock's G–3, called the VII Corps chief of staff, Brig. Gen. John R. Landry, and read him a fragmentary order directing a temporary cease-fire as of 0500. Landry then called the corps G–3, Colonel Cherrie, who was with General Franks at the corps tactical command post, and passed on the order.[5] After talking to Cherrie, Landry, located at the corps main command post more than one hundred miles to the rear, called the Third Army headquarters back to confirm the wording of the warning order. Landry's contact confirmed that a temporary cease-fire would take effect at 0500 and that the corps should expect the written fragmentary order shortly.[6]

Once Cherrie received the new order, he awakened Franks and told him the news. The corps commander could not believe the Third Army commander was serious. He reached Yeosock, who was also trying to get in touch with him, around 2330. Like any commander anticipating a decisive victory, he pointed out the great


Hawr al Hammar
Ad Dayr
Shatt al Arab
15 HAM
17 HAM
17 HAM
1 24
Rem
197 24
AR RUMAYLAH
BASRAH
BASRAH INTERNATIONAL
Al Basrah
2 24
Rumaylah Oil Field
SHAIBAH
Az Zubayr
AZ ZUBAYR
QALIB AL LUHAYS
AR RUMAYLAH SOUTHWEST
3ACR
XVIII XXX VII
PL LIME
ADNAN
AL MUFRASH
AA HORSE
1CAV
DIV ARTY
OBJECTIVE RALEIGH
IRAQ KUWAIT
SAFWAN
Safwan
75 1AD
OBJECTIVE BONN
PL KIWI
OBJECTIVE DORSET
1 AD XX 3 AD
Ar Rawdatayn Oil Field
42 3AD
2ACR
210 2ACR
OBJECTIVE DENVER
Sabiriyah Oil Field
3 AD XX
IRAQ KUWAIT
IPSA PIPELINE ROAD
OBJECTIVE NORFOLK
OBJECTIVE MINDEN
Wadi al Batin
OBJECTIVE LEAD
1 UK
DIV ARTY
142 1AD (UK)
4 1 UK
7 1 UK
OBJECTIVE COBALT
ARCENT XXXX JFC-NORTH
OBJECTIVE VARSITY
OBJECTIVE SODIUM
ALI AL SALEM AIRBASE
Al Jahrah
AL KUWAIT
VII CORPS FINAL ASSAULT
28 February 1991
0800 Hours
Allied Movement
Iraqi Withdrawal
ELEVATION IN FEET
0 330 660 990 and Above
0 20 Miles
0 20 Kilometers

MAP 25

opportunities for Third Army and the progress the corps was making and urged him not to stop. Yeosock understood, but told him to issue the order to his command. Franks did this, telling his division commanders that there was a "possibility" of a cease-fire at 0500 hours.[7] Franks later commented that the cease-fire order was his "biggest tactical surprise of the war."[8] He had expected another day of combat to complete his task of destroying the *Republican Guard Forces Command*. With only several hours until the cease-fire, he saw no reason to make any changes in his command's current alignment. However, he stopped the double envelopment he had planned and ordered everyone to stand by and wait for further orders.[9]



"General in the Desert" [General Powell], by Henrietta Snowden

From Franks' perspective, this order signaled the end of the ground war. The written order, FRAGO 67, arrived at his headquarters around midnight; it clearly emphasized breaking contact and ceasing combat operations: "USARCENT temporarily ceases offensive operations and establishes a hasty defensive posture in zone NLT 280200Z [0500 local time]. Forces will break contact to safeguard soldiers lives and cease all cross FLOT [forward line of own troops]/deep operations. ARCENT forces will be prepared to resume offensive operations on short notice."[10]

Concerned with saving lives, the army and corps commanders, Yeosock and Franks, decided to ignore Schwarzkopf's instructions to keep attacking the Iraqis with Army aircraft—no reason to lose a pilot on a fruitless mission. Franks directed his staff to pass this information on to all maneuver units. There was to be no change in the scheme of maneuver, and units were not to take any special risks before 0500. He then ordered each of his combat commanders to acknowledge receipt and understanding of these instructions.[11] It would take almost two hours before word of the cease-fire made its way down the six or seven layers of command to the individual tank commanders and all 145,000 soldiers.[12] Finally, by 0100 hours, having received the acknowledgments from his senior commanders, Franks lay down for a few hours of rest. By his own admission, he began to relax.[13] The war, however, was not over yet. Fragmentary Order 67 also told the corps to "be prepared to continue offensive operations on order."[14] Apparently, though, the VII Corps' leadership gave little thought to the possibility that its senior headquarters would issue new orders within only a few hours.

In the early hours of 28 February the 1st Infantry Division was consolidating southwest of the Basrah Highway with its 1st Squadron, 4th Cavalry, in front of



A soldier prepares to get some needed rest behind his HMMWV.

the leading brigades blocking that road. The 1st Armored Division was still in contact with remnants of various Iraqi divisions. The remainder of the corps had slowed. With a cease-fire ordered for 0500, no one wanted to be responsible for the death of the last American or British serviceman in Southwest Asia. At 0200 Colonel Cherrie at the VII Corps tactical command post lay down for a few hours' sleep. In his battle dress, he stretched out on a cot behind his HMMWV. The war seemed just about finished.[15] Almost the same time, General Powell in Washington called General Schwarzkopf in Riyadh and told him that President Bush would announce a cease-fire at 0800 local time, three hours *later* than originally scheduled.[16]

Shortly before 0300 Schwarzkopf notified Yeosock, who was in his quarters, of the change in the cease-fire time.[17] These two experienced commanders did not consider the effects of their action. They ignored basic troop-leading procedures, which give subordinate commanders time to plan their own role in the operation. They did not consider what effects the exhaustion of commanders and troops in the field might have on this order's execution. Located almost three hundred miles behind the front lines, living and working in rather pleasant facilities, they had lost the feel of battle. They had also lost their understanding of what five days of continuous operations can do to a combat organization's efficiency.[18] Unfortunately, it was at this moment that Schwarzkopf instructed the Third Army to seize a road junction near the border town of Safwan.[19]

In his memoirs, General Schwarzkopf says he believed that the Safwan Road junction was the key to blocking the Iraqi troops' escape route and seizing a large



The 1st Squadron, 4th Cavalry, 1st Infantry Division, corrals Iraqi prisoners in the Basrah Highway sector.

hill from which the Iraqis had launched Scud missiles toward Saudi Arabia.[20] Yeosock probably had suggested that location to Schwarzkopf as a "place to block the road" out of Kuwait.[21] The junction itself was the intersection of the Kuwait City–Basrah Highway and Highway 8 that ran along the south bank of the Euphrates River. Iraqi troops still in Kuwait would have to pass through that intersection.[22] In addition, there was a small airfield between the mountain and the town.

Schwarzkopf further states that Yeosock assured him that the 1st Infantry Division "could easily reach the junction before the cease-fire."[23] If Yeosock made such a statement, he did so without consulting his VII Corps commander, whose unit would have to seize that objective. A half-hour later, Third Army headquarters issued the written copy of FRAGO 68, Continue with Offensive Operations.[24] It spelled out what Franks and his staff understood to be the army's mission. The Third Army was to continue "offensive operations to destroy [the] maximum number of enemy armor in [the] KTO." Specifically, VII Corps was to "attack in zone to destroy enemy armored vehicles and to seize road junction [near Safwan] *to block Iraqi withdrawal* [while making] *maximum use of AH–64s and Air Force Assets*" (author's emphasis).[25]

The new orders had a different tone. The intent of FRAGO 67 had been to protect the force and break contact with the withdrawing Iraqi units. The new order reflected in contrast the need to inflict the maximum destruction of Iraqi equipment.[26] Around 0315 Franks received the call from Yeosock changing the cease-fire time from 0500 to 0800. Whatever Yeosock told him, Franks, who had just awakened from two hours of sleep, came away from that conversation believing

that there was no substantial change in his instructions. In his mind, the only difference was to continue attacking until 0800, when they would essentially stop in place and stop engaging Iraqi forces. Troop momentum had died down after the original cease-fire order, and Franks was not particularly eager to resurrect an "offensive spirit" in the middle of the night.[27] In their exhaustion, the troops had equated "cease-fire" with a field-training event's "ENDEX," or end of exercise command, and had begun to relax and lose momentum. Throughout the chain of command there had been, for no apparent reason, little consideration of what to do if, as the original order prescribed, they had to resume offensive operations.

All the conversations between Franks and Yeosock were conducted on tactical satellite telephones. No transcripts were kept. Whatever the specific conversation was among the leaders that morning, the Third Army staff had written FRAGO 68 poorly. One of the principles of order writing is to ensure that the recipient understands the commander's intent. Franks and Cherrie both believed Yeosock's *verbal* emphasis in the new FRAGO was simply the change of the cease-fire time from 0500 to 0800 hours and to advance as far north as they could before it was time to stop.[28] In addition, in some cases these two orders became "commingled, as they progressed down the chain of command, further exacerbating the confused situation."[29]

In addition, the order was unclear and left the exact mission open to interpretation. Franks and Cherrie believed they were to *block* the Iraqi withdrawal at the Safwan intersection with aviation assets until the cease-fire. If Schwarzkopf and Yeosock wanted the Safwan Road junction *occupied* by the time of the cease-fire, then they and their staffs should have said so in the order. At best, the phrase "seize . . . to block" is ambiguous.[30] If the Safwan intersection was truly important, the Third Army commander or an important assistant should have by different means made sure that Franks and his staff understood its importance.[31] Most likely, in Yeosock's eyes the intersection was not that important, and he did not make a point of pressing the issue on VII Corps.[32] Even if Yeosock had, as he maintains, told Franks to capture that crossroads, neither Franks nor the Third Army staff made that point clear to Colonel Cherrie, the person responsible for issuing orders to the entire corps.[33] Interviewed a little more than six months after the event, the VII Corps G–3 continued to maintain that he had no idea he was supposed to occupy the Safwan intersection by the time of the cease-fire.[34] The mission, from the corps' point of view, was go north as fast as possible and stop exactly at 0800.[35]

Finally, Schwarzkopf's instructions as presented in FRAGO 68 were not realistic and attainable for those last few hours of the war. The VII Corps' assignment, as stated in the order, was to seize the Safwan Road junction "*to block Iraqi withdrawal.*"[36] While it was possible for the corps to seize the crossroads before 0800 hours, it could not have blocked the Iraqi movement. It was too late: The Iraqi Army had already relocated north of the targeted crossroads and in the XVIII Airborne Corps' sector, a fact that Central Command's intelligence staff should have presented to its commander.

Trying to accomplish the mission, Franks and his exhausted battle staff continued to focus on the objective at hand. Over 145,000 soldiers, five divisions, a cavalry regiment, and an aviation brigade were complying with the previous Third

Army FRAGO 67, directing cessation of offensive operations, and were in various stages of resupply and consolidation. Now, because of the decision to press the attack for three more hours, Franks had to try to transition quickly from slowing to accelerating. To keep the process simple, he directed no changes in the units' attack orientation, except for the 1st Infantry Division, but told them to reorganize and resume the attack at 0500. The 1st Armored Division had planned an artillery preparation for 0530 before continuing its attack to the east with a limit of advance at Phase Line KIWI. The 3d Armored Division had been attacking all night and would continue the attack in the morning to Phase Line KIWI. Maj. Gen. Rupert Smith's U.K. 1st Armoured Division would continue to establish itself along the Kuwait City–Basrah Highway.[37]



1st Armored Division Main Command Post Shortly After the End of Hostilities

Franks did a quick evaluation of how he could improve the corps' posture in those last few hours. He considered the use of the 11th Aviation Brigade's attack battalions to strike deep into Objective RALEIGH and possible ways to insert the 1st Cavalry Division into the fight. Time, however, was too short to coordinate all that with a cease-fire only a few hours away. Instead, he chose a simple plan to reduce the risk of further American casualties and still accomplish the corps' mission.[38]

The 1st Infantry Division was already along the Basrah Highway. Franks wanted it to attack north with a limit of advance of the 50 Northing.[39] He envisioned the division sweeping up the Basrah Highway for about forty-five kilometers, attacking in a deliberate fashion, and avoiding a reckless pursuit that could result in needless casualties in the final hour of the war.[40]

Brig. Gen. Bill Carter, the 1st Infantry Division's assistant division commander, received the order from Franks, since General Rhame was still too far forward with his command group to talk directly to the corps commander. Carter told Franks that the new order caught the 1st Infantry Division logistically unprepared to continue the attack at 0500. Because of the Big Red One's long move and attack on Tuesday and Wednesday, many units were low on fuel by Thursday morning. The division's service support units had not yet finished refueling the combat units.[41] Carter told Franks that the division could accomplish the mission, but it could not begin moving until 0600. Franks accepted his logic and ordered him to execute.[42] Franks also instructed him to interdict the Safwan Road complex with attack helicopters.[43]



Vehicles of the 1st Armored Division in Northwest Kuwait

Shortly after 0400 General Carter called Rhame on the FM radio. "I've been instructed by the corps to tell you to resume your attack at 0600." Rhame reacted with understandable frustration, considering he had just gotten his division prepared for a cease-fire. Carter went on: "Instructions from the corps commander were to close on DENVER, and cut the highway before the cease-fire." Interviewed after the war, General Rhame was adamant that no one ever talked to him about doing anything with ground forces north of Objective DENVER or the Kuwait boundary.[44] The written corps order, sent to the 1st Infantry Division at 0300, says that the division was to attack to destroy the enemy forces within its zone of operations, oriented toward Objective DENVER. Their northern limit of advance was the 50 Northing, or about sixteen kilometers north of the Iraq-Kuwait border.[45]

General Yeosock later claimed that the mission to seize Safwan "was passed on verbally to the VII Corps commander, as well as incorporated in the FRAGO itself."[46] That may be true, but the intent he passed down in *writing* was to use aviation assets to *block* the road and cease all operations at 0800. Colonel Cherrie believed at that time that the army commander's intent was to have U.S. forces as close as possible to the northern boundary of Kuwait by the cease-fire.[47] Other than a circle around Safwan on Cherrie's map, there is no indication that the VII Corps leadership ever knew of a stated or implied task to seize and retain that crossroads. There was no coordination between staffs to change the perception Franks had about his mission. There was no "back-brief" to Yeosock's G–3 to

check on Franks' and Cherrie's understanding of the mission.[48] No matter what was taking place 300 miles to the rear, Franks was executing the mission he thought he had received.

What is obvious, therefore, is that the theater's chain of command was no longer functioning appropriately. The commander in chief, in response to directives from Washington, attempted to direct actual combat units as though they were symbols on a computer simulation. Field commanders, exhausted after days "in the saddle," were no longer sharp enough to react to changes in orders. Finally, the staff, the glue that holds tactical activities together when commanders are not at their best, was no longer involved in the process. The result was an imperfectly planned and executed mission. All of this confusion, without active Iraqi opposition, indicates that a serious structural flaw existed within the chain of command during those last hours of the Gulf War.

At 0428 hours the 1st Infantry Division's tactical command post called VII Corps and identified specific objectives for each of its three brigades. All the objectives were south of the Kuwait-Iraq border and blocking the Kuwait City–Basrah Highway and within Objective DENVER.[49] That morning the 1st Infantry Division and the corps battle staff prepared for one final push to clear the Iraqis out of Kuwait. One corps staff officer may have added to the senior command's complacency by reporting to Third Army that "the 1st Infantry would be moving at 0530 to the road junction in question to establish a blocking position."[50] That was, unfortunately, not the case.[51]

Ending the Campaign

As a result of the fuel delay, the 1st Armored Division remained stationary for most of the night of 27–28 February. The soldiers, however, did not rest as they were in contact all night with elements of the *Medina, 10th,* and *17th Armored Divisions.*[52] In the 1st Armored Division's area of operations, General Griffith was determined to launch the last offensive with a massive bombardment to shatter the Iraqi front lines and support areas. Once the artillery was done, the 2d Battalion, 1st Aviation's attack helicopters would strike deep, knocking out anything that was still moving. Behind the helicopters, the three brigades would attack in their standard "desert wedge" to Phase Line KIWI.[53]

At 0530 the 1st Armored Division Artillery opened up on twenty-six Iraqi targets. For forty-five minutes, the division fired over four thousand artillery rounds and rockets in the last great barrage of the war. Not all of the 1st Armored Division's artillery could join the fight. Concerned for the safety of friendly troops, Franks denied the division's request to fire an ATACMS against an Iraqi battalion command post at 0550. A few moments later he reiterated his concern to Griffith to control his fires since the 1st Infantry Division was attacking in front of his division "to interdict the Kuwait City/Basra highway."[54] Franks wanted all fires east of Phase Line KIWI cleared through his command post.

Once the fires lifted, Lt. Col. John Ward's attack helicopter battalion crossed the forward line of troops with all three attack companies on line. They destroyed



Oil Field Fires outside Kuwait City; below, *Apaches head toward burning oil wells.*



a few tanks and infantry fighting vehicles, but most of the targets they discovered were already cold. By 0700 they had reached Phase Line KIWI. At the same time Ward's Apaches took off, the rest of the division crossed the line of departure.[55] The ground maneuver brigades were able to secure Phase Line KIWI with almost no contact.[56] As units neared their objectives, all noticed the dense black smoke in the air from the burning Ar Rawdatayn oil wells east of the Basrah Highway.[57] By the time of the cease-fire, Old Ironsides had captured over 300 more prisoners of war and eliminated 2 more mechanized battalions and 2 artillery battalions. Those last two units, equipped with Soviet-made 122-mm. self-propelled howitzers, were discovered with "radios running, rounds chambered, and guns laid."[58] With a few minutes to go until the cease-fire, the 1st Armored Division had overrun the *Medina Armored Division*'s command post.[59] At 0800 General Griffith acknowledged the cease-fire order to the VII Corps tactical command post.[60]

Meanwhile, Maj. Gen. Paul Funk's 3d Armored Division had only a short distance to go that morning. Its mission was to complete the destruction of Iraqi elements west of Phase Line KIWI.[61] With the 1st Infantry Division moving across its front en route to Objective DENVER and the 1st Armored Division moving to the north, the Spearhead ran out of maneuver room before the cease-fire. At 0725 hours an MLRS unit from the 42d Field Artillery Brigade, supporting the 3d Armored Division, thought it was under fire from friendly troops. The corps staff's fixation with preventing further fratricide was displayed by an immediate halt of the 3d and 1st Armored Divisions' attacks. While it turned out that the artillery commander's concerns were groundless, his call had the effect of stopping the VII Corps' attack thirty minutes before the formal cease-fire. Only the 1st Infantry Division continued its operations until 0800.[62] Nevertheless, that morning the 3d Armored Division reported destroying forty more tanks, mostly T–55 type, and twenty-five armored personnel carriers.[63]

General Smith's 1st Armoured Division's mission was to attack from Objective VARSITY east to the Kuwait City–Basrah Highway to protect the VII Corps' southern flank and complete the encirclement of Kuwait City.[64] At 0630 the Desert Rats began the last phase of their operation, heading for the coast. Resistance was light, as most Iraqis were either gone or ready to surrender. By 0725 the 7th Armoured Brigade was in possession of Objective COBALT on the main highway, while the 4th Brigade halted farther west. The division immediately began to tie in with Egyptian and U.S. Marine forces to the south.[65]

General Tilelli called Franks early in the morning and told him that the 1st Cavalry Division was still ready to go. With the cease-fire at 0800, Franks thought it unwise to risk a forward passage of lines or some other complicated maneuver. Except the artillery, the 1st Cavalry Division never engaged the *Republican Guard* forces. Franks always regretted that circumstances worked out as they did.[66]

At 0600 the 1st Infantry Division's 1st Squadron, 4th Cavalry, the northeasternmost unit in the VII Corps, came under the operational control of Col. Tony Moreno's 2d Brigade.[67] The entire 1st Infantry Division then lurched forward in one last move toward Kuwait's northern border, still acting as the southern pincer of Franks' original attack scheme. As the division moved north, the landscape on

the Basrah Highway reminded some of scenes from the post-apocalyptic genre of popular movies. The thick smoke of hundreds of fires from the Ar Rawdatayn Oil Fields blocked the light of the slowly rising sun. Iraqi military and civilian equipment littered the highway.[68]

Meanwhile, by 0615 the 1st Infantry Division was moving through Objective DENVER and closing in on two of its three intermediate objectives. As the Big Red One advanced, it encountered several battalions' worth of abandoned enemy equipment but no Iraqi troops. General Rhame moved immediately behind his lead brigades. Right to the end he commanded his mechanized infantry division from the turret of an M1A1 tank; he was the only VII Corps commander to do so.[69] The tactical command post reported to VII Corps that the division was continuing to advance. Franks' instructions were to keep moving and bypassing enemy equipment.[70]

Rhame had understood the order to send his attack helicopters to the Safwan intersection. At 0510 he directed Col. Jim Mowery's aviation brigade to conduct a zone reconnaissance north to that area. By 0645 Mowery had an Apache company in the air searching for enemy armor as far north as the road crossing.[71] The 1st Infantry Division and the VII Corps thus accomplished the mission specified in Third Army FRAGO 68. Unfortunately, there were no Iraqi units left to block.

Fifteen minutes later the 1st Infantry Division occupied all of Objective DENVER.[72] If the Safwan crossing, some fifteen kilometers to the north, was truly an important objective, this was the time for action. If Franks and Cherrie had known that Schwarzkopf wanted that crossroads, they should have ordered the 1st Infantry Division to seize the crossing. With almost an hour to go until the cease-fire, there was still time.

Safwan, however, was never a concern for Franks—the cease-fire was. With years of responding to Cold War border operations in their backgrounds, Franks, Landry, and Cherrie were all sensitive to the international ramifications of violating rules of engagement. They focused on carrying out the cease-fire order and ending the battle without incident. At 0758 General Franks ordered his command to cease firing. All corps fighting units acknowledged receipt of the order. At 0805, just to ensure the word was out, he again ordered: "Cease-fire. Remain in current locations. Report status and unit locations to brigade level by 0900. Unit LNOs [liaison officers] to Corps TAC by 1000."[73]

To place this suspension of offensive operations in proper perspective, it is similar to events in May 1940.[74] During the Battle of France, Field Marshal Gerd von Rundstedt had stopped the German panzer divisions as they surrounded the pocket of retreating British troops outside the port of Dunkirk. Over 350,000 British and French troops lay at the mercy of the converging German armies. Adolph Hitler, with Herman Göring's promises of victory in hand, turned the battle over to the German Air Force. The *Luftwaffe* was unable to deliver, and over 320,000 Allied soldiers escaped across the English Channel to fight again. Never again would Hitler find the British in such dire straits.[75]

The similarities in this campaign should not be lost on the reader. After a brilliant ground offensive, one armored and four infantry *Republican Guard* divisions were trapped between the Hawr al Hammar causeway and Al Basrah, the only

routes across the Euphrates River. Remnants of other armored and mechanized divisions were also packed into this relatively small space.[76] Just as the XVIII and VII Corps were about to converge on this location, President Bush, advised and supported by Generals Powell and Schwarzkopf, decided to end the war before American armor and attack helicopters had the chance to truly destroy the *Republican Guard*.[77]

General Schwarzkopf argues that on the night of 27 February he ordered Yeosock to seize the Safwan crossroads and block the Iraqi escape.[78] The heavy ground forces, however, could not move fast enough to seize that crossroads ahead of the retreating Iraqi Army. General Yeosock could have ordered an audacious attack by the 101st Air Assault Division to seize and hold Safwan, blocking the Iraqi withdrawal until heavy armor could arrive, but he did not. If the Third Army could not maneuver in time, then the coalition's air forces had to accomplish the mission. Unfortunately, the air forces also were unable to stop the movement of these units to Basrah. In the *Hammurabi Armored Division*'s best-executed operation since the invasion of Kuwait the previous August, it simply packed up and withdrew. In spite of one of the largest, most celebrated air campaigns of the twentieth century, the *Hammurabi* was able to move at will without serious interference. Ultimately, over 70 percent of its combat strength escaped north of the Hawr al Hammar marshes.[79] The rest were destroyed in a firefight with the 24th Infantry Division near the Rumaylah Oil Fields two days after the cease-fire.[80]

From 25–27 February General Schwarzkopf had been unhappy with the pace of the VII Corps attack.[81] While slow-moving symbols on the commander in chief's map may have been a constant source of irritation, they had almost no effect on the *Hammurabi*'s escape. Had Franks' troops moved faster, the *Hammurabi Division* could have moved earlier. The means of preventing its withdrawal, the direct pressure force, was the coalition's air element at the disposal of the commander in chief himself.[82] Apparently, Schwarzkopf's staff, who could see the war from the theater perspective, never made the isolation of the *Hammurabi* the air command's most important priority. The premature and inappropriate shifting of the fire-support coordination line on the afternoon of 27 February was the essential condition that allowed the *Hammurabi*'s evacuation. There was no ground force commander to coordinate the attack on this division with the air component commander. Without the synchronization of the ground and air services, the *Hammurabi Armored Division* simply drove away unimpeded.

No one ever gave the order to the 1st Infantry Division, the most logical VII Corps unit, to seize Safwan with ground troops. Not until after the cease-fire did Franks learn that he had failed to carry out one of General Schwarzkopf's instructions. Three conditions explain this omission. Most important is the effect of friction in war.[83] General Powell's decision to stop, start, and then stop the offensive created a myriad of opportunities for error and confusion. Kuwait that morning was an extremely confusing and dangerous place. His adding of a new task, with everyone focused on the forthcoming cease-fire, only increased the confusion. Given those dynamics, it would have taken positive action at every level of command to ensure that Schwarzkopf's intentions were fulfilled.

