

# The Saudi Arabian National Guard Motorized Brigades

## *Wheeled Armor Plays a Big Role In the Kingdom's Internal Security Mission*

by Lieutenant Colonel Martin N. Stanton

Wheeled armored organizations are gaining new interest throughout the world as technology allows wheeled vehicles to mount larger guns and perform a more diverse range of missions. Cheaper production and maintenance costs make them attractive to many nations seeking more "bang for their buck." Additionally, although not suited to all terrains, wheeled armor is surprisingly adaptable.

Among the most dynamic and innovative wheeled armored organizations in the world today are the motorized brigades of the Saudi Arabian National Guard (or SANG). These two brigades (expanding to three) are the epitome of a robust force structure built around specific mission requirements, yet it is still very adaptable to other roles and missions.

The mission of the motorized brigades is to provide internal security within the Kingdom of Saudi Arabia, particularly for the oil fields in the Eastern Province. They provide quick reaction forces to the guard mounts and light vehicle-borne patrols that provide the actual site security. In addition, the brigades' internal security mission requires them to be able to quickly move anywhere in the kingdom to conduct a full spectrum of internal security operations. Lastly, in time of war, the brigades will fight alongside the MODA (Ministry of Defense and Aviation) forces in defense of the kingdom.

A key consideration in the design of the TO&E for the SANG motorized brigades was self-deployability. Saudi Arabia does not have the rail infrastructure to transport armored units quickly within its borders. It does, however, possess a modern road infrastructure supported by many improved dirt tracks into the hinterlands.

Wheeled vehicle mobility is quite good throughout the country. It followed that in this particular case, a wheeled armored organization had several key advantages over a tracked one. Wheeled armored vehicles would not require heavy equipment transporters, instead being able to self deploy along the nation's highways. In addition, most of Saudi Arabia's deserts are hard-packed sand, as opposed to dunes. A wheeled armored force can travel over 90 percent of Saudi terrain with only the worst dunes or most inaccessible mountain regions being untrafficable.

### Motorized Brigade Organization

Currently there are two motorized brigades in SANG. The Imam Mohammed Bin Saud Brigade (IMBSB) is in Riyadh, and the King Abdul Aziz Brigade (KAAB) is stationed in Al Hofuf in the Eastern Province south of Dammam. They are identical in organization and almost identical in equipment, the major difference being in the anti-tank platoons of the line companies and in the artillery battalions' cannon systems (M102 vs M198).

Each of the brigades has over 5,000 soldiers and is organized as a combined arms command with four maneuver battalions — the IMBSB with the 1st, 2nd, 3rd, and 4th Combined Arms Battalions (CABs), and the KAAB with the 5th, 6th, 7th, and 8th. Each brigade has an artillery battalion, the 1st SANG artillery battalion with the IMBSB with M102 105mm howitzers and the 2nd with the KAAB has 155mm M198 towed howitzers. There is no automated fire direction system like TACFIRE; however, all missions are plotted using the Back Up Computer System (BUCS) with a manual com-

puter and check computer. Each brigade also has an organic air defense battery with four platoons of four Vulcan 20mm antiaircraft systems and a newly-formed Stinger platoon. The CS and CSS units organic to each brigade include a reinforced company (really a small battalion) of combat engineers with heavy equipment, a signal company, an MP company, and a robust logistical support battalion that is capable of supporting the brigade on sustained operations in a desert environment.

The key differences between the brigades (besides artillery systems) is the number and type of weapons systems in the antitank platoons of the line companies. The IMBSB line companies have only two TOW systems; in the KAAB, they have six. In addition, the 90mm guns in the KAAB are the more powerful Cockerill type. The IMBSB 90mm are of the less capable Mecer variety. These differences make the KAAB the most potent of the two brigades. In summary, the motorized brigade organization resembles that of a light cavalry unit with a large number of dismountable infantry, over 200 per battalion.

### A Family of V150s

The first SANG motorized battalions began fielding in the mid- to late-1970s. The family of vehicles chosen for the motorized brigades was the Cadillac Gage V150. It was versatile, robust mechanically, fast (50-60 mph across open desert), and easy to maintain. The SANG operated 10 variants of the V150, to include:

- Armored Personnel Carrier
- 90mm Cockerill cannon turret
- 90mm Mecer cannon turret

- 20mm Oerlikon cannon turret
- Dual Machine Gun Turret (.50 cal/7.62)
- TOW 1 (pedestal version)
- 81mm Mortar
- Vulcan Air Defense system
- Recovery
- Command
- Ambulance