General Yeosock's personal condition may also have influenced the orders transmission process on the twenty-eighth. He was still recovering from his mid-February gall bladder operation, although by all indications he was fully functional in his role as commander.[84] His location in Riyadh, near Schwarzkopf's headquarters, certainly placed him at the mercy of the theater commander's personality and far away from the action. In spite of his hope that Third Army's communications could give him an adequate picture of the two corps' combat situation, he was now out of touch.[85] At no time during the campaign had he flown forward to discuss the battle situation with Generals Franks or Luck to ensure that the corps commanders understood Schwarzkopf's intent.[86] Now, using maps that differed in scale from those of Franks and his division commanders, over five hundred kilometers away from the front, Yeosock tried to mesh the immediate response demanded by Schwarzkopf with the realities of micromanaging a huge and complex army corps with many subordinate layers of command.

That leads to the final explanation as to why VII Corps did not seize the crossroads at Safwan; its offensive had reached its culminating point. Although this phenomenon is often discussed in terms of logistics, it also applies to soldiers: "The soldiers of the attacking army may become physically exhausted and morally less committed as the attack progresses."[87] The VII Corps leadership was exhausted. Franks and his tactical command post were now in their seventh day of almost continuous operations.[88] Soldiers under such circumstances, according to the Army's own leadership studies, will "be unable to concentrate, perform complex operations, or readily understand instructions; and also may be unable to remember events clearly [and may] begin to skip routine tasks."[89]

Given the confusion and exhaustion at that stage of the operation, Yeosock should have spelled out the VII Corps mission in clear and unmistakable terms. He did not. However, while it is easy to blame the commander, Yeosock's staff failed to back up the Third Army commander and ensure that Stan Cherrie and John Landry knew they were to seize the Safwan crossroads. The staff should have required, by several redundant channels, acknowledgment that this was an important objective.[90] It never took such action, which probably reflects the fatigue and confusion that existed even at the command post in Riyadh. The instructions to seize the crossroads were simply never properly transmitted to the point of the arrow.

According to both Franks and Cherrie, no one from Third Army ever asked if the Safwan intersection had been secured by the time of the cease-fire.[91] Meanwhile, the 1st Infantry Division headquarters continued to accurately report the locations of its ground units to the VII Corps tactical command post.[92] At Yeosock's 0830 briefing, he asked his staff about the status of the road junction (Safwan). General Arnold told him that the 1st Infantry Division was at the intersection and had found a battalion of equipment, the same report they had forwarded to Schwarzkopf's headquarters.[93]

As late as 1900, the 1st Infantry Division's command post reported that the division's northern limit was *south* of the 33 Northing, approximately five kilometers away from the Safwan airfield.[94] There was an obvious disconnect between the levels of command. General Schwarzkopf soon identified this problem.

The Negotiation Site

In the early morning hours of 1 March 1991, the 1st Infantry Division's night operations officer had just settled down to what he anticipated would be a routine shift. The Big Red One's headquarters was on the Kuwait City–Basrah Highway, just west of the burning fires of Kuwait's Ar Rawdatayn Oil Fields. The night sky had a red glow, accompanied by the constant roaring of the flaming wells. Troops moved around in the night without flashlights. General Rhame and his principal staff officers had finally gone to bed after almost a week of operations that had begun on 23 February. The command post's night shift began the routine task of general security, accounting for all soldiers and equipment, and planning for subsequent operations.

Shortly before 0200 the VII Corps tactical operations center's duty officer called to ask if the 1st Infantry Division had the area around Safwan under control or observation. Since the duty officer had just confirmed the locations of all units in the division, he said no.[95] Suddenly, the town of Safwan had become extremely important. Over the next eighteen hours two commands from the 1st Infantry Division would confront Saddam Hussein's Army on Iraqi soil in an incident that threatened to reopen the just-concluded conflict.

On 28 February General Powell had ordered General Schwarzkopf to conduct a cease-fire ceremony with the Iraqi high command. Schwarzkopf wanted the site located deep in Iraq to make it obvious to all who was the victor and who was the vanquished. He also wanted the ceremony at a location that the Iraqi delegation could reach by road.[96] He directed his chief of staff, Maj. Gen. Robert B. Johnston, to locate a suitable area. Around 2100 Johnston called General Yeosock, who was at his command post on the other side of Riyadh, for suggestions. Without contacting either of his corps commanders, who were familiar with the conditions on the ground, Yeosock suggested three possible locations: the village of Shaibah outside of Al Basrah, Jalibah Airfield about eighty miles west of Al Basrah, and a location across the Hawr al Hammar.[97] Only Jalibah was under American control, so it appeared the logical choice.

Only after Yeosock passed on his suggestions did he order General Luck and the XVIII Airborne Corps to prepare the airfield for the ceremony. Later that night, however, Luck advised Yeosock that Jalibah was not the site to use. It had been the target of a violent attack by the 24th Infantry Division on the morning of 27 February.[98] Unexploded munitions and damaged vehicles were still everywhere, and it could not be cleaned up in time for the proposed meeting. Yeosock now had to call the theater commander and tell him to change his plans.[99] Apparently, he did not provide Schwarzkopf a suggestion for an alternate location.

Schwarzkopf had already sent a message to Powell, describing his concept for the negotiations. Now he had to retrieve his message and change the site of the talks. Looking at his map, without suggestions from his staff, he selected the airfield at Safwan as an alternate site and redrafted his message to the Joint Chiefs of Staff.[100] Of course, the airfield at Safwan was six kilometers west of the intersection near Safwan, and Schwarzkopf had never ordered anyone to seize the airfield. Now it became an objective that should have been taken.

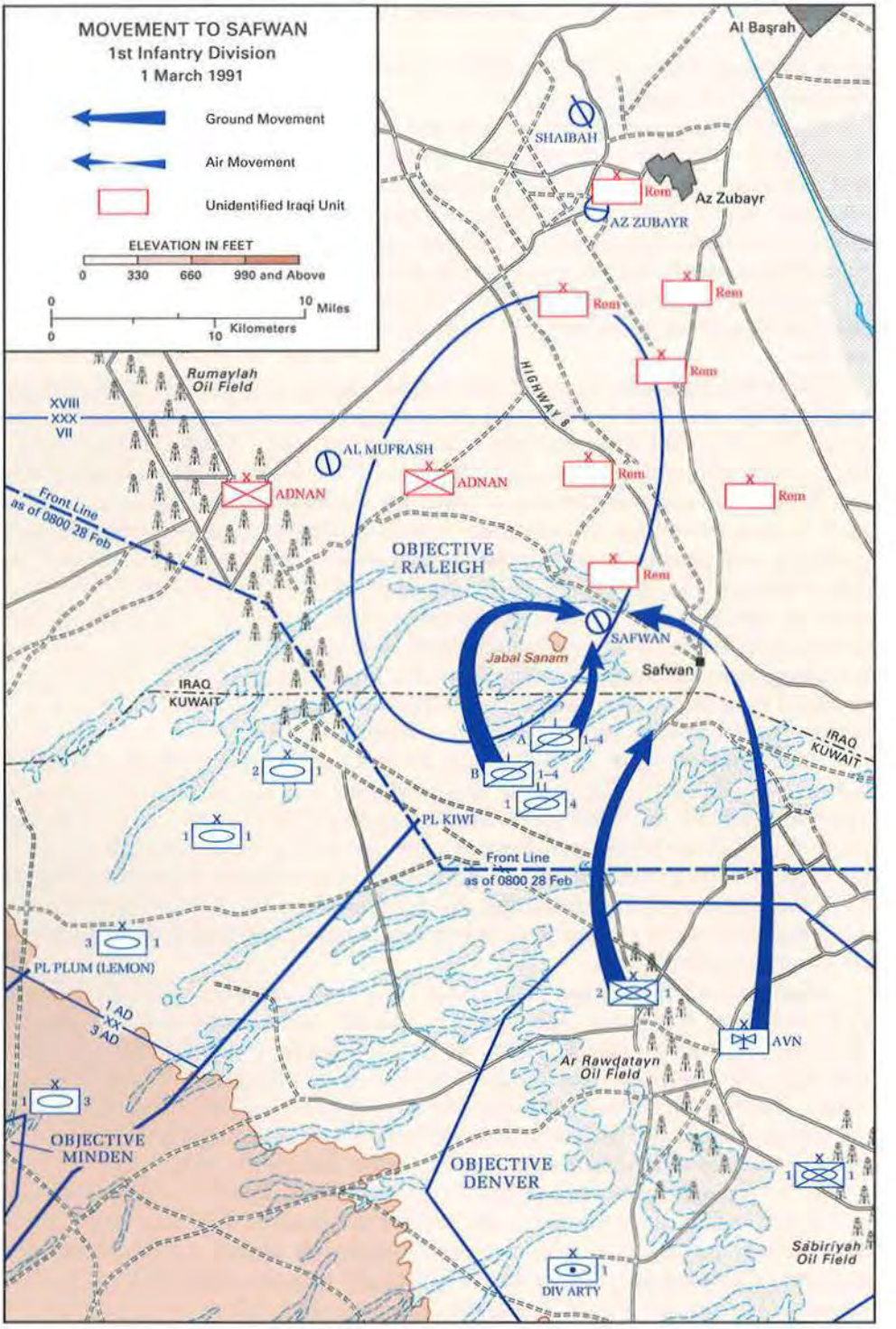
After the fact, later that night General Arnold, the Third Army G–3, asked Colonel Cherrie about using Safwan for the negotiations. Cherrie told him that it was on the other side of the demarcation line in enemy territory. It was the first the corps G–3 had heard of the airfield at Safwan as a possible site, and he could not understand why it had been chosen.[101] Around 0130 Yeosock himself called Franks and asked about the status of the airfield near Safwan and told him about the upcoming conference.[102] A few minutes later one of Cherrie's staff officers called the 1st Infantry Division's main command post. For almost ten minutes the division's duty officer confirmed to several corps staff officers that no one in the 1st Infantry Division was near Safwan and that unit locations had not changed since the report he had rendered at 1900 hours.[103] Finally, an agitated General Franks had enough and grabbed the telephone from his staff officer. "Do you know who this is?" He shouted at the stunned duty officer. "Get Rhame on the line now!" The duty officer raced out of the tactical operations center and across fifty yards of fire-illuminated sand to wake his exhausted commander.[104]

General Rhame, awaking from his first decent sleep in over a week, at first thought it was some kind of a joke. Nevertheless, throwing on his trousers and boots, he raced back to his command post that he had left only a couple of hours earlier. There, he found Franks still on the telephone wanting to discuss Safwan. In a few minutes, Rhame confirmed that Safwan was not under the control of his division and had never been an assigned objective.[105] By now almost forty-five minutes had gone by since that first call from the corps. Rhame finally asked what his orders were. Working with Yeosock's guidance, Franks then gave Rhame a mission to reconnoiter the area around Safwan but to avoid becoming decisively engaged.[106]

Off the phone with the corps commander around 0240, Rhame radioed his 1st Squadron, 4th Cavalry, commander, Lt. Col. Robert Wilson.[107] Like other units in the 1st Infantry Division, the cavalry squadron had only a minimum number of soldiers awake and on duty. For almost a month the squadron had been on a war footing, and few soldiers had been able to get any sleep over the previous four days and had spent the previous night surrounded on the Basrah Highway. Once Wilson was awake, Rhame told him to move as soon as possible to reconnoiter the area near Safwan.[108]

Franks, meanwhile, had second thoughts about this impromptu mission. At 0308 he called Rhame again and ordered the 1st Infantry Division to stop its movement. At first light, he wanted Rhame to conduct a reconnaissance to determine if Schwarzkopf could use the site as a meeting area. Rhame was to find out if there were any enemy troops in the area but avoid becoming engaged in a serious fight. Finally, Franks, under pressure from Schwarzkopf and Yeosock, also asked him to run an "audit trail" on the mission. In other words, had the 1st Infantry Division received the order to seize the Safwan crossroads? If so, why was it not accomplished? If not, why not?[109]

Schwarzkopf by his own admission came "completely unglued" when he found out that VII Corps had not taken Safwan. He shouted at Yeosock: "I *ordered* you [italics are Schwarzkopf's] to send VII Corps to that road junction. I want to


MOVEMENT TO SAFWAN
1st Infantry Division
1 March 1991
Ground Movement
Air Movement
Unidentified Iraqi Unit
ELEVATION IN FEET
0
330
660
990 and Above
0
10
Miles
0
10
Kilometers
Al Basrah
SHAIBAH
Rem
Az Zubayr
AZ ZUBAYR
Rumaylah Oil Field
XVIII
XXX
VII
AL MUFRASH
ADNAN
ADNAN
HIGHWAY 8
Front Line as of 0800 28 Feb
OBJECTIVE RALEIGH
SAFWAN
Safwan
Jabal Sanam
IRAQ
KUWAIT
IRAQ
KUWAIT
PL KIWI
Front Line as of 0800 28 Feb
PL PLUM (LEMON)
1 AD
XX
3 AD
OBJECTIVE MINDEN
OBJECTIVE DENVER
AVN
Ar Rawdatayn Oil Field
Sabiriyah Oil Field
DIV ARTY

MAP 26

know *in writing* why my order was violated and why this mission was reported carried out when it wasn't."[110]

Given the scope of all that Yeosock and Franks had accomplished in the previous few weeks, it was a demeaning exercise that seriously soured morale at the end of the war. Months after the conflict Stan Cherrie remembered how irate he was as he read Franks' personally typed reply to Schwarzkopf. Here was a commander who had achieved all that had been asked, now accused of dishonesty?[111] Yeosock and Franks both accepted full responsibility for unintentionally ignoring the details of the order.[112] Of course, the issue was not about seizing the road junction, but about an airfield. Schwarzkopf had never told Yeosock to seize the airfield.

The VII Corps now had one last combat task to perform. At 0350 Franks called Rhame and laid out his plan for seizing Safwan without bloodshed. The "intent is to not take any casualties," the corps' log read, "If you run into enemy forces, then stop and report to CG VII Corps."[113] Wilson's cavalry squadron still had the mission and was to move to and seize the airfield near Safwan and occupy it in preparation for the surrender ceremony. Rhame, passing along Franks' guidance, told him to avoid combat (and restarting the war) if possible, but to defend himself as appropriate. These orders, from Wilson's perspective, were just what he needed: clear senior commander's intent, maximum flexibility for the ground commander in an unclear situation, and no hint of the tension and politics taking place between division, corps, and army headquarters.[114] Wilson had a powerful force at his disposal, two tank-reinforced ground troops, two air cavalry troops, and an Apache attack helicopter company.[115]

Wilson moved out at 0615 with his two ground troops moving cross-country, north to northeast.[116] The ground scouts moved quickly in standard traveling overwatch formation. With the Safwan Mountain (*Jabal Sanam*) as their guide, Troop A moved in the east and Troop B moved on the western side of the zone.[117] Forward of each ground troop was an aerial scout–weapons team consisting of OH–58 Scout helicopters and Cobra attack helicopters. The AH–64 Apache company was kept on the ground at a holding area, ready to respond if Wilson's troopers ran into trouble.[118]

Rhame could tell Wilson little about the enemy situation. The 1st Infantry Division's main command post had only recently reorganized after the ground offensive, and its G–2 (Intelligence) section was unable to provide the squadron with any information on the Iraqis' composition or disposition.[119] The aviation scouts, however, were soon reporting dozens of abandoned Iraqi Army vehicles on the way to the airfield. Rhame ordered Wilson not to slow down and destroy any of these vehicles so he could reach Safwan before the Iraqis could react.[120]

As the ground troops approached the mountain, around 0700, Troop A swung to the east and Troop B moved to the west. The squadron had been expecting a large runway, but Troop A's soldiers crossed the narrow asphalt strip thinking they were on an unfinished four-lane highway. Initially it appeared deserted, but a few moments later the air scouts discovered tanks and other vehicles in revetted positions on the northern side of the airfield, oriented toward the south and west.

Behind the dug-in armor, the Iraqis had positioned many more tracked and wheeled vehicles.[121] What the cavalry squadron had found, defending 1,500 meters north of the airfield, was an entire Iraqi armored brigade. Three battalions were on line and an additional battalion positioned in depth. All the Iraqi combat vehicles were in prepared positions.[122] Wilson reminded his commanders not to fire, unless fired upon or in danger, but to continue in a steady advance to the airfield.[123] The troopers were nervous, and some feared they would be the first casualties in a renewal of the fighting. Courageously, they drove their combat vehicles within the range of the Iraqi weapon systems and occupied the airfield.[124]

With the cavalry squadron on the objective, Rhame ordered Wilson to move his air scouts to the important road junction, about five miles east of Safwan Mountain. As the air cavalrymen continued to investigate, they found the area full of other Iraqi tank and mechanized units. As the squadron's scouts watched, hundreds of Iraqi vehicles continued to move north and away from the Americans.[125] The squadron had obviously arrived at the southern boundary of the Basrah Pocket.

Around 0830 Wilson moved forward to the airfield, dismounted from his Bradley, and approached several "well-dressed and well-fed" Iraqi soldiers whose uniforms indicated that they were from a *Republican Guard* unit. Their equipment appeared in very good shape, and Wilson noticed trucks with fresh vegetables and other supplies. Wilson then spoke, through an interpreter, with the senior officer at the site. He told the Iraqi colonel that the airfield at Safwan was under U.S. control and that he must move his men and equipment immediately. Obviously disturbed by Wilson's words, the Iraqi officer left to speak to his commander.[126]

As the officer departed, four Iraqi tanks moved in front of Wilson's command group and lowered their gun tubes. The young squadron commander realized this was no time for bravado and calmly pulled his group south 100 yards. He then alerted his troop commanders, who were also negotiating with Iraqis at other portions of the airfield, and directed the Apache company to fly over his location in a show of force. Arriving a few moments later, the greatly feared attack helicopters caused a change in the Iraqi attitude, as almost immediately the Iraqi tanks moved back. With the situation now clarified, Wilson, along with his boss, Colonel Mowery, the 1st Infantry Division's aviation brigade commander, again moved forward to confront the Iraqi officers. An Iraqi colonel told Wilson that his general said they were to remain on the airfield. Wilson calmly replied that if they did not move, the entire 1st Infantry Division would attack them within hours. Looking at the hovering Apache helicopters, the Iraqi officer said he needed to speak with his superior and departed.[127]

Similar situations were taking place in the two cavalry troop sectors. Not all the Iraqi soldiers were in as good shape as the troops Wilson encountered. In many cases the cavalrymen provided rations for obviously hungry Iraqi soldiers, many of whom came out of hiding and surrendered to the squadron's troopers. Just as they had done during the previous week, American troopers disarmed the Iraqis willing to surrender, gave them food, and sent them south toward the VII Corps' prisoner of war compounds.[128]

In the Troop A sector, about the same time that Wilson was having his first encounter, an Iraqi *Republican Guard* colonel approached the American troops. He was angry that they were feeding his soldiers on his land. As a response, he directed his own men to brew some tea for the troopers. Capt. Ken Pope, the Troop A commander, told the Iraqi officer that they had to leave the area because of the upcoming peace talks. The two leaders exchanged map locations, and the Iraqi colonel departed to confer with his superiors.[129] So far, the cavalrymen had accomplished their mission with skill. Their command discipline prevented a tense situation from turning into a needless firefight.

Not surprisingly, Rhame was uncomfortable with the situation. He directed Moreno's 2d Brigade, consisting of two tank battalions, a mechanized infantry battalion, and a field artillery battalion, to move into the sector. At 1009 Moreno's brigade advanced toward Safwan. Rhame placed Wilson's cavalry squadron under its operational control.[130]

At 1020 the Iraqi colonel returned to Troop A and told its commander that he was not going to leave the airfield. Just at that moment, the now ubiquitous Apache attack helicopters flew overhead. Pope, knowing the terrifying reputation these aircraft had among the Iraqis, told the Iraqi colonel that if he did not move, American forces would attack him. This Iraqi colonel also went back to find his superiors.[131]

In Capt. Michael Bills' Troop B area, a similar scenario developed. He and a detachment of combat vehicles moved toward the Iraqi defenses. Once close, the young captain dismounted, approached some soldiers, and asked to see their commander. Soon a lieutenant colonel arrived and asked in broken English, "Why are you in Iraq? Are you lost?"[132] Bills assured him that was not the case and he was here to secure the site for the cease-fire negotiations. The Iraqi commander told his junior enlisted soldiers to leave and surrounded Bills with about fifteen to twenty officers and senior soldiers. The Iraqi officer then left to confer with his superiors. A short time later he returned with additional soldiers, wearing the black leather jackets, camouflage uniforms, and berets of Iraqi commando units.[133] To Bills, the situation looked as though it had taken a turn for the worse.

After a short, tense standoff, this Iraqi unit and all the others on the airfield received orders from their superiors to leave. By 1200 the entire airfield complex was clear of Iraqi troops. General Carter, the 1st Infantry Division's assistant division commander, flew to Wilson's location and told him that the 1st Squadron, 4th Cavalry, was now under the approaching 2d Brigade's operational control.[134]

The standoff was not yet over, however. While most of the 2d Brigade moved cross-country, its supporting 4th Battalion (155-mm. Self-Propelled), 5th Field Artillery, moved directly up the Basrah Highway. At the village of Safwan, an Iraqi infantry unit stopped the battalion as it tried to move through the town. This unit was from Saddam Hussein's hometown of Tikrit and had no intention of moving.[135] Around 1100 Colonel Moreno arrived with armored reinforcements and asked to see the senior Iraqi officer. A major arrived, but Moreno wanted a more senior officer. Then a command car arrived with two generals and a civilian government official. Moreno calmly told the group that he was bringing his forces to

Safwan for the peace negotiations and they had to stop blocking the road. The Iraqis did not understand and actually thought they had the Americans surrounded. Moreno demanded to see a more senior official.[136]

Meanwhile, Yeosock was under increasing pressure from Schwarzkopf to secure the area. After 1500 Yeosock called General Rhame directly and told him:

> We must have the airfield. General Schwarzkopf wants it to show that we have wrecked the country and to humiliate the Iraqis. We must show the world knocked out buildings and equipment. I want you to go into the airfield at Safwan with overwhelming combat power and force the Iraqi units out. Try using psychological warfare operations to convince them to leave; invite them to surrender. If they do not withdraw, use combat power and, if they fire destroy them. However, attempt to avoid contact and request permission from the commander in chief before initiating offensive action.[137]

Yeosock, under obvious pressure from Schwarzkopf, was obfuscating the issue.[138] Did he want Rhame to force the Iraqis out or not? These were garbled instructions that left the disposition of the problem to the commander on the ground. From the perspective of VII Corps and 1st Infantry Division officers, if something went wrong Yeosock and Schwarzkopf would have a subordinate's career ready to sacrifice. Ultimately, it did not matter. Rhame, not known for being indecisive, had already determined to end the standoff. Ten minutes before Yeosock called, Rhame had ordered Moreno to tell the Iraqis to move or die by 1600 hours.[139]

Tony Moreno was tired. The infantry colonel had been commanding from the confined quarters of his Bradley fighting vehicle for over a week. Both Generals Rhame and Carter were at his headquarters providing more supervision than he needed. Once Moreno received Rhame's instructions, he jumped at the chance to end the standoff. He deployed his forces for an overwhelming display of combat power, moving the cavalry now under his operational control and his other three battalions to surround the airfield and the town around 1500. He drove his M2 Bradley right up to the recently arrived Iraqi delegation. On his way out of the vehicle Moreno hit his mouth on his binoculars, causing his lip to bleed. As the somewhat intimidated Iraqi delegation began reading a statement, Moreno cut them off.

Spitting a wad of blood at the feet of the surprised Iraqis, the stocky Hawaiian pointed his finger and said, "If you don't leave by 1600 hours, we will kill you."[140] Just at that moment a tank battalion arrived to add emphasis to Moreno's threat. Tanks moved right up to the enemy command vehicle, as the Iraqi officers looked on horrified. Moreno again told them to move. The Iraqi commander requested some more time, and Moreno consented but emphasized that at 1630 hours, "I'm coming through."[141]

The Iraqi general left to start his soldiers moving out of the area. A short while later he reappeared and thanked Moreno for not killing his soldiers. Then he asked if he could leave some of his tanks to help secure the negotiation area. An amazed Moreno denied the request and drew him a map of where he should move his soldiers. "Anything within three kilometers of that box when the sun rises we will kill." The Iraqi general nodded in agreement and departed.[142]

The Iraqi units soon left, and the 1st Infantry Division began preparing the site for the negotiations. Rhame, Moreno, and Wilson had pulled off a demanding mis-

sion without a loss. In his memoirs, Schwarzkopf says his threat to use force was "bluffing."[143] Yeosock is much more candid, having been concerned that Safwan could have become a place the Iraqis chose to stand and die, forcing the Americans to violate the cease-fire on Iraqi soil.[144]

While the rest of the corps began to focus on consolidating its units, destroying captured equipment, and enforcing the cease-fire, Tom Rhame's Big Red One continued its high-profile mission in Iraq. Even before the airfield and the town of Safwan were secure, the corps staff gave the division extremely specific guidance on how to prepare the negotiation site.[145]

This was to be a political show at its finest, and the 1st Infantry Division got more supervisory attention and assistance in this mission than in any of its combat actions of the previous week. Schwarzkopf, wanting to orchestrate a humiliation of the Iraqis for the international media, personally called Rhame and told him the guidance he had already received through normal command and staff channels.[146] Third Army began forwarding supplies and equipment for the site by convoy and helicopter.[147] General Landry personally called the division's main command post with specific guidance for Col. John Hepler, the division chief of staff.[148]

Rhame gave Colonel Moreno the mission of securing the site and all external operations. He also beefed up the brigade's combat power to five combat battalions. Schwarzkopf wanted an impressive display of American firepower to ensure the Iraqi representatives had no question about the combat power of the victors. Moreno deployed these forces around the Safwan airfield so they could simultaneously be seen and respond to any legitimate security requirements.[149]

After some delays the actual meeting took place on 3 March at 1100. General Schwarzkopf and Lt. Gen. Prince Khalid ibn Sultan, the Joint Forces commander, arrived at Safwan to conduct the negotiations. While the coalition was represented by its senior commanders, two generals of no special importance represented Iraq. No one from Saddam Hussein's *Republican Guard* came forward to participate in the negotiations.[150] From the VII Corps' perspective, the negotiations went just fine, and all breathed a sigh of relief when the Iraqi delegation agreed to all points of *UN Resolution 686* calling for an end to hostilities.

Notes

[1]Carl von Clausewitz, *On War,* ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), p. 178.

[2]H. Norman Schwarzkopf, Jr., "Central Command Briefing, 27 February 1991," *Military Review* 63 (September 1991):96–108.

[3]George Bush and Brent Scowcroft, *A World Transformed* (New York: Alfred A. Knopf, 1998), pp. 485–86; Colin Powell and Joseph E. Persico, *My American Journey* (New York: Ballantine Books, 1995), pp. 506–07; H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 544–45.

[4]John M. Kendall, "The Closed Fist: VII Corps Operational Maneuver in Operation DESERT STORM," Unpubl Ms, AWC, 1994, p. 32.

[5]Mike Kendall, note to author, 17 Sep 91; VII Corps G–3, Staff Jnl, 27 Feb 91, entry 51; VII Corps TAC, Staff Jnl, 27 Feb 91, entry 49.

[6]VII Corps G–3, Staff Jnl, 27 Feb 91, entry 53.

[7]Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 12 Apr 91, TRADOC; VII Corps G–3, Staff Jnl, 28 Feb 91, entry 3; Tom Clancy and Fred Franks, Jr., *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), p. 434.

[8]Interv, author with Frederick M. Franks, Jr., 8 Sep 95, CMH.

[9]Interv, Kindsvatter with Franks, 12 Apr 91.

[10]ARCENT, FRAGO 67 to OPORD 001 DESERT STORM: Potential Temporary Cease-Fire, 28 Feb 91.

[11]VII Corps TAC, Staff Jnl, 27 Feb 91, entries 49, 50; Interv, author with Franks, 8 Sep 95.

[12]Stanley F. Cherrie, note to author, 9 Jul 97.

[13]Clancy and Franks, *Into the Storm,* p. 439.

[14]ARCENT, FRAGO 67, 28 Feb 91.

[15]Interv, Richard M. Swain with Stanley F. Cherrie, 12 Sep 91, Swain Collection, Fort Leavenworth, Kans.

[16]Bush and Scowcroft, *A World Transformed,* p. 486; Powell, *My American Journey,* pp. 506–07; Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 285.

[17]Swain, *"Lucky War,"* p. 285.

[18]Interv, Richard M. Swain with Steven L. Arnold, 15 Mar 91, CMH. According to Yeosock's principal assistant, Schwarzkopf often gave orders that were more appropriate in a computer-assisted combat simulation than they were in a real-world environment. This is one example where such changes seemed minor at the senior level but had a significant impact at the small unit. Kendall, "Closed Fist," pp. 33–34.

[19]Interv, Richard M. Swain with John J. Yeosock, 29 Jun 91, Swain Collection; Schwarzkopf and Petre, *It Doesn't Take a Hero,* p. 547.

[20]Schwarzkopf and Petre, *It Doesn't Take a Hero,* p. 547.

[21]Swain, note to author, 3 Jul 97.

[22]Interv, Swain with Yeosock, 29 Jun 91.

[23]Ibid.

[24]Swain, *"Lucky War,"* p. 286; Interv, Richard M. Swain with John J. Yeosock, 18 Jun 91, CMH.

[25]ARCENT, FRAGO 68 to OPORD 001 DESERT STORM: Continue with Offensive Operations, 28 Feb 91.

[26]Swain, *"Lucky War,"* pp. 285–86.

[27]Intervs, Kindsvatter with Franks, 12 Apr 91, author with Franks, 8 Sep 95; Stanley F. Cherrie, note to author, 9 Jul 97.

[28]Interv, Swain with Cherrie, 12 Sep 91.

[29]Kendall, "Closed Fist," pp. 33–34.

[30]ARCENT, FRAGO 68, 28 Feb 91.

[31]Combat orders doctrine has always emphasized principles such as clarity, redundancy, and the responsibility of the senior headquarters to ensure that the subordinate headquarters under-

stands the instructions. See DA, FM 101–5, *Staff Organization and Operations* (Washington, D.C.: Department of the Army, 1986), pp. 1–1 to 1–6.

[32] Richard M. Swain, note to author, 3 Jul 97.

[33] Interv, Swain with Yeosock, 29 Jun 91.

[34] Interv, Swain with Cherrie, 12 Sep 91.

[35] Ibid.

[36] ARCENT, FRAGO 68, 28 Feb 91.

[37] VII Corps, Sitrep 42, 28 Feb 91.

[38] Interv, Kindsvatter with Franks, 12 Apr 91; VII Corps TAC, Staff Jnl, 28 Feb 91, entry 10.

[39] VII Corps TAC, Staff Jnl, 28 Feb 91, entry 11. The 50 Northing referred to a numbered horizontal line on military maps that provided north-south locations generally along the border between Kuwait and Iraq.

[40] Interv, Swain with Cherrie, 12 Sep 91.

[41] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 8.

[42] Interv, Kindsvatter with Franks, 12 Apr 91.

[43] Ibid.; Interv, Richard M. Swain with Frederick M. Franks, Jr., 6 Mar 92.

[44] Interv, Thomas A. Popa with Thomas G. Rhame, 26 Jul 91, CMH.

[45] VII Corps, FRAGO 145–91, VII Corps Destroys Iraqi Army's Forces, 28 Feb 91.

[46] Interv, Swain with Yeosock, 29 Jun 91.

[47] Interv, Swain with Cherrie, 12 Sep 91.

[48] A back-brief is a procedure used by units at all levels to ensure that subordinate leaders understand their mission and commander's intent.

[49] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 14; VII Corps Main CP, G–3, Staff Jnl, 28 Feb 91, entry 8.

[50] Swain, *"Lucky War,"* p. 288; ARCENT TAC, G–3, Staff Jnl, 28 Feb 91, entry 18. The veracity of this particular report is somewhat suspect. The message is recorded in the Third Army G–3 log at 0858, almost an hour after the cease-fire and three hours after the event was supposed to occur. There is no corresponding notation in the VII Corps TAC log to indicate that such a message was sent. Furthermore, it is the *only* notation in the entire Third Army G–3 TAC log that day that specifies a subordinate corps officer by name.

[51] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entries 60, 63.

[52] VII Corps, Sitrep 42, 28 Feb 91.

[53] Tom Carhart, *Iron Soldiers* (New York: Pocket Books, 1994), pp. 315–18.

[54] VII Corps TAC, Staff Jnl, 28 Feb 91, entries 13, 15, 16.

[55] Ibid., entries 24, 25, 26.

[56] Carhart, *Iron Soldiers*, pp. 317–19; Steve Vogel, "Metal Rain: 'Old Ironsides' and the Iraqis Who Wouldn't Back Down," *Army Times*, 16 Sep 91, pp. 22, 61.

[57] Peter S. Kindsvatter, "VII Corps in the Gulf War: Ground Offensive," *Military Review* (February 1992):36.

[58] VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. 139, in VII Corps AAR, Fort Leavenworth.

[59] Clancy and Franks, *Into the Storm*, p. 445.

[60] 1st Armd Div Main CP, G–3, Staff Jnl, 28 Feb 91, entry 12.

[61] VII Corps, FRAGO 145–91, 28 Feb 91.

[62] VII Corps TAC, Staff Jnl, 28 Feb 91, entries 29–34; Interv, Kindsvatter with Franks, 12 Apr 91.

[63] VII Corps TAC, Staff Jnl, 28 Feb 91, entry 39.

[64] VII Corps, FRAGO 145–91, 28 Feb 91.

[65] VII Corps, Sitrep 42, 28 Feb 91.

[66] Interv, author with Franks, 8 Sep 95.

[67] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 17; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," *Armor* (May 1991):19.

[68] Steve Vogel, "Hell Night: For the 2d Armored Division (Fwd) It Was No Clean War," *Army Times*, 7 Oct 91, p. 69.

[69] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 31.

[70] VII Corps TAC, Staff Jnl, 28 Feb 91, entry 20; 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 28.

[71] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entries 20, 34.

[72] Ibid., entry 36.

[73] VII Corps TAC, Staff Jnl, 28 Feb 91, entry 37.

[74] While the official term was "suspension of hostilities," tactical orders as well as troops in the field referred to this halt as a cease-fire. See Powell and Persico, *My American Journey*, p. 508.

[75] An observation shared by Jeffery Record, *Hollow Victory: A Contrary View of the Gulf War* (Washington, D.C.: Brassey's, 1993), p. 127.

[76] ARCENT, DESERT STORM Intel Sum, Briefing Slides, Basra Box, G+5.

[77] Powell and Persico, *My American Journey*, pp. 506–12; Bush and Scowcroft, *A World Transformed*, pp. 484–87; Interv, Swain with Arnold, 15 Mar 91.

[78] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 547.

[79] Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), p. 429.

[80] James Blackwell, "Georgia Punch," *Army Times*, 2 Dec 91, p. 61; Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 312–14.

[81] Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 536–37.

[82] Swain, *"Lucky War,"* pp. 337–38.

[83] Clausewitz, *On War*, pp. 119–21.

[84] There are conflicting assessments of Yeosock's physical condition during the war. His chief assistant, Col. John M. Kendall, said that Yeosock's health was fine and should not be an issue. Others, such as Col. Richard M. Swain, the Third Army historian, also close to Yeosock, detected that he was "suffering more than he would admit." Richard M. Swain, note to author, 6 Jul 97.

[85] Swain, *"Lucky War,"* p. 146.

[86] Interv, author with Franks, 12 Sep 95.

[87] DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 181.

[88] Swain, *"Lucky War,"* p. 296.

[89] DA, FM 22–100, *Military Leadership* (Washington, D.C.: Department of the Army, 1986), p. 62.

[90] Howard T. Prince, ed., *Leadership in Organizations* (West Point, N.Y.: U.S. Military Academy, 1981), pp. 15–4 to 15–7.

[91] Intervs, Swain with Cherrie, 12 Sep 91, author with Franks, 8 Sep 95.

[92] VII Corps TAC, Staff Jnl, 28 Feb 91, entry 38.

[93] CENTCOM, Daily Jnl, Joint Opns Center, U.S. CENTCOM Fwd, 28 Feb 91, Record Group (RG) 518, National Archives and Records Administration, College Park, Md. (hereafter cited as NARA).

[94] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 83.

[95] Author's notes, 28 Feb–1 Mar 91. During this period, the author was a member of the 1st Infantry Division's G–3 staff.

[96] Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 549.

[97] Swain, *"Lucky War,"* p. 293; Interv, Swain with Yeosock, 29 Jun 91.

[98] Jason K. Kamiya, *A History of the 24th Mechanized Infantry Division Combat Team During Operation DESERT STORM* (Fort Stewart, Ga.: 24th Infantry Division [Mechanized], 1992), p. 29.

[99] Interv, Swain with Yeosock, 27 Jun 91.

[100] Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 549–50.

[101] Interv, Swain with Cherrie, 12 Sep 91.

[102] VII Corps TAC, Staff Jnl, 1 Mar 91, entry 3.

[103] 1st Inf Div TAC, Staff Jnl, 28 Feb 91, entry 83.

[104] Author's notes, 28 Feb–1 Mar 91.

[105] Interv, Popa with Rhame, 26 Jul 91; VII Corps TAC, Staff Jnl, 1 Mar 91, entry 3.

[106] VII Corps TAC, Staff Jnl, 1 Mar 91, entry 3.

[107] Author's notes; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19.

[108] John Burdan, note to author, 19 Mar 97. Burdan was the operations officer (S–3) during this period. 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19.

[109] VII Corps TAC, Staff Jnl, 1 Mar 91, entry 3.

[110] Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 550–51.

[111] Interv, Swain with Cherrie, 12 Sep 91.

[112] Franks sent a letter to General Schwarzkopf, conveying this message. Interv, Swain with Cherrie, 12 Sep 91; Clancy and Franks, *Into the Storm*, p. 456. Yeosock, according to his assistant, did the same. Kendall, note to author, 18 Sep 97.

[113] VII Corps TAC, Staff Jnl, 1 Mar 91, entry 6.

[114] Robert Wilson, note to author, 8 May 97, p. 1.

[115] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19.

[116] Portions of this section were previously published in Stephen A. Bourque, "Incident at Safwan," *Armor* 108, no. 1 (January–February 1999):30–36.

[117] Wilson, note to author, 8 May 97, p. 2; Burdan, note to author, 19 Mar 97.

[118] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19.

[119] Burdan, note to author, 19 Mar 97; author's notes, 1 Mar 91.

[120] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entry 8; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19.

[121] Burdan, note to author, 19 Mar 97.

[122] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entries 9–14, 46; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 19; Interv, Popa with Rhame, 26 Jul 91.

[123] Wilson, note to author, 10 Jul 97.

[124] Burdan, note to author, 19 Mar 97.

[125] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entries 15–30.

[126] Wilson, note to author, 8 May 97, pp. 2–3.

[127] Ibid., pp. 3–4.

[128] Burdan, note to author, 19 Mar 97.

[129] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entries 31, 36, 40; 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 20; Interv, Popa with Rhame, 26 Jul 91; Burdan, note to author, 19 Mar 97.

[130] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entry 43; Interv, Popa with Rhame, 26 Jul 91.

[131] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 20; Swain, *"Lucky War,"* p. 297.

[132] 1st Bn, 4th Cav, Opns Staff, "Riders on the Storm," p. 20.

[133] Ibid.

[134] Wilson, note to author, 8 May 97, pp. 4–5.

[135] 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entry 46; Swain, *"Lucky War,"* p. 297.

[136] Jim Tice, "Coming Through: The Big Red One Raid," *Army Times*, 26 Aug 91, p. 18; 1st Inf Div TAC, Staff Jnl, 1 Mar 91, entries 29, 30.

[137] VII Corps TAC, Staff Jnl, 1 Mar 91, entries 25, 33.

[138] Mike Kendall, note to author, 15 Jul 91.

[139] Interv, Popa with Rhame, 26 Jul 91.

[140] Ibid.

[141] Tice, "Coming Through," p. 18.

[142] Ibid.

[143] Schwarzkopf and Petre, *It Doesn't Take a Hero*, pp. 552–53.

[144] Interv, Swain with Yeosock, 29 Jun 91.

[145] Details of the order include:

a. Provide a highly visible security force along the routes to the negotiation site from linkup point (Road junction vicinity of QU 622366). Assure linkup point is secure.

b. Identify and recon route from linkup point site. Secure and clear route.

c. Establish linkup party to meet Iraqi negotiation team at linkup point and escort along route to and from negotiation site.

d. Provide a highly visible security force in and around the negotiation site.

e. Provide medical support and mess for an estimated 200 persons.

f. Establish negotiation site to include conference area, press pool site, and a common holding/break area, and a VIP holding/Break area (ARCENT SUPCOM and Corps COSCOM will provide equipment).

g. Be prepared to erect tentage to house up to 200 personnel vicinity of negotiation site.

h. Be prepared to provide transportation support for VIPs within negotiation site.

i. Provide NBC defense for negotiation site.

VII Corps, FRAGO 151–91, VII Corps Establishes, Secures, and Operates Cease-Fire Negotiation Site in Iraq NLT 020800 Mar 91, 1 Mar 91; 1st Inf Div Main CP, G–3, Staff Jnl, 1 Mar 91, entry 7.

[146] Schwarzkopf and Petre, *It Doesn't Take a Hero,* p. 554.

[147] 1st Inf Div TAC, Staff Jnl, 1 Mar 91, entries 36–42.

[148] Author's notes, 1 Mar 91.

[149] VII Corps Main CP, G–3, Staff Jnl, 1 Mar 91, entry 26; author's notes, 1 Mar 91.

[150] Lt. Gen. Prince Khalid ibn Sultan, *Desert Warrior* (New York: HarperCollins, 1995), pp. 424–25.

21

Postwar Operations

While the 1st Infantry Division's 2d Brigade was organizing the Safwan Conference, the remainder of the VII Corps was performing a variety of diverse tasks throughout the sector. First and most important was the reconstitution of the combat units. In the event that Central Command ordered the VII Corps to continue the offense toward Basrah or Baghdad, the divisions had to be ready.[1] These actions, performed at the end of any combat or training operation, included accounting for vehicles and soldiers, repairing broken equipment, and performing required maintenance on the rest of the units' equipment.[2]

Most important in terms of leadership and morale was locating all of the command's missing soldiers. Immediately after the cease-fire, commanders began looking for troops who had become lost during the rapid cross-country movement. Many vehicles, especially cargo trucks, moved without radios, maps, or GPS support. An isolated truck with one or two soldiers was a tempting target for lost Iraqi soldiers trying to make their way north. The corps' journals are full of requests for assistance in locating these unaccounted-for soldiers.[3] Ultimately, all were found and returned to their units.

In addition to these routine postoperations requirements, General Franks was also charged with performing other tasks before his corps was allowed to redeploy to Saudi Arabia and start its journey back to Europe and the United States. Often neglected in postwar analysis of the Army's performance during DESERT STORM, these less glamorous missions were still significant. While waiting for the order to return home, the VII Corps' soldiers maintained military pressure on the Iraqi regime, cleared the battlefield of serviceable Iraqi equipment, and helped thousands of refugees fleeing from the turmoil to the north. These political, combat, and humanitarian operations began immediately after the suspension of offensive operations on 3 March and continued until the last of the VII Corps withdrew in the middle of April.

Political Operations

On 3 March 1991, as General Schwarzkopf emerged from his meeting with the Iraqi delegation, he told General Franks to establish a small facility at the road junction north of the town of Safwan. Located near the armistice meeting site, this position would serve as a meeting place for the Iraqi and coalition military repre-

sentatives to exchange information or discuss problems in implementing the cease-fire. That evening the 1st Infantry Division's 2d Brigade carried out those instructions and deployed a general-purpose medium tent and an M577 command post from the division's tactical command post. To assist, the corps sent Maj. Bernard J. Dunn, an Arab linguist who had served as the corps' liaison to the Egyptian corps. On 5 March Third Army sent Col. Richard Rock and a liaison team to help man the facility. The 1st Infantry Division, with corps and army support, operated this exchange point until the 3d Armored Division relieved it on 20 March. The 3d Armored Division operated the facility until formally handing it over to United Nations forces on 24 April 1991.[4]

A number of important transactions between the American and Iraqi representatives took place at this location. Among the first were the negotiations that led to the release on 5 and 6 March of 1,182 Kuwaiti citizens held by the Iraqi government.[5] Other meetings concerned resuming the operation of the Iraqi Rumaylah Oil Fields, which lay within the area occupied by the coalition, a request that Schwarzkopf's headquarters denied.[6] In another instance, on 16 March the Iraqis requested permission to fly fighter aircraft over the land they controlled. This led to a meeting at the exchange point on 17 March between the Iraqi military and the Central Command chief of staff, Marine Maj. Gen. Robert B. Johnston, who refused the Iraqi request. Several days later the Iraqis came back with a similar request. Johnston told the Iraqis point-blank that if they flew the fighters, the coalition would shoot them down. Soon after, in spite of the warning, the Iraqis flew several fighters, only to have two of them quickly shot down by U.S. Air Force pilots.[7]

During the cease-fire negotiations, Schwarzkopf presented the Iraqi delegation with a map showing a temporary boundary line that separated coalition and Iraqi military forces. The Central Command staff developed this boundary, called the Military Demarcation Line (MDL), based on the locations of coalition troops. Possession of Iraqi land was an important bargaining chip, and Schwarzkopf was determined to hold on to the Iraqi territory south of this line until Saddam Hussein's government signed the formal cease-fire with the coalition. Permanent loss of territory was apparently one of the possible outcomes that Saddam Hussein feared most. By holding on to parts of Iraq, Schwarzkopf hoped to force the Iraqi dictator to quickly sign a permanent cease-fire agreement. In the meantime, opposing forces would stay 1,000 meters away from the line to prevent a resumption of hostilities, as had taken place the day before in the 24th Infantry Division's sector. With great hesitation the Iraqi commission agreed to the temporary boundary.[8]

During those first days of March numerous Iraqi units were still south of the MDL, having been bypassed by the attacking coalition. Schwarzkopf agreed that these troops could move north if they made no hostile actions. In addition, units that displayed an orange international distress color panel would also be considered nonhostile and allowed to move out of the occupied zone and back into their own lines without interference. If at any time an Iraqi vehicle turned its gun tube or acted in a hostile manner toward a VII Corps unit, American commanders were allowed to destroy the offender.[9]



Generals Schwarzkopf and Khalid at the Negotiation Table, Safwan, 3 March 1991

Overshadowing the VII Corps' operations were events taking place within Iraq. On 3 March an Iraqi civilian approached a 24th Division checkpoint in the XVIII Airborne Corps sector and reported there was mass rioting in Basrah led by an anti-Hussein group. The refugee alleged that the mayor of Basrah was killed and most of the local Baath party either killed or taken prisoner.[10] On 4 March Iraqi helicopter units began to attack Shi'a strongholds in Basrah, As Samawah, and other cities. In some cases they were using the chemical weapons they never used on the coalition forces.[11] That same day the corps observed heavy fighting, including use of artillery, in and around Basrah city.[12] According to the cease-fire provisions, Iraqi forces were allowed to fly their helicopters, but not their fighter aircraft, without the coalition air forces shooting them down. Originally, they argued they needed them for the command and control of their forces and moving about the country. Ultimately, they used them as flying artillery to do what their air force could not.[13]

The Shi'a uprising apparently caught Hussein's forces off guard, and the rebels were able to gain control in several regions of the south. However, after some initial setbacks, the reconstituted regular army, especially the survivors of the *Republican Guard* units, began a brutal program to destroy the Shi'a rebellion. They conducted these operations in full view, just across the military demarcation line, of VII Corps soldiers. Major suppression efforts took place in towns within view of the MDL, such as al Basrah, Karbala, and An Nasiriya. Since President Bush had decided not to intervene in this fight, there was little the

corps' soldiers could do but watch. It was as unpleasant a role as soldiers could ever be asked to perform.[14]

On the morning of 17 March a general from the Shi'a resistance and three others arrived at the 3d Armored Division's "Checkpoint Charlie," requesting assistance from the Americans in combating the *Republican Guard*. The 3d Armored Division quickly called the corps and asked for guidance. Franks' staff told the 3d Armored Division to send the Iraqi representatives to the Third Army checkpoint at Safwan. Franks emphatically added that the VII Corps would have no contact with the resistance and would not do anything for them; they had to return to their own side of the demarcation.[15] Franks and the corps' officers would have relished the chance to inflict punishment on Hussein's vindictive troops. Practically, any action could find the U.S. Army engaged in a civil war whose length, cost, and outcome was uncertain. They would have gone into Iraq alone; most of the coalition would not have followed. Iran might have intervened on one side or another, further complicating the situation. Veterans of the Vietnam era knew what such a misguided crusade could cause.[16]

For the next month Saddam Hussein unleashed all the power at his disposal against his fellow countrymen. Iraqi soldiers ravished cities such as Najaf and Karbala. Thousands of Shi'a holy men were rounded up and executed. Civilians were tied to the front of tanks and used as human shields as *Republican Guard* soldiers moved through the streets. Swamps in the south, the traditional homeland of many southern Iraqi Shi'a, were drained and contaminated. Men, women, and children were shot without mercy. Within three weeks the cities of the south were a wreck, but the government had restored order.[17]

Combat Operations

The cease-fire broke down almost as soon as it began. At 0800 hours, 2 March, a brigade from the *Hammurabi Armored Division* tried to overwhelm what it believed to be isolated scout elements from the U.S. 24th Infantry Division (Mechanized), XVIII Airborne Corps, near Highway 8. Apparently the *Hammurabi* was trying to escape across the Hawr al Hammar causeway, which was in the 24th's security zone. Its intent was obviously hostile and, according to the 24th Division, Iraqis fired at the American scouts first. In a short but violent engagement, the 1st Brigade under Col. John Le Moyne conducted a classic maneuver battle. He attacked in the center while maneuvering armor against the Iraqis from the south and attack helicopters across the Hawr al Hammar from the north. In a little more than one hour, one-third of the *Hammurabi Division* ceased to exist. Maj. Gen. Barry McCaffrey limited his attack and did not engage the other two brigades that had not shown any hostile moves.[18] This engagement demonstrated the importance of maintaining security in spite of a cease-fire.

General Schwarzkopf and Central Command were determined not to withdraw from Iraq until the formal cease-fire was signed.[19] At first VII Corps had about 20 percent of occupied Iraq, which reflected the coalition's dispositions at the end of the battle. Within a few days, however, the soldiers from the XVIII



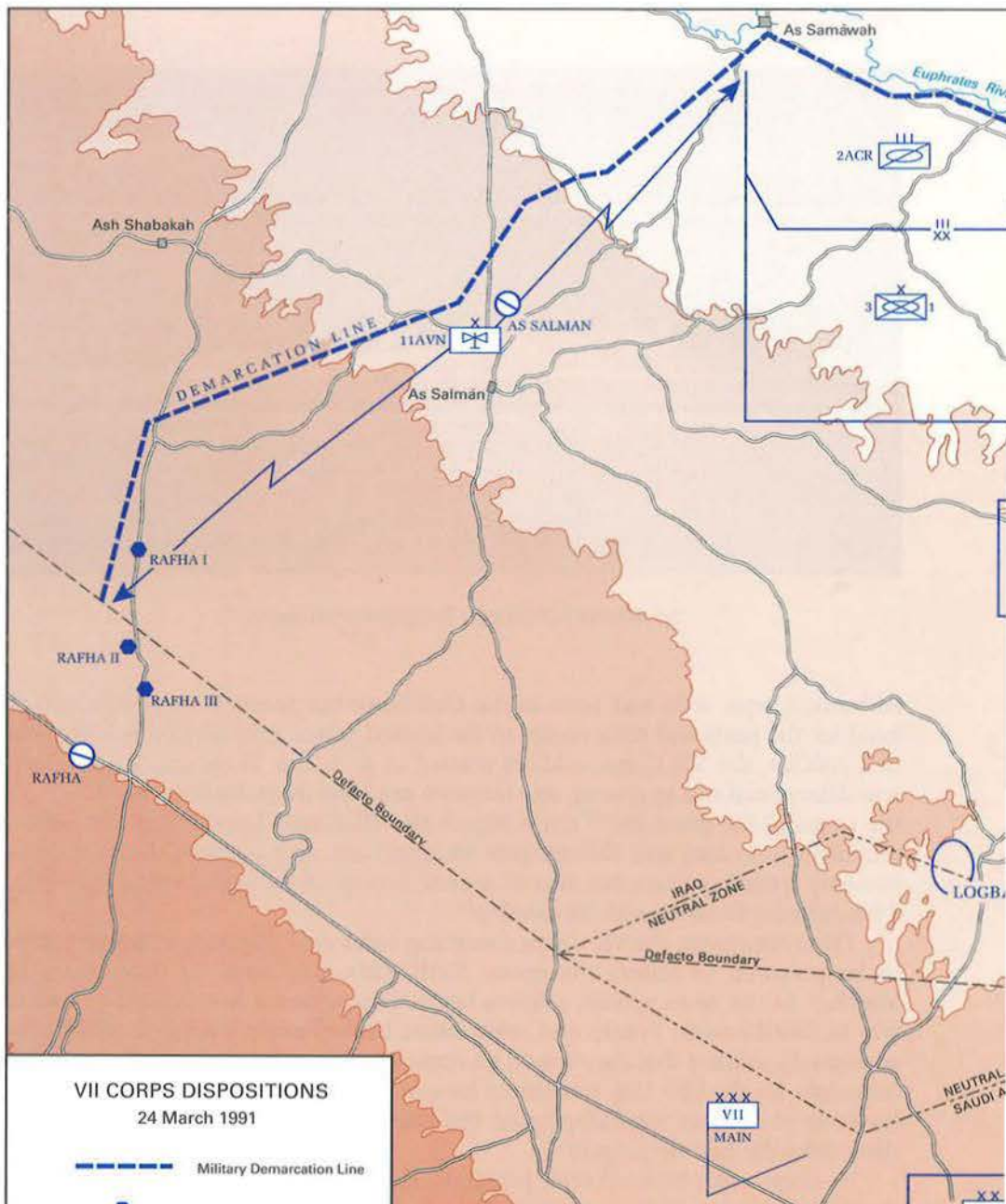
1st Armored Division's Checkpoint on Highway 8

Airborne Corps, who had been in the Gulf since the previous August, began to head for the ports and their return to the United States. Like all troops at the end of a conflict, the VII Corps soldiers wanted to go home. However, Schwarzkopf was determined not to give up any territory until the Iraqis had complied with all the terms of the cease-fire.[20] On 7 March the VII Corps' hopes of an early redeployment from Iraq and Kuwait were disappointed, as it received the mission to not only remain in place but also to assume control of the sector occupied by the 24th Infantry Division and 3d Cavalry.[21]

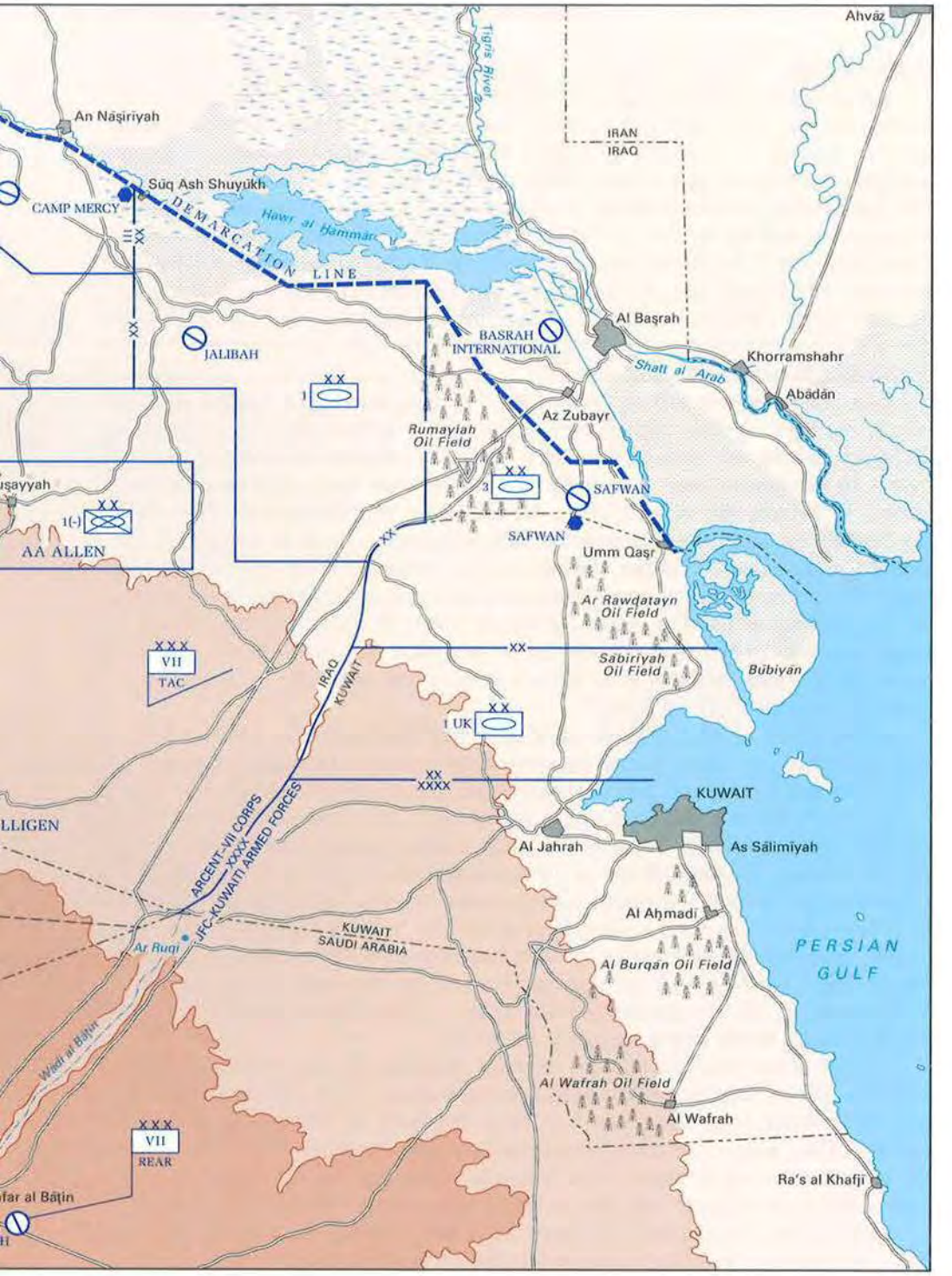
Third Army sent the VII Corps a warning order on 17 March, telling the corps to be prepared to relieve the entire XVIII Airborne Corps not later than 25 March.[22] As the news spread, soldiers began griping about how long they had to stay in Saudi Arabia. Franks and subordinate leaders made a point to inform the command's soldiers that they would go home as soon as possible. However, it was only right for the first U.S. soldiers to have arrived in the theater to be the first to leave. Most soldiers were displeased but understood and continued to perform their tasks the best they could.[23]

As corps units took up their positions, there were still incidents that emphasized how dangerous the mission still was. For example, on 11 March an Iraqi T–55 tank trained its gun at American scouts from the 3d Armored Division. The action, considered a hostile act, continued long enough that the scouts called for help. Soon a Cobra helicopter arrived and destroyed the Iraqi tank with a TOW missile.[24]

By 24 March the XVIII Airborne Corps had moved south and was on its way home, leaving the VII Corps responsible for all of the military demarcation line.


As Samāwah
Euphrates Riv
2ACR
III
XX
Ash Shabakah
DEMARCATION LINE
X
11AVN
AS SALMAN
As Salmān
3
1
RAFHA I
RAFHA II
RAFHA III
RAFHA
Defacto Boundary
IRAQ
NEUTRAL ZONE
Defacto Boundary
LOGB
NEUTRAL
SAUDI A
XXX
VII
MAIN
1CAV
XX
AA KILLE
VII CORPS DISPOSITIONS
24 March 1991
Military Demarcation Line
Refugee Camp
ELEVATION IN FEET
0 500 1000 1500 2000 and Above
0 40 Miles
0 40 Kilometers

MAP 27


Ahvāz
Tigris River
An Nāṣiriyah
IRAN
IRAQ
Sūq Ash Shuyūkh
CAMP MERCY
DEMARCATION LINE
Hawr al Hammār
Al Baṣrah
BASRAH INTERNATIONAL
JALIBAH
Shatt al Arab
Khorramshahr
Abādān
Az Zubayr
Rumaylah Oil Field
SAFWAN
SAFWAN
Umm Qaṣr
Ar Rawḍatayn Oil Field
Sabiriyah Oil Field
Būbiyan
AA ALLEN
VII
TAC
IRAQ
KUWAIT
1 UK
KUWAIT
Al Jahrah
As Sālimīyah
ARCENT-VII CORPS
JFC-KUWAITI ARMED FORCES
Ar Ruqi
KUWAIT
SAUDI ARABIA
Al Aḥmadī
PERSIAN GULF
Al Burqān Oil Field
Wadi al Bāṭin
Al Wafrah Oil Field
Al Wafrah
VII
REAR
Ra's al Khafjī

The 1st Cavalry Division, which had originally been under XVIII Airborne Corps control in October, also moved south of the Iraqi border and was reorganizing for its departure in AA KILEEN, just north of Hafar al Batin. The 11th Aviation Brigade, with the French 1st Combat Helicopter Regiment under its operational control, screened the western sector from Rafha north to the area opposite As Samawah. The 2d Cavalry overwatched the Euphrates River from As Samawah, east to An Nasiriya, backed up by the 1st Infantry Division's 3d Brigade. The 1st Armored Division secured the sector and Highway 8 to Ar Rumaylah. The 3d Armored Division, which had replaced the 1st Infantry Division in the Safwan area, occupied the corps' right flank. Located in the center of the sector, at AA ALLEN was the rest of the 1st Infantry Division. The remainder of the U.K. 1st Armoured Division remained just north of Kuwait City.[25]

The cease-fire was full of danger. As the Baghdad regime battled the Shi'a rebels, the fighting often spilled over into the VII Corps sector. For example, on 28 March twenty-five rounds of artillery landed two kilometers south of the MDL near a 2d Cavalry outpost. As the day progressed, there were additional Iraqi violations, to include the crossing of the boundary by Iraqi helicopters. That morning Franks, aware of the dilemma that the soldiers on the front line faced, contacted Col. Leonard D. Holder, the 2d Cavalry commander. He reminded Holder of the Third Army rules of engagement and added that he did not wish to create an international incident or restart the war by aiding the rebellion. However, if the Iraqis appeared to be firing at his soldiers, they were to return fire. If an incident involved a gunnery error or stray rounds and no one was hurt, he would protest through channels to Third Army.[26]

As hundreds of Iraqi soldiers made their way north toward their own lines, it was inevitable that there would be some confrontations between them and the numerous small American patrols scouring the desert. On the evening of 4 March a 1st Cavalry Division military police patrol came across fifty Iraqis and a BMP infantry fighting vehicle. Some of the Iraqi soldiers wanted to surrender; others did not. During the standoff one of the Iraqis grabbed a pistol and shot one of the Americans in the foot. The patrol, greatly outnumbered, backed off and called for help. Soon forty-nine Iraqi soldiers approached the military police wanting to surrender. Although the 1st Cavalry Division had dispatched a tank platoon to resolve the situation, by the time it arrived the MPs had the prisoners on the way south. Their report to VII Corps indicated that a lone defiant Iraqi soldier had been left standing alone in the desert alongside his BMP.[27]

As part of his initial instructions after the cease-fire, Franks ordered each of his divisions, the 2d Cavalry, and the 11th Aviation Brigade to search their assigned sectors for isolated Iraqi units that had been bypassed or overlooked during the advance. They were to use armed aerial psychological operations (PSYOPS) teams to the maximum extent to induce these forces to surrender. The VII Corps units were authorized to destroy any force that failed to surrender or showed hostile intent.[28]

Corps units found many bypassed Iraqi units behind the new demarcation line. For example, on 4 March the 1st Cavalry Division's aviation brigade flew back to the Ruqi Pocket along the Wadi al Batin. Armed with gunships and PSYOPS



Destroyed Iraqi Vehicles on the "Highway of Death"

loudspeakers, they crisscrossed the sector to persuade all bypassed Iraqi forces in the region to depart. The cavalry's search resulted in an additional sixty-nine Iraqi prisoners, a tank platoon, an artillery battery, and an antitank gun battery. The division also conducted similar missions near Al Busayyah and in its sector along the demarcation line.[29]

The U.K. 1st Armoured Division inherited one of the most thankless tasks of the postwar operation, clearing the Kuwait City–Basrah Highway near the Multa Ridge. This sector had been the scene of some of the heaviest bombing during the last days of the war. Thousands of Iraqis loaded with booty from Kuwait City tried to escape up the "Highway of Death" with all they could carry. Coalition jet fighters had savaged the entire region, turning it into a scene of unimaginable destruction. The Desert Rats had to move the damaged vehicles off the road and remove the thousands of unexploded munitions that littered this sector. In addition, hundreds of Iraqis were still in the area, having run from the coalition air attacks. Many were still hiding when the British arrived. Of course, many were badly wounded; British medical teams searched each day for Iraqi survivors. Finally, the War Graves Service, an engineer unit, began the grisly task of burying the Iraqi dead.[30]

While this horrible task was in process, the Desert Rats, especially the 7th Armoured Brigade, which had arrived early in the Gulf, began to withdraw from Kuwait. By 10 March the lead elements were at Al Jubayl, and the entire 7th

Armoured Brigade closed at the port on 16 March. The U.K. 1st Armoured Division headquarters followed on 23 March. By 7 April only a battalion-size battle group remained from that division.[31]

Not all soldiers were involved in patrolling the demarcation line or other essential activities. Those units that had time embarked on a program of weapons firing and proficiency training. As long as those units were in Iraq, the VII Corps staff needed no one's permission to establish areas to practice with their weapons. Each division established artillery, aviation, tank, Bradley, and other ranges. Franks encouraged commanders to set up ranges close to their assembly areas. Units established each firing facility in accordance with the standard safety diagrams used by the Seventh Army Training Command back in Germany. The corps tactical operations center monitored the firing, so soldiers or Bedouins would not move through the area nor aircraft fly over them when the ranges were "hot." As Franks pointed out, there were plenty of Iraqi vehicles to use as hard targets.[32]

Units also conducted leader training during this period. After all, the recent period of combat provided a number of situations and issues that needed the chain of command's attention. Initially, Franks conducted an after-action review of the entire war, day by day, on 11 March. The next day the corps commanders, G–2s, and G–3s headed to King Khalid Military City for a Third Army–sponsored after-action review. These meetings helped the commanders put their actions in perspective and evaluate their own performance and decision making.[33]

The postwar environment in occupied Iraq and liberated Kuwait created some special hazards that frankly surprised the corps leadership. The previous hazards, such as the traffic problems on the main supply routes, remained. Soldiers continued having auto accidents, being injured or dying, as masses of vehicles and equipment moved in both directions.[34] Now, however, battlefield hazards began to take their toll on VII Corps soldiers.

Before the war the coalition knew that Iraq had a huge chemical weapons arsenal. They also had no compunctions about using these products against their adversaries. Iraqi attack fighters and helicopters had dropped chemical weapons on Iranians during the Iran-Iraq War, as well as on the Kurds as recently as 1988.[35] The Iraqi government did not use chemical weapons against the coalition; however, the chemical stockpiles still existed. Some of these chemical munitions must have been triggered during the air and ground campaigns. In at least one instance a soldier found himself contaminated by chemical agents. His team from the 3d Armored Division was part of a detail to destroy Iraqi arms and ammunition. As the soldier moved through a captured Iraqi bunker on 3 March, he became suspicious of the liquid that had splattered on his clothing. A nearby NBC team confirmed that the soldier's clothing was indeed contaminated with potent CX (Phosgene) gas and other chemicals.[36] The soldier was apparently all right and treated by local medical and chemical warfare personnel.

The next day the VII Corps staff put out a warning for all other such teams throughout the corps sector. The staff wanted soldiers to inspect bunkers before demolition to ensure chemical munitions were not present. Each soldier conducting the search had to wear his chemical overgarment, protective booties, and



Col. John Ford III, U.S. Air Force, points out a live bomblet; below, *A medic treats a Bedouin's wounds caused by stepping on a mine.*



chemical protective gloves and have his NBC protective mask ready. As a further precaution, each wore an M9 chemical detector paper attached to his overgarment to detect contact hazards.[37]

After the campaign ended, 140,000 soldiers with loaded weapons began to raise concerns about safety. For example, on 3 March a British soldier died when the hand grenade he was carrying exploded while he was working on his vehicle. That same day a soldier from the 14th Military Police Brigade and another from the 1st Squadron, 7th Cavalry, wounded themselves with their own sidearms.[38] Accidental shootings, including at least one case of suicide, continued as long as the corps remained in the Middle East.[39]

The most serious threats to the VII Corps soldiers were the little bomblets that had been dropped by attack aircraft, MLRS rockets, and other systems. While unexploded munitions came in many different shapes and sizes, the most dangerous were the golf-ball-size shiny metal bomblets. Those that had not exploded when they hit the soft sand lay scattered around the battlefield. Almost every concentration of Iraqi equipment was surrounded by several of these bomblets. Although leaders repeatedly warned their soldiers to avoid these munitions and report their location, in some cases it was to no avail. Many soldiers picked up these dangerous bomblets and tossed them around. Some tried to put them in their packs or vehicles, intending to bring them home. In many cases these balls exploded with terrifying consequences. On 1 March two 1st Armored Division soldiers were wounded and one died when a bomblet exploded.[40] On 17 March a 1st Armored Division soldier stepped on a bomblet and died rather quickly.[41] Three days later another soldier suffered a chest wound while guiding a vehicle to its new position.[42]

Unit commanders and the entire chain of command worked to make sure all soldiers knew about the dangers of these lethal devices. On 16 March General Franks ordered the 7th Engineer Brigade to produce 2,300 dual-language unexploded ordnance safety bulletins, enough for each platoon and detachment. He then tasked the 11th Aviation Brigade to deliver them to all commands.[43] In spite of these efforts, the problems with these munitions continued. On 2 April a soldier from the 3d Armored Division's 5th Battalion, 18th Infantry, picked up a bomblet and it exploded, killing him instantly and wounding three soldiers nearby.[44] On the sixth another soldier disobeyed orders and picked up an unexploded antivehicle mine and dropped it. It blew off both of his legs and killed him instantly. A nearby soldier was hit in the chest by shrapnel but only slightly wounded.[45] These mines were doing more damage to the corps than the Iraqi Army had. It was a problem that most leaders, including General Franks, believed the Army needed to address in the future.[46]

Destruction of Iraqi Equipment

Saddam Hussein's army had left behind enough weapons and vehicles to equip almost three full armored or mechanized divisions.[47] If the Americans left this equipment in the desert, the Iraqi arms industry could recover and restore

these weapons.[48] In addition, the Iraqis also left behind huge quantities of ammunition. The size of the ammunition stores indicated that Hussein was prepared to fight the Gulf War as a war of attrition, similar to his conflict with Iran.[49] Unfortunately for Hussein, the mobile forces of the VII and XVIII Airborne Corps had overrun these depots before their contents could be used. When General Schwarzkopf emerged from his meeting with the Iraqi delegation on 3 March, he told General Franks that he wanted all this captured and abandoned Iraqi equipment either destroyed or hauled out of Iraq.[50]

Col. Samuel C. Raines' 7th Engineer Brigade was assigned to plan and coordinate this mission. Raines formed Task Force DEMO on 2 March, placing Lt. Col. Mark E. Vincent in charge.[51] Task Force DEMO coordinated the efforts of seven engineer battalions, one engineer company organic or attached to each division, and the 2d Cavalry, which were responsible for destroying equipment in their own sectors. Six engineer battalions assigned to the 7th Engineer Brigade destroyed Iraqi equipment in the corps' rear area. In addition, seven explosive ordnance detachments (EODs) went where they were needed in the corps' sector to assist in destroying the large stockpiles of Iraqi munitions.[52]

The mission was inherently dangerous: Most of the abandoned vehicles contained live ammunition. Destroying ammunition storage areas was even more dangerous. Failure to do it properly could result in more needless postconflict deaths and injuries. The corps' fragmentary order, published on 2 March, laid the ground rules for the mission. Franks wanted this to be a deliberate operation "under tight control of the chain of command with specific mission and clearance areas to protect soldiers." Units were not to try to destroy any items, especially munitions, beyond their capabilities.[53]

The scale of the project continued to grow. For example, on 9 March the 1st Infantry Division, searching the edges of the Basrah Pocket east of Safwan, discovered an incredibly large abandoned Iraqi complex. It included 14 ammunition supply points, 5 general supply sites, 1 missile depot, 2 maintenance facilities, 10 antiaircraft sites, 9 concentrations of Iraqi vehicles, and the remains of 2 division headquarters and 2 corps headquarters.[54] It was a major find that would keep them, and the 3d Armored Division's engineers who followed, busy throughout their stay in Iraq.

Not all the destruction of equipment was done by ground engineers. In areas too dangerous to search, Cobra and Apache attack helicopters identified and destroyed Iraqi equipment. In the Ruqi Pocket region, for example, the 1st Cavalry Division searched and destroyed all Iraqi equipment where it had fought its original actions in February.[55] This mission cleared the Wadi al Batin route for resupply and egress of troops and equipment to the south.

On 13 March 1st Infantry Division soldiers searching the naval base at Umm Qasr came across a major intelligence find. In a series of warehouses operated by the Iraqi Navy, they discovered seventy Chinese-built Silkworm antiship missiles. These land-based missiles, with a range of over one hundred kilometers, had the capability to block oil traffic as far south as the Kuwait–Saudi Arabian border.[56] In addition, these warehouses contained twenty-four Exocet antiship missiles. An



Task Force DEMO sets charges to blow Iraqi vehicles.

Exocet missile, launched from a Mirage F–1 fighter, had hit and badly damaged the USS *Stark* during the tanker war in May 1987.[57] Before the corps considered destroying the missiles, it notified the U.S. Navy, which has a special interest in these items.[58] Third Army responded to the corps' concerns, letting it know the request for naval assistance had passed up the chain of command to the appropriate experts. By the next day Central Command had decided to evacuate several of the missile systems to a Navy collection point at Al Jubayl in Saudi Arabia and destroy the remainder.[59]

A 45-vehicle convoy of cargo trucks, military police, and explosives experts departed for Umm Qasr at 0800 on 20 March to retrieve the missiles. On the twenty-first one convoy carrying tools, shipping containers, and launchers departed the port. The next day a separate convoy headed south with thirty Silkworms and twenty-four Exocet missiles. The convoy delivered fourteen Exocet missiles to the Kuwaiti government, while the rest headed to the collection point at Al Jubayl. Thirty-three Silkworms remained in Umm Qasr for VII Corps to destroy.[60]

The Silkworms remaining in Umm Qasr were prepared for destruction by the 3d Armored Division, which now had responsibility for that sector. On the morning of 28 March the division's engineers blew up the remaining Silkworm missiles and their storage bunkers.[61] It took a considerable amount of demolition expertise and explosives to safely and conclusively destroy the remaining missiles and collapse the heavy concrete bunkers.[62] It was an important mission that ensured that

the Iraqi Navy would be unable to interfere with shipping in the Persian Gulf for years to come.

The corps did not destroy all the Iraqi equipment it found. Like the Silkworm missiles, the Army evacuated much equipment to the United States and Great Britain. They sent some of the latest equipment for examination by the Department of Defense's various intelligence and technical agencies.[63] Returning units brought more equipment home to display at unit headquarters throughout the country. The Soviet-made tanks, artillery, and personnel carriers would stand alongside World War II equipment as reminders of the victories this generation of soldiers had attained.[64]



Destroying Iraqi Equipment

By 21 April Task Force DEMO's mission was complete. By the corps' conservative estimate, the task force had destroyed over 1.2 billion dollars' worth of armaments and munitions.[65] In addition, hundreds of other tanks, personnel carriers, and artillery pieces were shipped home with American and British equipment. By the conclusion of these operations the effect of the VII Corps' success in material terms became obvious. They had destroyed or removed over 4,600 Iraqi tanks and armored vehicles.[66] When added to the equipment destroyed by the rest of the coalition, it was a "significant blow to Iraqi regional ambitions" and an equipment loss that the Iraqi government would not soon be able to recover.[67]

Humanitarian Operations

While most of VII Corps was involved in defensive operations and destroying equipment, another portion of the command was having to deal with a swell of Iraqi soldiers and civilians who were now under VII Corps control.

During the attack across Iraq, VII Corps had captured over 33,000 Iraqi soldiers.[68] Referred to as enemy prisoners of war, or EPWs, they traveled under guard from unit collection sites at the front to corps facilities, inappropriately called cages, in the rear. From there, the corps transported them to one of four camps constructed by the 22d Support Command's 800th Military Police Brigade or to one of the seven other camps constructed by the British, French, or Saudi



A mother and child receive care from U.S. soldiers who worked around the clock to help Iraqi refugees after the war.

Arabians. Each American camp held over 24,000 EPWs who were fed, housed, and handled according to the 1949 Geneva Convention Relative to the Treatment of Prisoners of War. Ultimately, over 86,743 Iraqi soldiers found their way into the coalition's prisoner of war camps.[69]

Once the Iraqis made it back to the EPW camps, they received the treatment they required. However, the journey from the time of their surrender until they were in the camp was anything but organized. Throughout the ground campaign, front-line units simply bypassed surrendering Iraqis and pointed them toward the rear. Support units trying to keep up with the front-line armor sometimes stopped and took control of these prisoners, turning them over to unit military police. In other cases support units simply gave the Iraqis some food and water and pointed them to the rear as well.[70] At the end of hostilities there were thousands of Iraqi soldiers moving south and west in search of a coalition soldier to accept their surrender.

After the cease-fire VII Corps embarked on a major effort to round up the groups of Iraqis wandering through the corps sector. The 14th Military Police Brigade searched the western portion of the sector, while the divisions and the cavalry regiment searched their own sectors. The brigade established two collection points, one near Objective DENVER in Kuwait and another farther south on the Wadi al Batin.[71]

While the commanders and staffs expected to round up a few hundred more Iraqis throughout their sector, they were not prepared for the flood of Iraqi soldiers crossing the demarcation line to surrender, many escaping the turmoil caused by the Shi'a revolt. For example, on 24 March the 2d Cavalry, patrolling the MDL, captured seventy more Iraqis who wanted to be treated as prisoners of war. They told the cavalry troopers that they were draftees and wanted nothing more to do with the war.[72] In another incident on 30 March a cavalry patrol from the 3d Armored Division accidentally crossed the demarcation line. Almost immediately, the platoon leader realized his mistake, pulled back to the south, and notified his commander. A few moments later fifty Iraqi soldiers followed the Americans across the demarcation line and surrendered to the surprised cavalry soldiers.[73] The next morning the Iraqi government protested that the 3d Armored

Division had launched an unprovoked attack across the MDL and captured their soldiers.[74] Obviously, the soldier drain was beginning to concern the Iraqi high command.

Incidents like these took place almost daily across the demarcation line as a steady flow of Iraqi soldiers continued to escape into the corps holding areas. Once the Iraqi government signed the permanent cease-fire, on 14 April, the corps stopped accepting the surrender of Iraqi soldiers. By then the VII Corps units had accepted the surrender of an additional 23,675 Iraqi soldiers, almost as many as they had captured during the ground campaign.[75] While surrendering Iraqi soldiers presented a problem, VII Corps and its supporting 22d Support Command had the organization and plans to accommodate this influx. They were not prepared for the thousands of Iraqi civilians who also fled the fighting in the north.



A soldier throws food to a small Iraqi child at the checkpoint where 1st Armored Division soldiers performed humanitarian services.

Refugees are a product of modern war. Images of French civilians fleeing the German armor attacking France in 1940, Palestinians leaving the West Bank of the Jordan River after Israel's success in 1967, "boat people" fleeing the Communist regime in Vietnam, and Kosovar farmers fleeing the Serbian military are but a few of the many examples that illustrate a reality of the twentieth century. In each case families pack what they can carry and escape either an approaching battle zone or the effects of a war already lost. In 1991 the refugee situation was unique, as Iraqi civilians fled across the border looking for support from their former enemy.

These refugees streamed out of both ends of Iraq. In the north, Kurdish villagers took advantage of Saddam Hussein's preoccupation with the Shi'a rebellion in the south and made an abortive bid for independence in late March. Within a short time Kurdish guerrillas seized several important cities in Northern Iraq. Their success was short-lived, as the remnants of Hussein's *Republican Guard*, fresh from its victory over the Shi'a in the south, began a relentless counteroffensive. Hundreds of thousands of Kurds left their villages and began moving north to seek shelter in the mountains. The Iraqi offensive ended on 5 April, when the United States established a safe haven for the Kurds and began providing humanitarian relief.[76]

In the south, the refugee problem began almost as soon as the Shi'a rebellion. In the XVIII Airborne Corps sector, the 82d Airborne Division began receiving refugees fleeing An Nasiriya and the repression by the Iraqi Army on 4 March. These Iraqi civilians came in search of food, water, medical treatment, and protection from Iraqi Army reprisals. The 82d Division settled them in an abandoned construction camp near Suq as-Shuykll, about thirty-five kilometers southeast of An Nasiriya and just south of the MDL. Soldiers named the settlement Camp Mercy; depending on the intensity of the fighting north of the military demarcation line, its population ranged from as few as 200 to as many as 6,000. From 28 February until 24 March, when VII Corps relieved the 82d Airborne Division, doctors and medics treated more than 1,100 refugees for maladies ranging from minor illnesses to gunshot wounds. They also provided these unfortunate civilians with thousands of meals and clean drinking water.[77]

Farther east, refugees began to cross into the VII Corps sector on 3 March. Basrah, twenty-five kilometers to the north, was the scene of some of the earliest heavy fighting between the *Republican Guard* and the Shi'a insurgents.[78] As the fighting became more intense, waves of refugees began to flow into the VII Corps sector. For example, on the night of 24 March the outposts from the 2d Cavalry watched an intense battle in the town of As Samawah across the demarcation line between attacking Iraqi soldiers and Shi'a defenders. The next day over 1,000 refugees began moving south out of the town toward American lines. By late afternoon the 2d Dragoons had almost 2,500 refugees and 350 Iraqi soldiers requesting prisoner of war status.[79]

The swell of Iraqi civilians placed the two corps commanders in a difficult position. On one hand, they expected that within days the Iraqi government and the coalition would sign a formal cease-fire agreement, which would require that all U.S. forces leave Iraq.[80] On the other hand, the Law of War requires an occupying power, in this case the United States, to care for the civilians displaced by the conflict.[81] The administration of this problem was further complicated by XVIII Airborne Corps' impending departure, which gave responsibility of the entire MDL sector to Franks and his VII Corps.

General Franks, acutely aware of all these responsibilities right from the start, grew increasingly uncomfortable as the refugees continued to arrive with no indication of when the recent belligerents would sign a formal cease-fire agreement. Realizing he was the senior U.S. military commander in Iraq, Franks took steps to establish refugee camps and a temporary civil-military government in occupied Iraq. He formed a task force at the corps tactical command post that consisted of the corps G–5 (Civil Affairs), a member of the Staff Judge Advocate staff, and logistics personnel to coordinate the corps' civil-military responsibilities.[82] Ultimately, the corps established two refugee centers, at Safwan in the east and at Rafha in the west.

The first of these refugee centers was near the town of Safwan, only a day's walk from al Basrah. Refugees from the fighting in that city began to appear on 3 March. The 2d Brigade, 1st Infantry Division, established a temporary refugee center in the narrow sector between the Kuwait border and the MDL. The problem of



Iraqi refugees flown by C–130 from Safwan are the first arrive at Rafha 3.

unexploded munitions made the experience a nightmare for all concerned. The Air Force had attacked this area relentlessly in the last days of the war, leaving thousands of cluster bomblets exposed in the streets of Safwan as well as the surrounding countryside. Soon children, thinking the shiny bomblets were toys, began dying in front of the American soldiers. Those who survived found their way into the aid stations at the temporary refugee center.[83]

As the refugee problem grew, division, corps, and army assets began arriving to assist the 2d Brigade. Ultimately, the area contained three mobile army surgical hospitals (MASHs) to dispense basic medical care. Truckloads of food and water arrived, providing the refugees with some of the best nourishment they had received in months. The VII Corps soldiers distributed not only Army-issued rations, but also baby food, local foods, lentils, and rice.[84]

On 19 March Col. William Nash's 1st Brigade, 3d Armored Division, replaced the 2d Brigade, 1st Infantry Division, in the Safwan area and assumed the mission of humanitarian relief. The number of refugees at Safwan, which ultimately approached twenty thousand, soon overwhelmed Safwan's original refugee sites. In March the 3d Brigade established another at an abandoned Indian construction camp about a kilometer north of the Kuwait-Iraq border.[85] By now the corps had coordinated the kind of support operation needed to provide adequate assistance for as long as necessary. Civil affairs teams from the 352d Civil Affairs Brigade provided expert advice to administer the camps. These units also sent medical and

civic action teams into the countryside to distribute food, water, and medical care. The 332d Medical Brigade's MASHs and other medical support worked to improve the health of the local civilians. Finally, 3d Armored Division engineers and civil affairs teams cleaned up Safwan's water supply and reopened the town's school.[86]

The Safwan humanitarian mission is another often-overlooked aspect of the VII Corps' role in Southwest Asia. By the time the Safwan camp formally closed on 7 May, the soldiers of the 1st Infantry and 3d Armored Divisions had registered more than 24,000 Iraqi civilians and had distributed almost 1 million individual meals, 173,000 cases of bottled water, and 1,136,000 gallons of potable water. The mobile hospitals and medics had treated more than 23,400 Iraqi civilians for everything from diarrhea to life-threatening wounds.[87] However, Safwan was not the only camp in operation. To the west, VII Corps also operated a refugee site north of the border near Rafha.

On 23 March VII Corps assumed the occupation mission for all of southern Iraq. The 11th Aviation Brigade, augmented by the French 1st Combat Helicopter Regiment, relieved the French 6th Light Armored Division on the MDL's western flank. The 11th Brigade's civil affairs team took charge of an ongoing humanitarian operation at the small town of As Salman. Just as Safwan provided the focus for refugees in the east, As Salman provided a conduit in the western area of the occupation zone. As in the case of Safwan, civil affairs teams serviced the refugee centers and covered the countryside to deliver food, water, and medical treatment along 200 kilometers of the north-south highway between the Saudi border and the military demarcation line at the Euphrates River in the north.[88]

By the end of March the Saudis had established a large, semipermanent refugee holding facility, known as Rafha I, just inside the Iraqi border. This camp was in the 11th Aviation Brigade's sector, and the brigade took over the direction of providing humanitarian support. The situation was the same as in Safwan, as VII Corps soldiers continued to provide food, water, shelter, and, most of all, security to more than 17,000 Iraqi civilians.[89]

The permanent cease-fire agreement with Iraq called for coalition forces to depart its territory by the end of April and for the United Nations to assume responsibility for occupied Iraq. Much to Franks' consternation, the United Nations was not prepared. Franks believed he had a moral and legal right under the Law of War to continue to protect these civilians from certain death or abuse from the Iraqi government.[90] Understandably, the Saudis were also hesitant to create a refugee zone in their relatively underpopulated country. The refugee problems in Jordan, Lebanon, and the Gaza Strip were essentially a warning to the Saudi government. In addition, the scale of refugee problem had caught the Saudi Arabian authorities, like the United States, by surprise. By late April, however, the Saudi government had agreed to house those Iraqi refugees who did not wish to return to Iraq.[91] The VII Corps' task was now to move the refugees from Safwan, As Salman, and Rafha I to Saudi territory just north of Rafha.

First, the corps had to construct a temporary camp to use until the Saudis could construct their permanent facility. The 2d Armored Division (Forward), now detached from the 1st Infantry Division, built a temporary camp, Rafha II,

just inside Saudi Arabia, adjacent to the proposed site of the Saudi camp. This center was a large facility, about one by one-and-a-half kilometers, surrounded by a concertina-wire fence and capable of accommodating 30,000 refugees. Engineers placed thirteen rubberized 3,000-gallon, semitrailer-mounted fabric tanks (SMFTs) on top of sand berms around the perimeter of the camp. Gravity-forced water flowed from the SMFTs to faucets and shower facilities inside. A perimeter road ringed the camp, and another bisected it. On each side of the bisecting road, refugees were grouped by family and organized into subcamps known as counties. Each county had its own water, showers, and latrines.[92]

Refugees began arriving at Rafha II almost immediately upon its completion. Some drove cars, but most traveled by military and civilian trucks and buses. American military police registered the refugees on arrival and gave each an identification card and a meal, ready to eat, with a bottle of water.[93] Commanded by Brig. Gen. Gene Blackwell, the 2d Armored Division soldiers processed a total of 20,000 civilians into Rafha II, with over 4,000 a day arriving at the peak of the operation. When the flood of refugees threatened to overwhelm Rafha II, Blackwell built a smaller camp, Rafha III, to provide a short-term holding area.[94]

Finally, on 28 April the Saudi government was ready to assume control of the refugee operation. Supported by the International Committee of the Red Cross, the Red Crescent, and the United Nations High Commission on Refugees, the Saudi facility was ready on 28 April. The 1st Brigade, 3d Armored Division, supervised the move from Safwan to the new camp. Safwan refugees who chose to go to Saudi Arabia were making a lifelong decision never to return to Iraq. Refugees who wished to return to their homes in Iraq were offered gasoline and all the food and water they could carry. The rest were flown from the Safwan airfield by Air Force C–130s over about a ten-day period. Over 8,400 Iraqi civilians flew to the new camp in Saudi Arabia.[95] On 10 May General Blackwell handed over responsibility for all the camps and their refugees to the Saudi government.[96] As of 1998 many of these refugees remained as guests of the Saudi government in much more permanent camps around Rafha.[97]

The End in Sight

At 1200 on 12 April a permanent cease-fire agreement became effective, formally ending hostilities between coalition forces and the government of Iraq. The VII Corps stopped manning checkpoints along Highway 8 and began turning over responsibility for the region to UN observers. Now, almost a month and a half after the end of hostilities, the corps began the process of leaving Iraq. It was a withdrawal that would continue into early May.[98]

While often overlooked in histories of the Gulf War, the VII Corps' role over the previous six weeks is an important part of the story. The corps maintained a show of force along the MDL, forcing Saddam Hussein to accept the provisions of the cease-fire and to release all coalition prisoners. The corps was ready, had the President of the United States issued the order, to continue combat operations to change Iraqi behavior. It destroyed several additional combat divisions' worth of

equipment, ammunition, and materiel, further reducing the combat capability of the Iraqi Army. Finally, the corps ensured the orderly processing and treatment of Iraqi prisoners and civilian refugees. That the refugees in the VII Corps sector did not become part of the larger humanitarian disaster is a tribute to the soldiers of VII Corps, from private through corps commander. Also impressive is that all these missions were in progress simultaneously, conducted even as the staff planned for the corps' redeployment.[99]

Now it remained for the corps to conduct its last operation of the twentieth century. It had to evacuate its soldiers from Iraq, ship them and their equipment back to Germany and the United States, and disappear from the active roles of the U.S. Army.

Notes

[1]According to Gordon and Trainor, Third Army had such a contingency in development. Such planning is normal procedure for any G–3 section when the future situation is unclear. Without such planning, Yeosock could have been embarrassed had the national command authorities ordered a resumption of hostilities. See Michael R. Gordon and Bernard E. Trainor, *The Generals' War: The Inside Story of the Conflict in the Gulf* (Boston: Little, Brown and Co., 1994), pp. 452–54.

[2]VII Corps, Sitrep 43, 1 Mar 91.

[3]VII Corps G–3, Staff Jnl, 1 Mar 91, entry 22, for example.

[4]Peter S. Kindsvatter, "VII Corps in the Gulf War: Post–Cease-Fire Operations," *Military Review* (June 1992):5–6; Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 5 Apr 91, TRADOC.

[5]Kindsvatter, "Post–Cease-Fire Operations," pp. 5–6.

[6]Ibid., p. 6; Interv, Kindsvatter with Franks, 5 Apr 91.

[7]Kindsvatter, "Post–Cease-Fire Operations," pp. 5–6; VII Corps TAC, Staff Jnls, 17 Mar 91, entry 21, and 19 Mar 91, entry 29.

[8]H. Norman Schwarzkopf, Jr., and Peter Petre, *It Doesn't Take a Hero* (New York: Bantam Books, 1992), pp. 564–65; Interv, Kindsvatter with Franks, 5 Apr 91; VII Corps, FRAGO 156–91, Enemy Forces Observe Cease-Fire, 4 Mar 91.

[9]Interv, Kindsvatter with Franks, 30 Apr 91.

[10]VII Corps TAC, Staff Jnl, 3 Mar 91, entry 29.

[11]Ibid., 4 Mar 91, entry 27.

[12]Ibid., entry 14.

[13]Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 566; VII Corps, FRAGO 156–91, 4 Mar 91.

[14]Robert H. Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), p. 326; Kindsvatter, "Post–Cease-Fire Operations," p. 7; Eamonn Matthews, "Front Line: The Gulf War," BBC and Fine Art Productions, Public Broadcasting Television presentation, 1996.

[15]VII Corps TAC, Staff Jnl, 17 Mar 91, entries 13–14.

[16]Comments by Colin Powell and CIA Director Robert Gates on "FrontLine: The Gulf War"; Anthony H. Cordesman, *After the Storm: The Changing Military Balance in the Middle East* (Boulder, Colo.: Westview Press, 1993), p. 445.

[17]Lawrence Freedman and Efraim Karsh, *The Gulf Conflict, 1990–91* (Princeton: Princeton University Press, 1993), pp. 419–20; Cordesman, *After the Storm*, pp. 451–52; Matthews, "FrontLine: The Gulf War."

[18]Jason K. Kamiya, *A History of the 24th Mechanized Infantry Division Combat Team During Operation DESERT STORM* (Fort Stewart, Ga.: 24th Infantry Division [Mechanized], 1991), pp. 55–56; Scales, *Certain Victory*, pp. 312–14; VII Corps TAC, Staff Jnl, 1 Mar 91, entry 35.

[19]Interv, Kindsvatter with Franks, 30 Apr 91.

[20]Ibid.

[21]VII Corps, FRAGO 160–91, VII Corps Relieves XVIII Airborne Corps Heavy Forces in Sector, 7 Mar 91.

[22]VII Corps TAC, Staff Jnl, 17 Mar 91, entry 23.

[23]Interv, Kindsvatter with Franks, 5 Apr 91.

[24]VII Corps TAC, Staff Jnl, 11 Mar 91, entry 24.

[25]VII Corps, FRAGO 167–91, VII Corps Continues Their Zone Clearance Operations, 13 Mar 91; Kindsvatter, "Post–Cease-Fire Operations," pp. 7–8; VII Corps TAC, Staff Jnl, 19–25 Mar 91.

[26]VII Corps TAC, Staff Jnl, 28 Mar 91, entry 27.

[27]Ibid., 4 Mar 91, entries 28, 29, 30, 5 Mar 91, entry 9.

[28]VII Corps, FRAGO 147–91, By-Passed Enemy Forces May Not Have Received Word of Cease-Fire, 1 Mar 91.

[29]VII Corps TAC, Staff Jnls, 2 Mar 91, entry 41, 4 Mar 91, entries 8, 17, 23; 1st Cav Div, 1st Cav Div Chronology, p. A–5.

[30]Nigel Pearce, *The Shield and the Sabre: The Desert Rats in the Gulf* (London: Her Majesty's Stationery Office, 1992), p. 156.

[31] Kindsvatter, "Post–Cease-Fire Operations," p. 7.

[32] Intervs, Kindsvatter with Franks, 1, 30 Apr 91; Kindsvatter, "Post–Cease-Fire Operations," p. 11; VII Corps, Sitrep 76, 2 Apr 91.

[33] VII Corps, FRAGO 163–91, ARCENT Conducts AAR To Capture Lessons Learned During Operation DESERT SHIELD, 9 Mar 91.

[34] VII Corps TAC, Staff Duty Log, 12 Mar 91, entry 22.

[35] Terry J. Gardner, "Iraq—Chemical Weapon Potential," *Jane's Soviet Intelligence Review* (October 1990):441.

[36] VII Corps TAC, Staff Jnl, 3 Mar 91, entry 6.

[37] VII Corps, FRAGO 156–91, 4 Mar 91.

[38] VII Corps TAC, Staff Jnl, 4 Mar 91, entries 3, 5.

[39] Ibid., 12 Mar 91, entry 29.

[40] Ibid., 1 Mar 91, entry 26.

[41] Ibid., 17 Mar 91, entries 19–20.

[42] Ibid., 20 Mar 91, entry 34.

[43] VII Corps, FRAGO 173–91, Continued Operations in VII Corps Sector Exposes Soldiers to Unexploded Ordnance Hazards, 17 Mar 91.

[44] VII Corps TAC, Staff Jnl, 2 Apr 91, entries 3, 36.

[45] Ibid., 6 Apr 91, entries 22, 33; Interv, Kindsvatter with Franks, 30 Apr 91. The duty logs indicate that in most cases, the soldiers were injured while violating standing orders against picking up such munitions.

[46] Interv, Kindsvatter with Franks, 30 Apr 91.

[47] Mark E. Vincent and Samuel C. Raines, "VII Corps Iraqi Material Denial Mission (TF DEMO)," 21 Apr 91, in VII Corps AAR, Fort Leavenworth, Kans. This mission produced a detailed list, including locations, of all equipment and ammunition destroyed. This list is one of the best sources for identifying where Iraqi units were located.

[48] Christopher F. Foss, "Iraq—Ground Forces Equipment," *Jane's Soviet Intelligence Review* (October 1990):442–45.

[49] Interv, Kindsvatter with Franks, 30 Apr 91.

[50] Ibid.; Kindsvatter, "Post–Cease-Fire Operations," pp. 5–6; Schwarzkopf and Petre, *It Doesn't Take a Hero*, p. 568.

[51] Vincent and Raines, "TF DEMO."

[52] Kindsvatter, "Post–Cease-Fire Operations," p. 10.

[53] VII Corps, FRAGO 152–91, Destruction of Enemy Munitions and Equipment, 2 Mar 91.

[54] VII Corps TAC, Staff Jnl, 10 Mar 91, entry 32.

[55] VII Corps, FRAGO 165–91, VII Corps Continues Enemy Destruction Mission, 11 Mar 91.

[56] Cordesman, *After the Storm*, p. 483.

[57] Duncan Lennox, "Iraq—Anti-Ship Capability," *Jane's Soviet Intelligence Review* (October 1990):447–49.

[58] VII Corps TAC, Staff Jnl, 13 Mar 91, entries 19, 20, 25.

[59] Ibid., 18 Mar 91, entries 5, 8; VII Corps, Staff Jnl, 19 Mar 91, entry 9; VII Corps, FRAGO 178–9, U.S. VII Corps Moves and Assists in Disposing of Captured Enemy Missiles, 19 Mar 91.

[60] VII Corps TAC, Staff Jnls, 20 Mar 91, entry 15, 22 Mar 91, entries 8–9, 16, 23 Mar 91, entry 6, 24 Mar 91, entry 32.

[61] Ibid., 24 Mar 91, entry 6, 28 Mar 91, entry 19.

[62] Interv, Kindsvatter with Franks, 30 Apr 91.

[63] Kindsvatter, "Post–Cease-Fire Operations," p. 10.

[64] Interv, Kindsvatter with Franks, 30 Apr 91.

[65] Vincent and Raines, "TF DEMO."

[66] VII Corps Comdr, "Versatile, Expansible, Deployable, Lethal" (DESERT STORM Briefing), n.d. By comparison, the French in 1940 lost most of their 3,000 tanks to the German onslaught. The Germans in 1942 lost 500 tanks at El Alamein and another 3,000 at the Battle of Kursk in 1943.

[67] Michael Eisenstadt, "The Iraqi Armed Forces Two Years On," *Jane's Intelligence Review* (March 1993):123.

[68] VII Corps G–2, "The 100-Hour Ground War: The Failed Iraqi Plan," [Mar 91], p. 3, in VII Corps AAR; DOD, *Conduct of the Persian Gulf War* (Washington, D.C.: Government Printing Office, 1992), p. 578. U.S. forces captured 26,000 and the U.K. 1st Armoured Division another 7,000.

[69] 800th Military Police Brigade (PW), AAR, 1 Jun 91, pp. 2–3; DOD, *Conduct of the Persian Gulf War*, pp. 578–85.

[70] Pearce, *The Shield and the Sabre*, pp. 131–35; author's notes, 28 Feb 91. While moving with the 1st Infantry Division headquarters, the author helped "capture" about two dozen Iraqis whom the lead brigades had already bypassed. After giving each an MRE and a bottle of water, we loaded them on an empty trailer and transported them with us until turning them over to a military police patrol several hours later.

[71] VII Corps TAC, Staff Jnl, 1 Mar 91, entry 11.

[72] Ibid., 24 Mar 91, entry 23.

[73] Ibid., 30 Mar 91, entry 36.

[74] Ibid., 31 Mar 91, entries 3, 5, 6.

[75] Kindsvatter, "Post–Cease-Fire Operations," p. 9. The corps processed almost 57,000 Iraqi prisoners during its deployment to the Persian Gulf.

[76] Scales, *Certain Victory*, pp. 340–41.

[77] Ibid., pp. 326–27.

[78] Ibid., p. 327.

[79] VII Corps TAC, Staff Jnls, 24 Mar 91, entry 38, 25 Mar 91, entries 20, 22, 26, 29.

[80] Interv, Kindsvatter with Franks, 30 Apr 91.

[81] Geneva Convention Relative to the Protection of Civilian Persons in Time of War, 12 Aug 49. Details are contained in DA, FM 27–10, *The Law of Land Warfare* (Washington, D.C.: Department of the Army, 1956), p. 146.

[82] Interv, Kindsvatter with Franks, 30 Apr 91.

[83] Scales, *Certain Victory*, p. 328.

[84] Interv, Kindsvatter with Franks, 30 Apr 91; VII Corps, Sitrep 74, 31 Mar 91.

[85] Scales, *Certain Victory*, pp. 328–29; Kindsvatter, "Post–Cease-Fire Operations," p. 7.

[86] Kindsvatter, "Post–Cease-Fire Operations," p. 7; Interv, Kindsvatter with Franks, 5 Apr 91.

[87] Scales, *Certain Victory*, p. 332.

[88] Ibid., p. 330.

[89] Kindsvatter, "Post–Cease-Fire Operations," p. 9; Scales, *Certain Victory*, p. 330.

[90] Lt. Gen. Prince Khalid ibn Sultan, *Desert Warrior* (New York: HarperCollins, 1995), p. 444; Interv, Kindsvatter with Franks, 5 Apr 91.

[91] Sultan, *Desert Warrior*, pp. 444–47; Scales, *Certain Victory*, pp. 330–31.

[92] Scales, *Certain Victory*, p. 330.

[93] Ibid., pp. 330–32.

[94] Ibid., p. 332.

[95] VII Corps, FRAGOs 226–91, Refugee Airlift, 27 Apr 91, 229–91, Refugee Mission Support, 30 Apr 91; Kindsvatter, "Post–Cease-Fire Operations," pp. 12–13; Interv, Kindsvatter with Franks, 30 Apr 91.

[96] Scales, *Certain Victory*, p. 332.

[97] Sultan, *Desert Warrior*, p. 444.

[98] VII Corps, FRAGOs 207–91, Permanent Cease-Fire Agreement, 12 Apr 91, 234–91, UNIKOM Has Stated Its Intent To Commence Buffer Zone Take Over From VII Corps, 5 May 91.

[99] VII Corps, FRAGO 222–91, VII Corps Analyzes Support Requirements for the Diverse Missions Under Way, 23 Apr 91.

22

Coming Home

[The soldiers] walked inside. And *yiiiii* the sound of a thousand people, all sharing the screaming meemies, assailed it. In place of the HURRY HOMES were hundreds of WELCOME HOMES and a TOTO! WE'RE NOT IN SAUDI! and so much red, white and blue on balloons and flags that the hangar could be the scene of a Democratic or Republican convention.[1]

Throughout March and early April 1991, VII Corps continued to police the military demarcation line and provide humanitarian relief for refugees from the uprising in Iraq. As the XVIII Airborne Corps' redeployment progressed, the VII Corps staff began to prepare for the corps' last mission: going home. Franks' troops could not simply leave the desert and board an airplane. They had to clean up the land they used in the Saudi Arabian desert; they had to account for their equipment; and they had to prepare most of their equipment for shipping home. They also had to send some of their equipment into storage for other units to use during later emergencies. The corps' redeployment operations, therefore, consisted of moving to the air and seaports, preparing and shipping equipment, and moving soldiers to home stations.

Moving to the Air and Sea Ports

As soon as it became apparent that the cease-fire between the coalition and Iraq would continue, Central Command sent an initial contingent of troops home. While the full redeployment would take months, these men and women would help morale, both in the field and at home, and provide evidence that the war was over and the Army would soon return. Commanders selected 1,000 soldiers, representing each major corps unit, and prepared them for departure. Each trooper had a desert combat uniform, many for the first time, and a floppy hat. On 15 March they moved by CH–47 helicopter to King Khalid Military City. There, they boarded waiting aircraft and began the flight back to Germany and the United States.[2] This initial redeployment was a public affairs show for the Army, with journalists rushing to capture the reunions of soldiers with their families. Less than two weeks after the war ended, this select group found themselves at home and on the pages of American newsmagazines and newspapers.[3]

General Pagonis' 22d Support Command had developed the outlines of DESERT FAREWELL, the theater redeployment plan, even before the ink was dry on the agreement between General Schwarzkopf and the Iraqi Army.[4] This plan out-

lined eight separate stages that each unit had to complete to clear the theater. Stage one was the initial redeployment, in which the 1,000 members of VII Corps were participants. During stage two each unit moved out of Iraq to tactical assembly areas south of the border. Units were to visit parts of the battlefield and check for any items to be returned to the United States and destroy anything of value to the Iraqi Army. They were also to start to turn in any excess equipment and prepare their vehicles for the trip home.[5]

During the third stage units moved to redeployment assembly areas, which for VII Corps were located around KKMC. Units were to intensify maintaining, cleaning, and preparing equipment for shipment. Control teams then deployed to the ports to coordinate equipment and personnel deployments. Finally, equipment moved to a staging area for transport by HETs and other wheeled equipment carriers. Simultaneously with redeployment assembly area operations, units carried out stage four, equipment turn-in. Before they could move to the port, all equipment that the command was required to turn in had to be signed over to the appropriate 22d Support Command representatives. In addition to obvious items, such as extra tents and desert gear, all ammunition had to be removed from vehicles. It was then repackaged and shipped back to an appropriate ammunition facility in Europe or the United States.[6]

Stage five was the staging of personnel and equipment. Units moved their equipment from the redeployment assembly area to one of four huge wash racks in the port area. Each vehicle had to be cleaned and sanitized to meet stringent U.S. Department of Agriculture standards for vehicles arriving in America from the Middle East. This process often included removing power packs and steam-cleaning the vehicle's engine compartments. In addition, all Europe-based VII Corps vehicles were to be repainted in green camouflage colors. Sensitive equipment, such as aircraft, was shrink-wrapped in plastic and moved to the staging area. Once vehicles were cleaned and inspected, they moved to a guarded, sterile staging area to await shipment to the United States or Europe.

Stage six was for most soldiers the most important, as they moved to the airport and boarded aircraft for the flight home. Other soldiers, called supercargoes, remained behind to help loading the equipment on the ships and to accompany it by sea back to their homeports. Some soldiers, primarily from the 22d Support Command, remained behind to work the last two phases that placed equipment into storage and conducted a final cleanup of the facilities the Army had used in Saudi Arabia.[7]

The VII Corps' redeployment was only part of the massive mission Pagonis' support command performed. In addition to sending the veterans of the ground war home, the command brought in seventy-two additional support units to support the retrograde process. It established equipment storage areas at Doha, Kuwait, and moved the 11th Armored Cavalry from Europe to replace the VII Corps in defense of the sheikdom. The 22d Support Command also supervised the redeployment and support of a Patriot-equipped air defense brigade back to Southwest Asia in response to a Saudi Arabian request in September 1991. The Army had no intention of leaving supplies in theater, and the 22d Support

Command shipped over 350,000 short tons of ammunition and 339,000 short tons of other supply items back to the United States and Europe. In addition, the command closed the diverse thousands of contracts the Army had opened with suppliers in Saudi Arabia. Finally, on 2 January 1992, the 22d Support Command inactivated, replaced by a smaller headquarters, the U.S. Army Central Command (Forward).[8]

General Franks modified the theater plan to fit the VII Corps' special needs.[9] His intent for the redeployment encompassed four basic principles. First, he wanted to ensure that the first units in were the first out of Southwest Asia. Next, he wanted his commanders to monitor and care for the soldiers' discipline, well-being, and safety during the entire redeployment operation. Third, Franks wanted a disciplined and professional accounting of all the corps' resources. Finally, he wanted the redeployment to recognize and reinforce the pride that his soldiers felt in their recent victory.[10]

Franks then reorganized his command and control arrangements to accomplish this final mission. His deputy, Maj. Gen. Gene Daniel, took charge of the redeployment. The corps main command post moved to King Khalid Military City, essentially the center of the corps' redeployment assembly area, to control operations.

Brig. Gen. Creighton W. Abrams, Jr., and his corps artillery took over the role of port support activity. It was essentially the same process the 1st Infantry Division (Forward) had run back in January, but in reverse. Abrams ran both the ports of Al Jubayl and Ad Dammam as well as the major personnel staging area at Al Khobar. He supervised the preparation of vehicles for shipment, transportation of troops to the airports, and final shipping of the corps vehicles. His soldiers performed these tasks in close coordination with Pagonis' support command and the individual commanders of each major corps unit.[11] While Abrams' mission was difficult, he had the full support of every soldier in the corps, since they all wanted to go home as quickly as possible.

Handling the corps' equipment was a special problem. Some would return home with the unit. Some equipment was shipped back to storage areas in Germany or the United States. Other equipment would remain in Kuwait as part of a set of pre-positioned equipment for future operations. Finally, some equipment would be turned over to a follow-on force, the 11th Armored Cavalry, which would relieve the VII Corps in the defense of Kuwait. All these equipment issues were too complex for the VII Corps to perform properly. Franks requested and Pagonis supported the creation of a Department of the Army–level team, under the direction of Maj. Gen. Chuck Murray, to resolve equipment issues. Once Murray and his staff decided where equipment was to go, the VII Corps' soldiers could prepare it for its specific destination.[12]

In place of the support command's stages, Franks substituted six detailed "gates" through which each command had to pass to be allowed to proceed. Division commanders had to assure Franks at each stage that the unit had accomplished the specific tasks he required. For example, Gate 5 required cleaning and returning the redeployment assembly area to its original condition, turning in all equipment that was not returning to the home station, properly accounting for

and transferring war trophies to the appropriate facility, turning in and accounting for excess property, identifying and sending a rear detachment to the VII Corps headquarters, processing all containers for customs and agriculture inspections, reconciling all casualty reports, turning in unit command and lessons learned reports, nominating all deserving soldiers for unit awards, and scheduling an arrival ceremony at the home station.[13]

The U.K. 1st Armoured Division and the U.S. 1st Cavalry Division pulled out of Iraq and Kuwait and began their journey home in March. The problems for most troops in the rest of the corps in late March and early April were fighting off boredom and trying to maintain the soldiers and equipment in fighting trim.[14] On 7 April the 1st Infantry Division replaced the 2d Cavalry on the military demarcation line, and the regiment began moving south on a 200-mile road march toward its assembly area in Saudi Arabia. The 2d Cavalry was the first VII Corps unit in the region and, in keeping with the corps commander's policy, the first to return. The remainder of the corps continued to be strung out along the demarcation line, waiting for the word to depart. Finally, on 15 April the Iraqi government agreed to the United Nations' cease-fire terms, and the United States began to pull all soldiers out of Iraq.[15]

Most units began heading south toward their redeployment assembly areas immediately, since the entire VII Corps had to be out of Iraq by the evening of 19 April.[16] One last time division and brigade commanders had the chance to move their entire commands in battle formation. Those watching the formations in battle array were struck by the discipline of these desert combat veterans. First came the air scouts and attack helicopters, sweeping the division's route of march. Next were the ground cavalry troops, moving on the axis the rest of the division would follow. Then the combat brigades rolled fast, not in column, but in combat formation, with Bradleys or tanks in battle array and soft-skinned vehicles and the artillery tucked inside the "combat wedge" or "maneuver vee" formation. All equipment was properly stored, weapons properly mounted, crew members at their battle stations. The organized movement out of Iraq was in stark contrast to the command's initial deployment to the desert in December and January.[17] It took these formations two to three days to make the journey from Iraq to the redeployment assembly areas. Emotions ran high as each unit crossed the border berm back into Saudi Arabia.[18]

Not all units headed to Saudi Arabia. The 3d Armored Division sent one brigade, made up of elements from its 1st and 3d Brigades, to Kuwait. Supported by organizations from the United Kingdom and the 22d Support Command, this headquarters would provide a temporary security force in case of further trouble along Kuwait's border with Iraq. It moved to a small peninsula in Kuwait Bay, called Doha. There, relatively secure from terrorist attacks and with reasonable living and training facilities for the soldiers, the command would remain until relieved by the 11th Armored Cavalry on 16 June. Franks was extremely concerned for the morale and welfare of these soldiers and worked closely with Maj. Gen. Jerry R. Rutherford, the new 3d Armored Division commander, to ensure these soldiers received the best care possible. Franks also directed Rutherford to



Task Force 4th Battalion, 66th Armor, in company wedge: All units moved out of Iraq in tactical formation.

set up firing ranges and training areas to keep these soldiers at the top of their battle form.[19]

Preparing and Shipping Equipment

Units began to arrive in their redeployment assembly areas as temperatures continued to rise. On 21 April the desert sands around King Khalid Military City reached 107°F by midday.[20] The terrain in Iraq had been pleasant compared to northern Saudi Arabia. Flat, rocky, sandy, and much hotter, the environment was more inhospitable than it had been when the corps had used the region as a tactical assembly area in January and February. As units arrived, they unloaded their ammunition and began turning it in at ammunition points. Unit attachments ended, as air defense artillery teams, ground surveillance radar sections, and cross-attached infantry and armor units returned to their parent commands. While the soldiers were anxious to get home, their morale was high. It continued to improve as they had the chance for good showers and regular hot food.[21]

The corps now began to turn in equipment with a sense of urgency. Many corps units were headed back to Europe for inactivation and had to dispose of their gear before they departed. The corps staff set up a temporary storage location to receive, inspect, account for, store, and protect equipment from units that were inactivating. When ready this equipment was signed over to a team from the 22d Support Command.[22]

All kinds of equipment problems had to be resolved. On one hand, specialized equipment, such as that used by the intelligence and electronic warfare com-



After DESERT STORM, *military equipment awaiting transport back to the United States shows the magnitude of the logistics effort;* below, *A ship loaded with military equipment stands ready to depart the port at Al Jubayl.*





Positioning a Fuel Truck Aboard a RO-RO Ship; below, *A crane lifts each aircraft onto the USNS* Capella, *a rapid-response vehicle cargo ship.*



munity, including various radio sets and electronic monitoring systems, had to go to military intelligence units.[23] Items modified during the war, such as maintenance contact trucks that were essentially "1/2 Dodge and 1/2 Chevy" had to somehow, legally, be signed back over to the government.[24]

An additional issue concerned war trophies. Many units wanted to bring home Iraqi equipment to stand alongside similar items from the Second World War in unit museums. Franks directed his 2d Corps Support Command to set up a war-trophy holding area on 21 April. This organization, headed by a captain, accepted this equipment for which the Central Command had not yet approved shipment. Ultimately, this organization became responsible for packing and crating war trophies that did not accompany the units back to home stations.[25] The largest items of equipment, such as tanks, personnel carriers, and artillery pieces, were processed as unit property when the divisions hit the port.

On 14 April the 2d Cavalry began moving equipment to the port of Al Jubayl, followed by the 11th Aviation Brigade on 18 April. Soon the entire corps was en route to the coast. Tracked vehicles moved to the ports on heavy equipment transporters, while wheeled vehicles road-marched back down Tapline Road. Flatbed tractor-trailers moved thousands of shipping containers to the ports. Other soldiers moved to KKMC, where they flew to Dhahran on Air Force aircraft. Mother nature continued to remind the corps where they were. The heat was almost unbearable, and the temperature continued to rise. During this stage the redeployment area was struck by a "horrendous sandstorm making all miserable."[26] Nevertheless, twenty-four hours a day, corps units moved down Tapline Road to the port and onto one of the four huge wash racks. Once clean, tan vehicles went to the paint facility for repainting, and then to the sterile area to await shipment.[27]

Once the vehicles were ready, the crews moved into Khobar Towers outside of Ad Dammam. The facility had changed greatly since the last time troops had been there in December and January. Now there were cots in the rooms. In the public areas, designed for children to play, contractors had set up food stands, laundry outlets, and souvenir shops. Meals, ready to eat, and other staples of desert diet gave way to pizza and cheese-steak sandwiches. The dining facilities, still in the underground garages of the complex, were well stocked and staffed.[28]

Franks wanted his soldiers to come home looking as good as possible. All soldiers finally received their issue of desert combat uniforms. Quartermaster facilities sewed on each soldier's patches, Army identification strip, and nametag. Most important for most of these soldiers was the unit patch, the combat patch, sewed on the right sleeve. More than any other symbol, the unit insignia on the right sleeve identified these soldiers as veterans of the Persian Gulf War.

Finally, after a week or more of waiting, the unit received its allocation of aircraft. Division redeployment cells prepared manifests, identified flight commanders, and arranged for preinspections by customs officers. Commanders made it clear to soldiers that if they tried to smuggle illegal items back to the United States, the consequences would be unpleasant. Forbidden items included Iraqi weapons, fresh fruit (because of the Mediterranean fruit fly), drug paraphernalia such as hash pots, or rugs and other items made by forced labor.[29] Soldiers found with



A driver sets an M3 Bradley into place aboard ship.

such items would be pulled off the flight manifest and forced to remain in Saudi Arabia until the military police authorities resolved their case. Few soldiers wanted to risk spending any more time away from home, so most were ready when the final hour came.

Soon the soldiers on the flight were called forward. Under control of the flight commander and the division's redeployment cell, the soldiers rode buses to the airfield. Then, with their baggage, they filled an aviation hangar. One last time customs police went through their belongings. Then the soldiers went to a final holding area to wait while the aircraft was made ready. A unit detail loaded the soldiers' baggage onto the aircraft. Finally, the word came and the soldiers moved to their aircraft. Greeted by cheery flight stewardesses, the soldiers' morale continued to rise. They cheered as it was wheels up and the sands of Saudi Arabia fell away.[30]

The corps headquarters tracked the status of redeployment daily. On 12 May, with more than 60 percent of the corps redeployed, General Franks and the main body of the corps headquarters departed Saudi Arabia for Stuttgart, Germany.[31] The rest of the corps continued to follow. By 29 May over 113,667 VII Corps soldiers had left Saudi Arabia, with only 2,820 remaining in theater to help with the final shipping.[32]

Port operations continued for several more weeks. It took over 155 ships to return the corps to Europe and the United States. The scale of the shipment was, like everything else for DESERT STORM, huge. The corps sent back 6,958 tracked

vehicles; 45,099 wheeled vehicles; 582 aircraft; 2,267 containers; and 1,892 miscellaneous items of equipment. Each of these items had to be cleaned, inspected, properly marked, loaded on the ship, and protected from the elements.[33] Volunteers, the supercargoes, from each unit chose to stay behind and help with the loading and the voyage home.[34]

Homecoming

Senior Army leaders remembered how they had come home from Vietnam in the sixties and seventies. Soldiers came home as individuals or in small groups. There were no parades of welcome, only protesters venting a popular disgust with the war and those who fought. It was a memory that never left the veterans of that ill-fated conflict. Like Generals Powell and Schwarzkopf, General Franks was determined that his soldiers would come home in style.

Most of Franks' soldiers returned initially to Europe. Each American community in Germany organized welcome ceremonies. Since Franks and his staff did not expect the huge outpouring of support that American-based units received, they made special efforts to provide for proper returning ceremonies. General Crosbie E. Saint, commander of U.S. Army, Europe, and his staff worked closely with German and American agencies to provide for first-class treatment of the returning soldiers. German leaders changed their procedures at the airports of Stuttgart, Frankfurt, Nuremberg, and Hamburg to allow the buses to drive directly to the aircraft on the runway. Soldiers and their baggage immediately boarded the buses for the ride back to their individual kasernes. Family members knew in advance when and exactly which soldiers were on the way. When they arrived, the soldiers assembled for a last briefing by their commanders and marched, to the music of local German and American bands, into a central area where their families waited.[35]

Soldiers of the 1st Infantry Division and other units returning directly to the United States had similar experiences. After landing at the airport in Topeka, Kansas, they rode the sixty-five miles to the military airfield at Fort Riley. Getting off the bus, the soldiers turned their personal weapons and protective masks over to waiting armorers. Then, to the sounds of the theme from "Rocky" or some other stirring music, the flight marched into a yellow, red, white, and blue decorated aircraft hangar. The effect was electric as cheering family members and friends surrounded the brown-camouflage-clad soldiers.[36]

Welcome-home ceremonies continued in the United States and Europe throughout May. Chicago became the first city to hold a major celebration, with General Colin Powell as the grand marshal, on 10 May.[37] Los Angeles had its parade on 19 May.[38] One of the largest military parades in the history of the country took place in Washington, D.C., on 8 June. Here, General H. Norman Schwarzkopf, Jr., led representatives from each of his commands past the presidential reviewing stand.[39] General Franks led his VII Corps command and staff in that last official gathering of the corps leadership.

Meanwhile, soldiers continued to return by land and sea from Southwest Asia. On 16 June the last soldiers from the 3d Armored Division turned over their



VII Corps' departure ceremony; below, *General Franks furls the colors for the trip home.*





Welcome Home, Fort Riley, Kansas; below, *Capt. Kenneth Pope receives a warm welcome home from wife Mary.*



equipment to the 11th Cavalry in Doha and boarded aircraft for Germany. This was the last VII Corps unit that participated in the ground offensive to come home. The last individual soldiers would not return home until after their ships docked in American ports in the middle of August.[40]

Inactivation

General Franks returned to Stuttgart for only a short time. In August 1991 he was promoted to four-star general and placed in command of the U.S. Army Training and Doctrine Command. He began the task of adapting the lessons from the Gulf War to improving technology and the changing and much more complex international situation.[41]

Franks' successor at VII Corps, Lt. Gen. Michael Spigelmire, who had been the corps G–3 a decade earlier, supervised the VII Corps' inactivation. The corps furled its colors and left Stuttgart on 18 March 1992. In a ceremony at Fort McPherson, Georgia, on 24 April, VII Corps formally joined the roles of Army units not on active service. Attending the ceremony was General Saint, the outgoing commander of U.S. Army, Europe, and former VII Corps commanders General William J. Livsey and Lt. Gens. Louis Truman, Julius Becton, Andrew Chambers, and Ronald Watts.[42]

The corps fighting units also underwent major postwar changes. At the end of 1991 the 1st Armored Division closed its kasernes in Bavaria. Its name, lineage, and colors moved west of the Rhine to Bad Kreuznach, replacing the inactivated 8th Infantry Division. It was part of the process of reducing the Army's four Europe-based divisions to just two.[43] Another casualty of the reorganization was the 3d Armored Division. In January 1992 the division furled its colors and headed back to the United States for its inactivation.[44] The 2d Cavalry also returned to the United States that winter. Trading in its heavy tanks for lighter equipment, it moved first to Fort Lewis, Washington, and then by 1995 to Fort Polk, Louisiana.

Notes

[1] John Sack, *Company C: The Real War in Iraq* (New York: William Morrow and Co., 1995), p. 211.

[2] VII Corps, FRAGO 168–91, VII Corps Deploys Soldiers from Current Locations, 13 Mar 91; Chronology—22d SUPCOM, Opn DESERT SHIELD/DESERT STORM, Chart 49.

[3] "There He Is!" *Newsweek* (18 March 1991):16–21.

[4] 22d SUPCOM, OPORD 91–4, DESERT FAREWELL (Redeployment), 20 Mar 91.

[5] 22d SUPCOM, Cmd Rpt: 22d SUPCOM, Opn DESERT STORM, 17 Jan–15 Mar 91, 2 Jan 92, tab B.

[6] Ibid.; William G. Pagonis, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard Business School Press, 1992), pp. 156–57.

[7] Ibid.

[8] 22d SUPCOM, Cmd Rpt, 2 Jan 92.

[9] VII Corps, OPORD 1991–2, Opn HOMEWARD BOUND, Apr 91.

[10] Interv, Peter S. Kindsvatter with Frederick M. Franks, Jr., 30 Apr 91, TRADOC.

[11] Ibid.

[12] Peter S. Kindsvatter, "VII Corps in the Gulf War: Post–Cease-Fire Operations," *Military Review* (June 1992):14; Interv, Kindsvatter with Franks, 30 Apr 91.

[13] VII Corps, FRAGO 215–91, VII Corps Continues Redeployment Operations, 19 Apr 91.

[14] Gregory Fontenot, "2/34 Armor (Dreadnoughts) in DESERT STORM: Non Combat Operations," in "DESERT SHIELD/STORM History," ed. Jim Stockmoe, Unpubl Ms, 1st Bde, 1st Inf Div, 1991, p. 36, Fort Riley, Kans.

[15] Kindsvatter, "Post–Cease-Fire Operations," p. 11.

[16] VII Corps, FRAGO 210–91, VII Corps Begins Moving, 15 Apr 91.

[17] Author's notes. The author had the chance to watch the entire 1st Infantry Division redeploy from Iraq in such a formation.

[18] Fontenot, "2/34 Armor," p. 14; 125th Spt Bn (Fwd), Opns DESERT SHIELD & STORM Hist Sum, 9 Nov 90–29 Apr 91.

[19] VII Corps, FRAGOs 210–91, 15 Apr 91, 238–91, Continuing Presence in Kuwait, 9 May 91; 22d SUPCOM, AAR, vol. XII, Exec Sum (final chapter), p. 2; Interv, Kindsvatter with Franks, 5 Apr 91.

[20] VII Corps, FRAGO 220–91, 22 Apr 91.

[21] Fontenot, "2/34 Armor," pp. 14–15.

[22] VII Corps, FRAGO 218–91, [Temporary Storage], 20 Apr 91.

[23] VII Corps, FRAGO 215–91, 19 Apr 91.

[24] 125th Spt Bn (Fwd), Opns DESERT SHIELD & STORM Hist Sum. As the authors of this report pointed out, "They were something with no name, but very useful."

[25] VII Corps, FRAGOs 223–91, 19 Apr 91, 219–91, War Trophy Holding Activity, 21 Apr 91.

[26] Fontenot, "2/34 Armor," p. 39.

[27] Kindsvatter, "Post–Cease-Fire Operations," p. 14; Pagonis, *Moving Mountains*, pp. 156–57.

[28] Author's notes, 18–30 Apr 91. The author was part of the 1st Infantry Division's redeployment control team.

[29] 34th Military Police Customs Unit, Briefing, 19 Apr 91.

[30] Kindsvatter, "Post–Cease-Fire Operations," p. 14; author's notes.

[31] Kindsvatter, "Post–Cease-Fire Operations," p. 14.

[32] 22d SUPCOM, Log Sitrep R+79, 29 May 91.

[33] Ibid. The number is not exact, since units that had fought with VII Corps may have departed with other organizations and VII Corps units were mixed in with XVIII Airborne Corps and ARCENT shipments.

[34] Interv, Kindsvatter with Franks, 30 Apr 91.

[35] Ibid.

[36] Sack, *Company C*, pp. 213–15; author's notes.

[37] "Gen. Powell Visits Chicago for Gulf Veterans Parade," *New York Times*, 11 May 91, sec. 1, p. 6, col. 2; Colin Powell and Joseph E. Persico, *My American Journey* (New York: Ballantine Books,

1995), p. 517.

[38] Scott Harris and Eric Bailey, "Big Crowd Salutes DESERT STORM Veterans," *Los Angeles Times*, 19 May 91, pt. A, p. 3, col. 2.

[39] Charlotte Grimes, "200,000 Salute Gulf Troops...President Leads U.S. in Tribute," *St. Louis Post-Dispatch*, 9 Jun 91, p. 1A.

[40] 22d SUPCOM, AAR, vol. XII, Exec Sum (final chapter), pp. 2–3.

[41] Frederick M. Franks, Jr., "TRADOC: Seeding Future Victories," *Army* (October 1992):90–102.

[42] Charles Corddry, "Another War Won, an Army Regroups," *Army* (May 1992):26; Fort McPherson, Ga., FY 1992 Annual Historical Review, 22 Dec 93.

[43] David White, "When Johnny Goes Marching Home," *London Financial Times*, 31 Dec 91, p. 10.

[44] George Boehmer, "3rd Armored Division Veterans Rue Its Passing," *Washington Times*, 11 Jan 92, p. 7.

Epilogue

Lessons from DESERT SABER

The images nearly all suggest a rout, and they linger. Starved Iraqi soldiers, crawling from holes, begging for food, unwilling to fight. Prisoners of war, pathetic, too numerous to count. In fact, some Iraqi units fought and fought hard. A few were well led. Despite the images, the truth is that a good number of the allied soldiers who engaged Saddam Husayn's army during the 100-hour ground war found themselves fighting for their lives.[1]

You may fly over a land forever. You may bomb it, atomize it, pulverize it, and wipe it clean of life. But if you desire to defend it, protect it, and keep it, you must do this on the ground the way the Roman legions did—by putting your young men in the mud.

—T. R. Fehrenbach[2]

There can be no doubt that DESERT STORM was a military success for the coalition, although a considerable portion of the *Republican Guard Forces Command* was allowed to withdraw. The Iraqi Army was for the time being no longer a threat to its neighbors and back on its side of the Kuwaiti border. While difficult to estimate accurately, its combat losses were great. Between 25,000 and 50,000 Iraqi soldiers were dead; another 80,000 were prisoners; and another 150,000 had deserted or escaped from their military units.[3] The coalition had destroyed around 3,300 Iraqi tanks; 2,100 other armored vehicles; and 2,200 artillery tubes, leaving the Iraqi Army at about 30 percent of its prewar strength.[4]

However, the campaign's political success is questionable. Certainly, the coalition offensive liberated Kuwait and restored Western access to its precious oil reserves. However, on another level, the Baathist dictatorship survived long after the war, with enough combat power to subdue the Shi'a rebellion in the south and force the United States to intervene to protect the Iraqi Kurds in the north. Long after DESERT STORM, American forces remained in Kuwait and Saudi Arabia, flying air patrols over much of Iraq and bolstering Kuwaiti defenses. From time to time, large American forces returned to the gulf to threaten or punish Iraq for some international transgression. Nevertheless, eleven years after the war Saddam Hussein was still dictator of Iraq and on the surface just as powerful at home as he had been before the conflict.

Disappointment with the political results should not affect an evaluation of the operational and tactical aspects of the conflict. The U.S. Army expends great effort in searching out lessons learned from its campaigns and training exercises, and DESERT STORM was no exception. Immediately after the end of the conflict, members of the Army's Center for Lessons Learned from Fort Leavenworth, Kansas, vis-

ited units in the field to interview participants. Individual units also submitted their own after-action reports, complete with their own lessons learned. This information, when compared with the journals and reports submitted during the conflict, helps to evaluate the effectiveness of the U.S. Army's technology, training, leadership, and war-fighting doctrine.

The story of the VII Corps is most important because it refutes the myth that the campaign's success was a simple result of America's technological prowess. Many civilians, with visions blurred by the visual media, believe the ground war was some kind of video game won by smart weapons against an Iraqi Army that simply gave up after an intensive air bombardment. Nothing could be further from the truth.[5] In fact, the technological differences were not so great as to exclusively explain the ground offensive's one-sided outcome.

The assumption that Americans can win future wars from the air with so few casualties is dangerous. Air power enthusiasts are obviously correct in pointing out that the air campaign weakened the Iraqi Army, and most ground soldiers are grateful for this effort.[6] However, for six weeks the Air Force and Navy used all the smart—and not so smart—weapons in their inventories against the Iraqi armed forces, yet Saddam Hussein's troops remained in Kuwait and began their withdrawal only after the beginning of the ground assault.[7] Despite the air offensive, much of the Iraqi Army was still capable and full of fight when Franks' units crossed the border. The main divisions that VII Corps engaged (the *Tawakalna Mechanized* and the *Medina, 12th,* and *52d Armored Divisions*) moved, while under air attack, out of their positions and toward the attacking American forces. Most of their armored vehicles went into the ground battle intact. Each of these divisions faced Franks' troops with more than enough combat equipment to conduct an effective defensive battle.

Technology also does not explain the coalition's success on the ground. American troops were used to training against "inferior" units at the National Training Center. In these intensive mock engagements the opposing forces, using simulated T–72 tanks and BMP infantry fighting vehicles, usually defeat the M1A1- and Bradley-equipped "American" units.[8] In fact, the Iraqi Army often encountered VII Corps units at close range and in bad weather—conditions that negated the coalition's advantages in range and night vision. The armed forces of Iraq, especially those belonging to the *Republican Guard Forces Command*, had more than enough high-quality equipment to inflict serious losses on the attacking VII Corps, yet they did not.

The primary explanation for this one-sided outcome was not technology, but the disparity in the quality of the training of the two forces. Following the 1973 Arab-Israeli War, General William E. DePuy, then commander of the U.S. Army Training and Doctrine Command, examined the nature of that conflict's engagements. He noted that the Israeli tank crews, often using the same equipment their opponents used, were between three and six times more effective. He further noted that the Israeli units fired more than four times as much training ammunition as did American crews, reflecting a more intensive training program. DePuy concluded, "during the next 10 years battlefield outcome will depend upon the quality of the troops rather than the quality of the tanks."[9]

In the following years, DePuy constructed an entire military doctrine and training program around the premise that "What can be seen, can be hit—what can be hit, can be killed."[10] He demanded that commanders take tank gunnery seriously and practice it incessantly. Throughout the 1980s, at least twice a year, crews negotiated ranges that in their most sophisticated version replicated the worst situation an American armored or mechanized unit could face. The Army now expected crews to acquire, engage, and destroy at least three enemy tanks in less than half a minute. Similar ranges and standards existed for Bradley crews, artillery batteries, and all units in the Army.[11] By 1990 American tank and mechanized infantry units were participating in platoon, company, and even battalion live-fire exercises.

In contrast, there is little indication that the Iraqi tank and antitank guided missile gunners had participated in any serious gunnery training program. Whatever experience they had gained from the Iran-Iraq War had obviously lost its effect. Reports from many American and British units indicate that the Iraqi vehicles often fired first, but missed. Seldom did they have the chance to fire twice. This failure to kill enemy targets was a problem of training, not of technological disadvantage. At close range, the weapons carried by the T–72 and BMP are quite lethal. However, without intensive training, the vehicles are little more than expensive forms of transportation. No army can possibly have success if its soldiers cannot hit their targets. General DePuy's predictions were right the mark.

The Iraqi training problem was not confined to individual soldiers and crews. At every level Iraqi officers also demonstrated that they were not prepared for combat. Time after time they violated such basic principles of military art as maintaining security or adjusting artillery fire. They had a superb air-defense system but did not know how to use it. The Iraqi intelligence system failed completely—in some cases Iraqi officers did not even know which national army they were fighting. The Iraqi high command conceded the initiative to the VII Corps staff early on and allowed the Americans to prepare for the campaign with little interference. This lack of basic military proficiency, more than the effects of an air campaign or problems in equipment, ensured Iraq's defeat. American planners should evaluate these lessons carefully, as future opponents may not be so accommodating.

In addition to advantages accruing from better training, leadership, and equipment, American soldiers benefited from logistical capabilities that easily outclassed those of their adversary. Although the deployment to Saudi Arabia featured many awkward moments salvaged by improvised solutions, once the large logistical apparatus of the American corps was established, it performed as designed. Huge fleets of trucks ferried enormous quantities of supplies of all types—food, water, fuel, ammunition, engineering items, spare parts, and so forth—throughout the breadth and depth of the battlefield. Organizational layers of maintenance personnel quickly "covered down" on disabled vehicles, sustaining equipment readiness rates well above 90 percent in most categories. An elaborate medical evacuation system, fortunately little used, was poised to speed the wounded to a host of hospitals that had mushroomed out of the desert. The final day of the short war

did bring the fuel-devouring M1A1 tanks to the end of their tethers, a fact that should not obscure the logistical success in pushing vast quantities of fuel across the desert.[12]

In contrast, the logistical system of the coalition's foes was unimpressive, despite the lesser challenge of supporting a generally static defensive front. Even before the air campaign, Iraqi logistics, featuring huge stockpiles of supplies but insufficient transportation and a dearth of appropriately trained support personnel, was a pale shadow of the American system. After the air campaign, its prospects of supporting a sustained battle were hopeless.

Another important aspect of the VII Corps campaign concerned the quality of leadership. General Schwarzkopf, the theater commander, complained daily about perceived inefficiencies or mistakes on the part of the VII Corps commander and remained unhappy with General Franks' performance. Why he never flew forward to discuss his concerns personally with Franks is a question mark. Instead, while entombed in a bunker, three hundred miles behind the front lines, Schwarzkopf lost a personal awareness of the conditions his ground forces were experiencing.[13] In truth, soldiers on the ground never respond like those in a computer simulation, and the VII Corps troops had gone about as far and fast as fuel and human endurance would allow. Perhaps inevitably, Schwarzkopf's role as leader of a coalition force consisting of numerous nations and services distracted him from detailed management of the ground offensive. In the end, lapses in coordination between the U.S. Marines, Third Army, and coalition air forces seem to have allowed much of the *Republican Guard* to evacuate the Kuwaiti Theater of Operations and ultimately escape.

General Yeosock, as Third Army commander, was the source of VII Corps' external coordination, direction, and motivation. He found himself, however, in the unenviable position of working directly for Schwarzkopf as well as commanding an organization that may have been too difficult for anyone to manage effectively. His command had three distinct functions. First, it was a field army directing the two corps. Second, it was a theater army headquarters, responsible for overall logistic and service support. Finally, Third Army served as component headquarters, responsible for all U.S. Army operations in the theater.[14]

The Third Army command had been hastily assembled, incompletely organized, and untested in an operational environment. Indeed, it was fortunate that the war ended rather quickly without overly stressing Third Army's capabilities. The pace of the campaign, especially during the last days of the war, exposed its shortcomings. For example, the generally uncoordinated attacks of the two army corps allowed a significant portion of Iraq's combat power to withdraw, and the handling and supervision of the last day's attack was particularly problematic. This author is convinced that a determined enemy and several weeks of sustained operations would have broken this organization and forced its diverse functions to be formally reallocated between a field (Third Army) and a theater (ARCENT) army.

In addition, General Yeosock's location in Riyadh, near Schwarzkopf and far from the front, probably helped to distort his perception of events and affected his decision-making ability. While this may be an unfair comparison, it is diffi-

cult to envision Lt. Gen. George S. Patton commanding his World War II–era Third Army from a van parked near General Omar Bradley's army group headquarters. If an army commander's most important role is to temper his superior's daily briefing, rather than to coordinate the attack of two or more army corps from a forward command post, then there is a serious problem in both his command and personal relationship with his boss.

General Franks ran a successful campaign within the parameters of his approved plan and the guidance he received from Generals Schwarzkopf and Yeosock. His defeat of the *Tawakalna Mechanized Division* is a textbook example of how to concentrate combat power throughout the battle sector to destroy a defending enemy force.

Nevertheless, there are points in this campaign that military professionals might revisit and evaluate. From hindsight, perhaps he was too rigid in executing his plan. Could Franks have kept at least his 2d Cavalry and two armored divisions moving on the first night of the war? General Griffith's 1st Armored Division should have bypassed Al Busayyah on the second night and continued to drive east, allowing the 3d Armored Division and 2d Cavalry to drive past Objective COLLINS and gain contact with the *Republican Guard* earlier. In the face of little enemy opposition, Franks could have ordered the 1st Infantry Division out of the breach earlier, allowing for a more orderly attack on the *Tawakalna* with a more decisive exploitation. He probably could have used his 11th Aviation Brigade in the battle more often. Finally, he could have overridden General Griffith's advice and pushed the 1st Cavalry Division through the 1st Armored Division on the last day of the war, thus facilitating the capture of objectives around Safwan. These are relatively small points, considering the overall success of the campaign, but they do reflect the conservative nature of General Franks and his subordinates.

Franks supervised a competent collection of division and regimental commanders. Having fought in the Vietnam War, each brought to the battle extensive military experience. Conservative as a group, they were determined not to expend soldiers' lives if they had any recourse. Several examples illustrate this trend: Rhame's not wanting to push through the breach on the first night; Griffith's holding at Al Busayyah on the second night of the war and recommending to Franks not to use the 1st Cavalry Division on the last night; and Funk's slowing his attack on the night of 26–27 February until he could obliterate the Iraqi defenders with artillery and attack helicopters. None of these decisions was technically wrong. Collectively they describe commanders who were determined to succeed at as small a cost in human suffering as possible. Ironically, the apparently most aggressive of the division commanders, Maj. Gen. John H. Tilelli, Jr., never really got into the battle.

Despite these observations, we must give Franks credit as an effective combat commander. The maneuver of his large corps was a textbook example of battlespace management. Despite the distances, his divisions did not run out of fuel and struck the enemy en masse, not piecemeal. His plans were sound, his orders clear, his staff work generally efficient. Rather than remain in his main or tactical command posts, with all their redundant communications to the two senior head-

quarters in the rear, he went forward. Always on the move in his Black Hawk, Franks flew from division to division, ensuring he understood the conditions his soldiers confronted. His face-to-face discussions with commanders ensured that, whatever the confusion in written orders, everyone understood his intent. His is a performance that future corps commanders would be wise to study.

We must address the issue of military doctrine. The Army embarked on this campaign immersed in AirLand Battle Doctrine as presented in the 1986 edition of FM 100–5, *Operations*. Essentially, operations were to impose the Army's will on the enemy and confront him with operations that were "rapid, unpredictable, violent, and disorienting." The fight had to be "fast enough to prevent him from taking effective counteractions."[15] This campaign confirmed that simple maneuver alone will not defeat an enemy. When VII Corps executed its wheel to the right, it found two *Republican Guard* divisions waiting for the assault. Yet, in spite of heroic Iraqi action, the Jayhawks annihilated each of these units, losing in the entire campaign only 66 British and American soldiers killed and 174 wounded.[16] In the case of the *Tawakalna Mechanized Division*, probably the best in the Iraqi Army, Franks massed three ground divisions and his armored cavalry regiment against the Iraqi defenders. The result is a strong testimony to the continued importance of mass, as well as maneuver, in attaining tactical and operational victory.

However, the operation's short duration exposed some potential cracks that an extended operation could have enlarged. By the fifth day of the campaign, the offensive spirit was running out of steam. The fast pace of the attack had exposed flaws in the army's command and control system. Corps and division command posts had difficulty keeping up with fast-moving tank and mechanized infantry battalions. Exhausted division and corps leaders, with their large staff agencies lagging miles to the rear, were forced to make decisions without benefit of detailed expert analysis.

Finally, despite all the pronouncements about AirLand Battle Doctrine, the Air Force did not fully embrace the concept.[17] Consequently, Army commanders felt frustrated by the low level of air support they received, during both the air campaign and the later ground offensive. Coordination of the three-dimensional battlefield between the two services was anything but synchronized. The incidents of air-to-ground fratricide and difficulties with controlling the fire-support coordination line are two of the most obvious indications of a problem during the ground campaign.[18] Despite these flaws, the hastily assembled VII Corps, as well as the rest of the Army, performed quite well during DESERT STORM.

To some, VII Corps' campaign may have appeared as easy as a Sunday drive along a major interstate highway. Its units arrived in Saudi Arabia, attacked the enemy in Iraq, accomplished the mission of liberating Kuwait, and came home, all with seemingly little fuss or muss. The corps is not remembered for logistics disasters, botched battles or wasted lives. The abysmal Iraqi performance only highlighted the professionalism of coalition soldiers at all levels. Clearly, American and British soldiers were more competent in basic military skills and tactics, nearly always made the best use of their complex equipment, and aggressively pressed their attacks against a dangerous but less competent foe. Although the battles may

have been distant and almost automatic to outside commentators, for the soldiers in the combat battalions and companies they were real, close, and extremely personal. It is a tribute to the VII Corps that this dramatic victory appeared so easily won.

Notes

[1]"The Ground War," *U.S. News and World Report* (20 January 1992):53.

[2]VII Corps Comdr, "Versatile, Expansible, Deployable, Lethal" (DESERT STORM Briefing), n.d., first briefing slide.

[3]Michael Eisenstadt, "The Iraqi Armed Forces Two Years On," *Jane's Intelligence Review* (March 1993):123; Anthony H. Cordesman, *After the Storm: The Changing Military Balance in the Middle East* (Boulder, Colo.: Westview Press, 1993), pp. 444, 464–65. All estimates are just that. Iraqi forces in the Kuwati Theater of Operations were authorized 547,000 soldiers. Front-line units, such as the Iraqi *VII Corps*, went to war with little more than half their authorized strength. Other units, such as the *RGFC*, had most of their soldiers. Some units surrendered en masse; others fought to the death or escaped.

[4]Eisenstadt, "Iraqi Armed Forces Two Years On," p. 125; Cordesman, *After the Storm*, pp. 444, 465. These figures are also estimates, although more accurate than personnel statistics.

[5]Stephen Biddle, "Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict," *International Security* 21, no. 2 (Fall 1996):139; Tom Moganthau et al., "The Military's New Image," *Newsweek* (11 March 1991):50–51.

[6]Steven Weingartner, ed., "Senior Allied Commanders Discuss the Gulf War, 4–5 March 1998," draft proceedings, Unpubl Ms, Catigny First Division Foundation and the Robert R. McCormick Tribune Foundation, Wheaton, Ill., 1999, Panel 2.

[7]General Accounting Office, "Operation DESERT STORM: Evaluation of the Air Campaign," Unpubl Ms, Congressional Accounting Office, Washington, D.C., 1997, pp. 5, 98. Over 90 percent of the bombs dropped by U.S. aircraft were conventional munitions similar to those used during the Vietnam conflict.

[8]Biddle, "Victory Misunderstood," p. 153.

[9]Ltr, William E. DePuy to Creighton Abrams, 14 Jan 94, in Richard M. Swain, ed., Selected Papers of General William E. DePuy, p. 71, Fort Leavenworth, Kans.

[10]Briefing, "Implications of the Middle East War on U.S. Army Tactics, Doctrine and Systems," [1974], Chart 12, DePuy Papers, p. 85.

[11]See FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1976), for the early incarnation of this system. Each branch had its own standards of performance spelled out in the appropriate field manual. The Armor Branch had the FM–17–12 series, *Tank Gunnery*, with multiple editions and changes.

[12]Brig. Gen. John S. Brown, Chief of Military History, wrote this and the following paragraph, drawing insights from his own experience in DESERT STORM as commander of the 2d Battalion, 66th Armor.

[13]Richard M. Swain, *"Lucky War": Third Army in DESERT STORM* (Fort Leavenworth, Kans.: Command and General Staff College Press, 1994), pp. 247, 254, 273; John M. Kendall, "The Closed Fist: VII Corps Operational Maneuver in DESERT STORM," Unpubl Ms, AWC, 1994, pp. 26–27.

[14]John J. Yeosock, "H+100: An Army Comes of Age in the Persian Gulf," *Army* (October 1991):44–54.

[15]DA, FM 100–5, *Operations* (Washington, D.C.: Department of the Army, 1986), p. 14. The following comparisons refer primarily to Chapter 2.

[16]Memo, [John] Hanna, 2 Mar 91, sub: VII Corps Battle Damage Assessment; ARCENT, Death Summary as of 1 May 91; Ministry of Defense, *Operation GRANBY: An Account of the Gulf Crisis, 1990–91, and the British Army's Contribution to the Liberation of Kuwait* (United Kingdom: Inspector General, Doctrine and Training, 1991), pp. 5–20; Ministry of Defence, Supplement to the *London Gazette*, 29 Jun 91, p. G45. These figures do not include casualties from traffic accidents, unexploded munitions, and other nonbattle causes.

[17]Charles Horner, comment during Panel 2, in Weingartner, ed., "Senior Allied Commanders Discuss the Gulf War."

[18]If we added the Navy and Marine Corps into this discussion, it would become even more complex.

Appendixes

Appendix A

Major VII Corps Units

U.S. VII Corps	Lt. Gen. Frederick M. Franks, Jr.
Deputy Commander	Brig. Gen. Eugene L. Daniel
Command Sergeant Major	CSM Robert E. Wilson
Chief of Staff	Brig. Gen. John R. Landry
G–1 (Personnel)	Col. Johnny D. Rusin
G–2 (Intelligence)	Col. John C. Davidson
G–3 (Operations)	Col. Stanley F. Cherrie
G–4 (Logistics)	Col. Wilson R. Rutherford III
G–5 (Civil Affairs)	Col. Arthur Hotop
G–6 (Communications)	Lt. Col. Elwood A. Jones
Surgeon	Brig. Gen. Michael Strong
Inspector General	Col. Roosevelt Speed
Chaplain	Col. Daniel Davis
Staff Judge Advocate	Col. Walter B. Huffman
Chemical Officer	Col. Robert Thornton
Air Liaison Officer	Col. Frederick J. Zehr
Public Affairs Officer	Lt. Col. James Gleisburg
1st Armored Division (AD)	Maj. Gen. Ronald H. Griffith
6th Battalion, 3d Air Defense Artillery	Lt. Col. James R. Wilson
16th Engineer Battalion	Lt. Col. Ronald A. Adkins
501st Military Intelligence Battalion	Lt. Col. Seth P. Nottingham
501st Military Police Company	Capt. Kenneth J. Kroupa
141st Signal Battalion	Lt. Col. Donald E. Fowler II
1st Armored Division Band	CW2 Donald W. Simpson
Headquarters and Headquarters Company	Capt. Saverio M. Manago
1st Brigade (3d Brigade/3d Infantry Division)	Col. James C. Riley
1st Battalion, 7th Infantry	Lt. Col. Stephen S. Smith
4th Battalion, 7th Infantry	Lt. Col. Edward P. Egan III
4th Battalion, 66th Armor	Lt. Col. Tom Goedkoop
2d Brigade	Col. Montgomery C. Meigs IV
6th Battalion, 6th Infantry	Lt. Col. Michael L. McGee
1st Battalion, 35th Armor	Lt. Col. Jerry Wiedewitsch
2d Battalion, 70th Armor	Lt. Col. Roy S. (Steve) Whitcomb
4th Battalion, 70th Armor	Lt. Col. William C. Feyk
3d Brigade	Col. Dan Zanini
7th Battalion, 6th Infantry	Lt. Col. James Ward Critz
1st Battalion, 37th Armor	Lt. Col. Edward J. Dyer

3d Battalion, 35th Armor	Lt. Col. Edward M. Kane
Aviation Brigade	Col. Daniel J. Petrosky
1st Squadron, 1st Cavalry	Lt. Col. William A. Reese
2d Battalion, 1st Aviation	Lt. Col. John M. Ward
3d Battalion, 1st Aviation	Lt. Col. William J. Hatch
1st Armored Division Artillery	Col. Volney B. Corn, Jr.
3d Battalion (155-mm. Self-Propelled [SP]), 1st Field Artillery	Lt. Col. David A. Hahn
2d Battalion (155-mm. SP), 1st Field Artillery	Lt. Col. James E. Unterheseher
2d Battalion (155-mm. SP), 41st Field Artillery	Lt. Col. Michael L. Leahy III
Battery A (MLRS), 94th Field Artillery	Capt. Gary D. Langford
Battery B (Target Acquisition Battery [TAB]), 25th Field Artillery	Capt. Wendell H. Turner
1st Armored Division Support Command	Col. Harold V. Metzger
26th Support Battalion (Forward)	Lt. Col. Mark G. Cole
47th Support Battalion (Forward)	Lt. Col. Richard D. Dotchin
123d Support Battalion (Main)	Lt. Col. Carl Brieske
125th Support Battalion (Forward)	Lt. Col. Brian Perrenot
69th Chemical Company	Capt. Martin P. Bagley
3d Armored Division	Maj. Gen. Paul E. Funk
5th Battalion, 3d Air Defense Artillery	Lt. Col. Silas C. Smalls
23d Engineer Battalion	Lt. Col. Dana Robertson
533d Military Intelligence Battalion	Lt. Col. H. Shirah
503d Military Police Company	Capt. Victoria Testerman
143d Signal Battalion	Lt. Col. Billy J. Burse
3d Armored Division Band	CW3 Paul Clark
Headquarters and Headquarters Company	Capt. Randall M. Scheffler
1st Brigade	Col. William Nash
4th Battalion, 32d Armor	Lt. Col. John F. Kalb
4th Battalion, 34th Armor	Lt. Col. Michael A. Burton
3d Battalion, 5th Cavalry (Organized as Infantry)	Lt. Col. John M. Brown
5th Battalion, 5th Cavalry (Organized as Infantry)	Lt. Col. Michael Deegan
2d Brigade	Col. Robert W. Higgins
4th Battalion, 8th Cavalry (Organized as Armor)	Lt. Col. Beaufort C. Hallman
3d Battalion, 8th Cavalry (Organized as Armor)	Lt. Col. Timothy T. Lupfer
4th Battalion, 18th Infantry	Lt. Col. Robert J. Fulcher
3d Brigade	Col. Leroy Goff
2d Battalion, 67th Armor	Lt. Col. Daniel Merritt
4th Battalion, 67th Armor	Lt. Col. Timothy J. Reischl
5th Battalion, 18th Infantry	Lt. Col. Harold Neely
Aviation Brigade	Col. Mike Burke
2d Battalion, 227th Aviation	Lt. Col. Billy W. Stevens
4th Squadron, 7th Cavalry	Lt. Col. Terry L. Tucker
Company G, 227th Aviation	Capt. Kenneth E. Pottie
Company H, 227th Aviation	Capt. Charles N. Hardy
3d Armored Division Artillery	Col. John F. Michitsch

2d Battalion (155-mm. SP), 3d Field Artillery	Lt. Col. Richard J. Trehame
2d Battalion (155-mm. SP), 82d Field Artillery	Lt. Col. Wayne C. Absher
4th Battalion (155-mm. SP), 82d Field Artillery	Lt. Col. Thomas M. Davis
Battery A (MLRS), 40th Field Artillery	Capt. Leonard G. Tokar, Jr.
Battery F (TAB), 333d Field Artillery	Capt. Charles Minyard
3d Armored Division Support Command	Col. Daniel L. Eby
45th Support Battalion (Forward)	Lt. Col. Daniel L. Fairchild
54th Support Battalion (Forward)	Lt. Col. Roslyn Golf
503d Support Battalion (Forward)	Lt. Col. J. Kennedy
122d Support Battalion (Main)	Lt. Col. R. Brutsch
9th Battalion, 227th Aviation	Lt. Col. Donald Townshend
22d Chemical Company	Capt. Steven E. Lawrence
1st Infantry Division (Mechanized)	Maj. Gen. Thomas G. Rhame
2d Battalion, 3d Air Defense Artillery	Lt. Col. Clifford G. Willis
1st Engineer Battalion	Lt. Col. Stephen Hawkins
101st Military Intelligence Battalion	Lt. Col. Rodney (Bill) Moore
1st Military Police Company	Capt. Robert F. Nelson
121st Signal Battalion	Lt. Col. Gary Bushover
12th Chemical Company	Capt. Vance E. Visser
1st Brigade	Col. Lon E. Maggart
5th Battalion, 16th Infantry	Lt. Col. Sydney F. (Skip) Baker
1st Battalion, 34th Armor	Lt. Col. G. Patrick Ritter
2d Battalion, 34th Armor	Lt. Col. Gregory Fontenot
2d Brigade	Col. Anthony Moreno
2d Battalion, 16th Infantry	Lt. Col. Daniel R. Fake
3d Battalion, 37th Armor	Lt. Col. David F. Gross
4th Battalion, 37th Armor	Lt. Col. David W. Marlin
3d Brigade (2d Armored Division Forward)	Col. David Weisman
1st Battalion, 41st Infantry	Lt. Col. James L. Hillman
2d Battalion, 66th Armor	Lt. Col. John Sloan Brown
3d Battalion, 66th Armor	Lt. Col. G. Taylor Jones
Aviation Brigade	Col. James Mowery
1st Squadron, 4th Cavalry	Lt. Col. Robert Wilson
1st Battalion, 1st Aviation	Lt. Col. Ralph Hayles
	Lt. Col. Ronald Richelsdorfer
4th Battalion, 1st Aviation	Lt. Col. Philip Wilkerson
Company F, 1st Aviation	Maj. Tom Porter
1st Infantry Division Artillery	Col. Michael Dodson
1st Battalion (155-mm. SP), 5th Field Artillery	Lt. Col. Harry Emmerson
4th Battalion (155-mm. SP), 5th Field Artillery	Lt. Col. John R. Gingrich
4th Battalion (155-mm. SP), 3d Field Artillery	Lt. Col. Robert L. Smith
Battery B (MLRS), 6th FA	
Battery D (TAB), 25th FA	
1st Infantry Division SUPCOM	Col. Robert Shadley
101st Support Battalion (Forward)	Lt. Col. Edwin L. Buffington, Jr.
201st Support Battalion (Forward)	Lt. Col. William Hand
498th Support Battalion (Forward)	Lt. Col. Stephen J. Marshman
701st Support Battalion (Main)	Lt. Col. Lloyd T. Waterman

2d Cavalry Regiment (Armored Cavalry)	Col. Leonard D. Holder
84th Engineer Company	Capt. Larry Kinde
502d Military Intelligence Company	Maj. Daniel F. Baker
87th Chemical Company	Capt. John Nonemaker
1st Squadron, 2d Cavalry	Lt. Col. Tony Isaacs
2d Squadron, 2d Cavalry	Lt. Col. Michael Kobbe
3d Squadron, 2d Cavalry	Lt. Col. Scott Marcy
4th Aviation Squadron, 2d Cavalry	Lt. Col. Don Olson
Support Squadron	Lt. Col. Larry Leighton
	Lt. Col. Glenn MacKinnon
1st Cavalry Division	Brig. Gen. John H. Tilelli, Jr.
4th Battalion, 5th Air Defense Artillery	Lt. Col. Randall D. Harris
8th Engineer Battalion	Lt. Col. Hans A. Van Winkle
312th Military Intelligence Battalion	Lt. Col. Richard N. Armstrong
1st Brigade	Col. George Hermeyer
2d Battalion, 5th Cavalry (Organized as Infantry)	Lt. Col. Thomas W. Suitt
2d Battalion, 8th Cavalry (Organized as Armor)	Lt. Col. Daniel Peterjohn
3d Battalion, 32d Armor	Lt. Col. Steven C. Main
2d Brigade	Col. Randolph W. House
1st Battalion, 5th Cavalry (Organized as Infantry)	Lt. Col. Michael W. Parker
1st Battalion, 8th Cavalry (Organized as Armor)	Lt. Col. John C. Burch
1st Battalion, 32d Armor	Lt. Col. James T. Methered
Aviation Brigade	Col. William D. McGill
1st Squadron, 7th Cavalry	Lt. Col. Walter L. Sharp
1st Battalion, 3d Aviation	Lt. Col. Craig H. Pearson
1st Battalion, 227th Aviation	Lt. Col. Craig D. Hacket
1st Cavalry Division Artillery	Col. James M. Gass
1st Battalion (155-mm. SP), 82d Field Artillery	Lt. Col. John K. Anderson
3d Battalion (155-mm. SP), 82d Field Artillery	Lt. Col. Kenneth R. Knight
1st Battalion (155-mm. SP), 3d Field Artillery	Lt. Col. James R. Kerin, Jr.
Battery A (MLRS), 21st Field Artillery	Capt. Hampton E. Hite
1st Cavalry Division Support Command	Col. Richard J. Fousek
27th Main Support Battalion	Lt. Col. John E. Firth
115th Forward Support Battalion	Lt. Col. Timothy J. Wilcox
15th Forward Support Battalion	Lt. Col. Richard A. Kaye
13th Signal Battalion	Lt. Col. Edgar W. Steele
U.K. 1st Armoured Division	Maj. Gen. Rupert A. Smith
HQ and Signal Regiment	Col. J. E. F. Kirby
4th Aviation Regiment	Lt. Col. F. M. Wawn
4th Brigade	Brig. Christopher J. A. Hammerbeck
14th/20th King's Hussars	Lt. Col. M. H. J. Vickery
1st Battalion, The Royal Scots	Lt. Col. I. A. Johnstone
3d Battalion, The Royal Fusiliers	Lt. Col. A. L. D. De Hochepeid-Larpent

2d Field Regiment (155-mm. SP)	Lt. Col. D. E. Ratcliff
23d Engineer Regiment	Lt. Col. D. J. Beaton
7th Armoured Brigade	Brig. Patrick A. J. Cordingley
Royal Scots Dragoon Guards	Lt. Col. J. F. B. Sharples
Queen's Royal Irish Hussars	Lt. Col. Arthur G. Denaro
1st Battalion, The Staffordshire Regiment	Lt. Col. Charles T. Rogers
40th Field Regiment (155-mm. SP)	Lt. Col. R. R. H. Clayton
21st Engineer Regiment	Lt. Col. J. D. Moore-Bick
Royal Artillery	Brig. Ian G. C. Durie
16/5L Queens Royal Lancers	Lt. Col. P. E. Scott
12th Air Defense Regiment	Lt. Col. P. V. Villalard
26th Field Regiment (155-mm. SP)	Lt. Col. M. A. Corbett-Burcher
32d Heavy Regiment (8-inch SP)	Lt. Col. P. H. Marwood
39th Heavy Regiment (MLRS)	Lt. Col. P. B. Williams
Logistics Support Group	Brig. Martin S. White
VII Corps Artillery	Brig. Gen. Creighton W. Abrams, Jr.
42d Field Artillery Brigade	Col. Morris J. Boyd
3d Battalion (155-mm. SP), 20th Field Artillery	Lt. Col. William R. Faircloth
2d Battalion (155-mm. SP), 29th Field Artillery	Lt. Col. Henry W. Stratman
1st Battalion (MLRS), 27th Field Artillery	Lt. Col. Richard A. Vallario
75th Field Artillery Brigade	Col. Jerry L. Laws
5th Battalion (8-inch SP), 18th Field Artillery	Lt. Col. Stephen J. Amtz
1st Battalion (155-mm. SP), 17th Field Artillery	Lt. Col. Robert D. Bryant
6th Battalion (MLRS/ATACMS), 27th Field Artillery	Lt. Col. Michael D. Maples
142d Field Artillery Brigade	Col. Bobby H. Armistead
1st Battalion (8-inch SP), 142d Field Artillery	?
2d Battalion (8-inch SP), 142d Field Artillery	?
1st Battalion, 158th Field Artillery	Lt. Col. Larry Haub
210th Field Artillery Brigade	Col. Gary A. Bourne
3d Battalion (155-mm. SP), 17th Field Artillery	Lt. Col. J. McCausland
6th Battalion (155-mm. SP), 41st Field Artillery	Lt. Col. John T. Bolger Lt. Col. Larry Adair
4th Battalion (MLRS), 27th Field Artillery	Lt. Col. Daniel Brietenback
7th Engineer Brigade	Col. Samuel C. Raines
109th Engineer Group	?
9th Engineer Battalion	Lt. Col. Rich Gemiola
92d Engineer Battalion	Lt. Col. David A. Fagen
317th Engineer Battalion	Lt. Col. Craig O. Scott
642d Engineer Battalion	?
176th Engineer Group	?
19th Engineer Battalion	Lt. Col. Robert G. Shields
82d Engineer Battalion	Lt. Col. P. Slattery
249th Engineer Battalion	?
131st Engineer Battalion	?

588th Engineer Battalion	Lt. Col. Robert L. Shirron
5th Engineer Battalion	Lt. Col. William T. Maddox
54th Engineer Battalion	Lt. Col. Philip Scott Morris
11th Aviation Brigade	Col. Jonnie Hitt
2d Squadron, 6th Cavalry (Attack Helicopter)	Lt. Col. Terry Branham
11th Battalion, 229th Aviation (Attack Helicopter)	Lt. Col. Roger McCauley
14th Military Police Brigade	Col. Richard A. Pomager
93d Signal Brigade	Col. Richard M. Walsh
207th Military Intelligence Brigade	Col. John W. Smith
354th Civil Affairs Brigade	Col. Robert H. Beahm
Task Force 8–43 Air Defense Artillery	Lt. Col. Larry Dodgen
2d Corps Support Command	Maj. Gen. James S. McFarland
7th Finance Group	Col. Russell H. Dowden
7th Personnel Group	Col. Jo B. Rusin
12th Evacuation Hospital	?

Appendix B

Casualties by Major Unit

Unit	*Killed in Action*	*Wounded in Action*	*Death Nonbattle*	*Disease/Injury Nonbattle*
1st Armored Division	4	56	2	13
3d Armored Division	7	27	8	22
1st Infantry Division	21	67	5	18
1st Cavalry Division	4	14	4	18
2d Cavalry	3	16	1	8
U.K. 1st Armoured Division	15	43	unk	unk
Corps Artillery				
11th Aviation Brigade			2	2
14th MP Brigade		2	2	2
93d Signal Brigade			2	1
207th MI Brigade				1
7th Engineer Brigade	3	5	4	7
2d COSCOM	5	4	12	22
7th Finance Group				1
7th Personnel Group				1
VII Corps Totals	62	235	42	128

Appendix C

Personnel Strength By Major Unit

As of 1 March 1991

1st Armored Division	17,448
3d Armored Division	17,658
1st Infantry Division	17,496
1st Cavalry Division	13,550
2d Cavalry	5,242
U.K. 1st Armoured Division	23,000
Corps Artillery	7,125
11th Aviation Brigade	1,773
14th MP Brigade	2,764
93d Signal Brigade	2,715
207th MI Brigade	1,364
7th Engineer Brigade	6,115
2d COSCOM	26,327
7th Finance Group	380
7th Personnel Group	955
Other	1,378
VII Corps Total	146,321

Bibliographical Note

The 1990–1991 Persian Gulf War was the first conflict of the computer era. Division, corps, Third Army, and Central Command staff sections generated hundreds of situation reports, intelligence reports, briefings, and orders each day. Facsimile machines and electronic mail distributed this material to anyone with even a passing interest. Therefore, it is doubtful that anyone has yet developed a comprehensive inventory of all documents produced during this conflict.

Further complicating our inventory of these records was the Army's penchant for classification. Almost every document published by a military organization received a classification of SECRET. To complicate the use of such records by historians, few of these documents contained any kind of declassification instructions. While few historians would quibble with the need to protect information during a conflict, a large portion of the war's operational records remain classified years after American troops departed Saudi Arabia.

There are several reasons for the delay in releasing this information to the public. First, without automatic downgrading instructions, a government declassification specialist must physically examine each record. Unfortunately for historians, there are less than two dozen such specialists in government service. Given the hundreds of document preparers during DESERT SHIELD/DESERT STORM with secret stamps, even the most diligent declassification effort will bring only small returns. In addition, even when the Army wants to declassify a document, its uncontrolled proliferation by email and fax to many locations results in only a few of the copies' receiving the appropriate declassification. In one collection, a document is SECRET; in another, it is releasable to all. Finally, allowing individual declassification specialists to make decisions on individual documents causes some information to continue to be restricted.

The Gulf War Declassification Project, operating between 1995 and 1998, made a major effort in locating, indexing, and declassifying documents. Its major focus was to support the Office of the Special Assistant for Gulf War Illness. While the project was successful in reviewing and posting tens of thousands of documents on its Internet web site (*www.gulflink.osd.mil*), its focus was on health-related issues, leaving many other documents or parts of documents unpublished. Since 1998 this activity has become the Army Declassification Activity, operating in Alexandria, Virginia. Ultimately, all records processed by this agency will find their way to facilities operated by the National Archives and Records Administration.

In spite of these problems, researchers will find a wealth of primary and secondary information to support any investigation of the Persian Gulf War. The old lines of "published" and "unpublished" sources are now considerably blurred. The

Internet and activities such as the Defense Technical Information Service (DTIC) have resulted in the release of many documents that at one time would have remained hidden in government file cabinets and on dusty shelves. Therefore, this bibliography is by necessity a work in progress. It focuses on the U.S. Army's experience in general and the operations of the U.S. VII Corps in particular.

Primary Sources

Major Collections

One of the largest document collections on the Army's role in the Persian Gulf War is found at the Combined Arms Center, Fort Leavenworth, Kansas. This includes the VII Corps After-Action Report (AAR) compiled under the direction of General Franks and deposited with the installation historian and the journal files, operational reports, situation reports, and orders of all VII Corps organizations. In addition, the documents used by Brig. Gen. Robert H. Scales in the preparation of *Certain Victory* (Scales Papers), and Col. Richard M. Swain in *"Lucky War"* (Swain Collection) are also located in this archive. These records include some information from the VII Corps After-Action Report, as well as documents these researchers obtained from Third Army and the XVIII Airborne Corps. In both cases, they contain interviews conducted with participants in the conflict. Researchers should also contact the Center for Army Lessons Learned for information on specific aspects of Gulf War combat.

The U.S. Army Center of Military History at Fort McNair, D.C., has a large collection of documents on the Army's role in the Gulf War. These include the 22d Support Command After-Action Report, a multivolume collection of most of the significant briefings and reports generated by this large logistics installation and its subordinate units. Fortunately, Lt. Gen. William G. Pagonis had this collection declassified before he departed Saudi Arabia. Also housed at the Center is the DESERT STORM Oral Interview Collection. This extensive archive contains almost one thousand interviews, many transcribed, with participants from private to general officer. Military historians and history detachments conducted most of these sessions soon after the end of the conflict. The Center has prepared finder's guides to assist researchers in locating the relevant interviews. Additionally, the Center currently maintains the VII Corps Public Affairs Office collection of Gulf War photographs.

The Military History Institute (MHI), located at the U.S. Army War College at Carlisle Barracks, Pennsylvania, maintains a valuable collection of source material for any military researcher. Many retired general officers deposit their papers with MHI. Most important for students of this conflict are the papers of John J. Yeosock; Crosbie R. Saint; Frederick M. Franks, Jr.; and Gordon R. Sullivan. In addition, MHI maintains copies of personal experience monographs prepared by students attending the Army War College. These papers provide a unique perspective on the inner workings of organizations at all levels of command. The documents can be found by globally searching library catalogs. Finally, the MHI Reference Branch can help locate interviews prepared by students working for the Army War

College's Strategic Studies Institute. These interviews, often transcribed, were conducted by officers with most of the important senior commanders in the conflict. They display a depth of understanding and sophistication not always present in routine interviews.

The National Archives at College Park, Maryland, will ultimately become the home of the complete collection of Army Gulf War records. Currently, its most important collection is the U.S. Central Command (CENTCOM) archives, maintained as Record Group 518. In most cases, they have not been reviewed for declassification and require a Freedom of Information Act (FOIA) request for access.

The Washington National Records Center at Suitland, Maryland, is the holding area for documents en route to permanent storage at College Park. Currently, most records processed by the Gulf War Declassification Project, as well as other records forwarded by installation records administrators, are still in storage. The most important of these records, properly marked and inventoried according to Army Regulation 25–400–2, is the collection of documents generated by Third Army and the U.S. Forces Command at Fort McPherson, Georgia. Maintained by the primary installation in the United States for deploying and administering Army forces in Southwest Asia, this collection contains copies of most deployment, redeployment, and many situation reports. It is probably the best source of information on deployed National Guard and Army Reserve forces.

One other source for primary information is the U.S. Armed Services Center for Research of Unit Records, located in Springfield, Virginia. This small and little-known agency provides detailed location information to assist the Veterans Administration and other government agencies in pinpointing the location of specific individuals and small units. They operate an extremely sophisticated database of combat unit deployments. In most cases, they have backup documentation, such as unit journals, to support their electronic files. Since their resources are limited, requests to this agency should be specific and used primarily after exploring other avenues of research.

The Internet is quickly becoming a host for large numbers of documents. The Gulflink is the most important for DESERT STORM researchers. While cumbersome, it can provide a wealth of information. In addition, some units have begun to develop web sites devoted to describing their Gulf War histories. The best of these sites is the 3d Armored Division's. The use of any good search engine on the Internet will disclose a large number of sites with a wealth of information, often primary source material such as individual diaries and photographs.

Types of Documents

Briefings

These documents consist of slides and notes used by commanders and staffs to inform seniors and subordinates. They represent accurate information as known by the briefer at the time of the presentation. Other kinds of briefings are

used after the fact to describe to a variety of audiences the actions the command performed. These often convey only good news and leave out important details, and they should be used with caution. This book uses briefings from all major units, identified in the text, usually found in the VII Corps After-Action Report.

Plans and Orders

Plans and orders are prepared by a headquarters to control the actions of its subordinate forces. These may consist of operation plans (OPLANs), operation orders (OPORDs), fragmentary orders (FRAGOs), or warning orders. The first two of these are often large and complex documents that include many annexes, maps, and overlays. FRAGOs are usually only a page or two in length and are identified in the text by number, date, and title, if appropriate. I consulted the following major orders:

Central Command, U.S. Army. OPLAN 001, DESERT STORM, 5 Jan 91. Swain Collection.
VII Corps. OPLAN 1990–1, Operation CAPABLE COMPELLER, 11 Nov 90. VII Corps AAR.
VII Corps. OPLAN 1990–2, Operation DESERT SABER, 13 Jan 91. VII Corps AAR.

Staff Journals and Chronologies

Staff journals are prepared at every level of command and provide a chronology of a unit's activities. At large headquarters, individual staff sections and individual command posts also prepare their own journals. These reports, prepared for each day, are identified in the text. In some cases, senior headquarters combined their staff journals after the war into command chronologies, which I have included in this section.

1st Brigade, 1st Cavalry Division. Chronology of 1st Brigade, 1st Cavalry Division. Scales Papers.
1st Cavalry Division. Chronology of the 1st Cavalry Division. Scales Papers.
Robels, Michael. Summary of 1st Infantry Division Commander's Reports, 30 Mar 91, author's collection.
2d Armored Cavalry Regiment. Operation DESERT STORM, 2d ACR Operations Summary, 23 Feb–1 Mar 91. VII Corps AAR.
2d Brigade, 1st Cavalry Division. Chronology of 2d Brigade, 1st Cavalry Division. Scales Papers.
3d Armored Division. Chronology of 3AD Operation DESERT SPEAR, 24–28 Feb 91. VII Corps AAR.

Situation Reports

Situation reports (Sitreps) provide senior, subordinate, and adjacent commanders with a status on the unit. While accurate, they often portray the unit in the best possible light. While reports often have numbers, it is essential to refer to

them by date and in some cases by time. These specific reports are identified in the text.

Interviews

I used a large number of interviews in preparing this history and cited them throughout the book. Many of these are found in the various collections at Fort Leavenworth, the Military History Institute, and the Oral History Collection at the Center of Military History. Ranks below reflect the time of the Gulf War:

General William E. DePuy

Lt. Gens. Frederick M. Franks, Jr.; Calvin H. Waller; and John J. Yeosock

Maj. Gens. Ronald H. Griffith, Paul E. Funk, and Thomas G. Rhame

Brig. Gens. Steven Arnold, William J. Mullen III, Tim Sullivan (British Army), and John H. Tilelli, Jr.

Cols. John Andrews; Stanley F. Cherrie; Michael Dodson; Gene Holloway; John F. Jorgensen; Lon E. Maggart; Montgomery C. Meigs IV; Anthony Moreno; Joseph H. Purvis, Jr.; and Robert Shadley

Lt. Cols. Edwin L. Buffington, Terry Bullington, Gregory M. Eckhart, William C. Feyk, Terry Ford, John R. Gingrich, David Gross, Stephen Hawkins, Michael L. McGee, Roy S. Whitcomb, Jerry Wiedewitsch, James E. Unterheseher, and Robert Wilson

Majs. Michael Bracket, Tom Connors, Jack Crumpler, James O'Donnell, William S. Pennypacker, J. Robes, Laurence Steiner, and William Wimbish

Capts. Michael Bills, Robert A. Burns, John E. Bushyhead, Douglas Morrison, Kenneth Pope, and Vincent Redesco

First Sgt. Robert P. Harn, Jr.

IS1. Michael W. Archer, U.S. Navy

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Map Symbols

UNIT TYPE


Air Assault


Air Defense


Airborne


Armored


Armored Cavalry


Aviation


Chemical


Engineer


Field Artillery


Infantry


Mechanized Infantry


Mortar


Rocket Artillery


Self-Propelled Artillery



Support



Transportation


Marine air-ground task force

UNIT SIZE


Squad


Section


Platoon


Company


Battalion


Regiment


Brigade


Division


Corps


Army

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