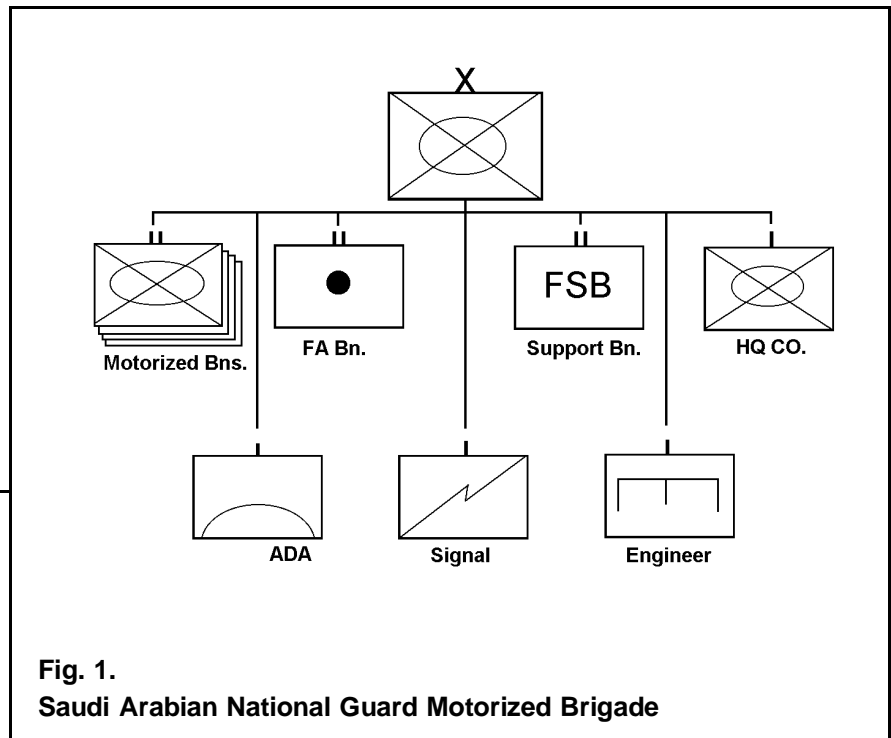
With the exception of the turreted systems, the TOW vehicle and the ambulance, all of the V150s carry an M2 .50 cal MG. The Saudi rifle squads carry FN/FAL rifles and FN 7.62 MGs. For antitank weapons, they have Carl Gustavs and later added Armor Piercing Infantry Light Arm Systems (APILAS). Radios were British RA-CAL, both HF and FM (which caused many interoperability problems with U.S. forces during the Gulf War.)

### Tactical Employment Concept

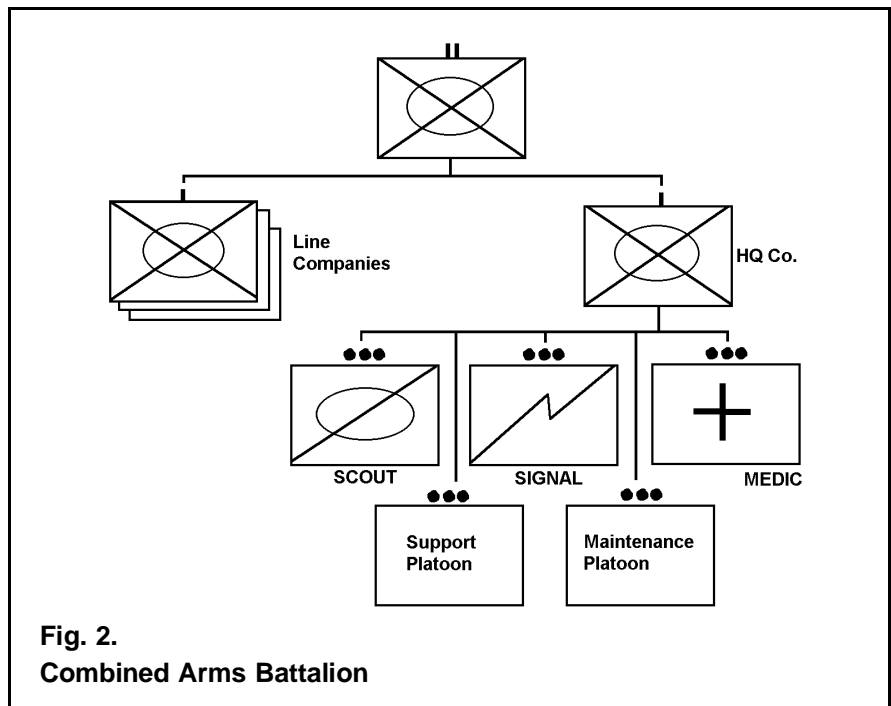
The motorized brigades are capable of performing many of the Mission Essential Task List (METL) tasks of an armored cavalry regiment. The basic METL of the SANG motorized brigades includes the following tasks:

- Screen
- Delay
- Attack
- Defend

It was recognized that the brigades did not have the armor or firepower to stand head-to-head with armor units (i.e., perform "No penetration" guard missions). However, at the same time it was felt that the speed and mobility of the organization, along with its TOW and light cannon systems, would make it valuable in a cavalry role. The brigades could screen an extremely wide sector due to the large number of vehicles and the four battalion organization. Employed correctly, the SANG motor-



**Fig. 1.**  
**Saudi Arabian National Guard Motorized Brigade**



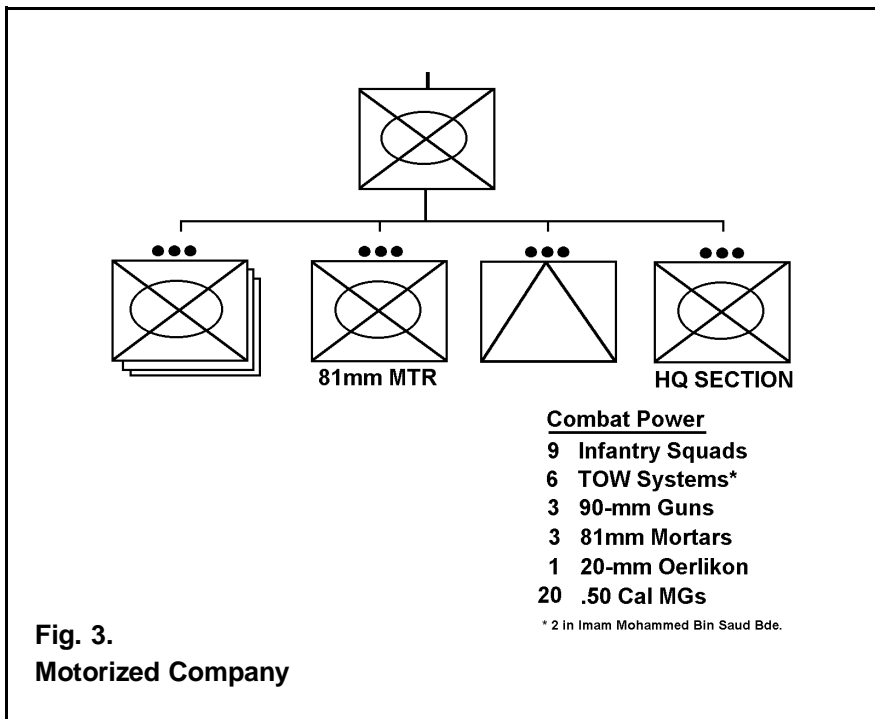
**Fig. 2.**  
**Combined Arms Battalion**

ized brigades are more than adequate to strip off an enemy's screening or reconnaissance elements, halt an advance guard, and force an enemy to deploy main body elements from march to battle formations. The speed of the V150s would then allow the SANG elements to conduct a quick withdrawal to the next delay position. Additionally, in favorable circumstances (i.e., augmented

with tanks), the brigades could also conduct conventional attack and defend missions.

### Active Employment

During the Gulf War, the KAAB was the first coalition unit to confront the Iraqis on the southern Kuwaiti border.



Receiving the deployment order on 4 August, the KAAB closed the border and took up screening positions on 6-7 August. For over two weeks, the KAAB was the only element screening between the Iraqis and the coalition units building up to the south. The IMBSB was held in reserve at Riyadh for the duration of the war.

The KAAB's baptism of fire came in the battle for Khafji from 29 Jan-1 Feb 1991. During this time frame, a series of battles took place from the point where the heel of Kuwait turns north, to Khafji on the Arabian Gulf (see Map 1). While the U.S. Marines correctly receive the credit for stopping two of the Iraqi thrusts into Saudi Arabia, the actual battle of Khafji itself was almost entirely an Arab battle.

The Iraqi attack on Khafji began on the late evening of the 29th of January when an (estimated) brigade-sized element of Iraqis crossed the border north of Khafji. The Iraqi forces that attacked and occupied Khafji were from the 5th Mechanized Infantry Division, a formation that had been in reserve behind the Iraqi forward defensive belts. The division passed through the defensive belts and split into two columns, one moving towards Wafra, the other headed due south for Khafji. By 0130 on the 30th, observation posts north of Khafji reported they were under enemy attack and began to withdraw. By 0300, Khafji was in Iraqi hands. But unknown to the Iraqis, two USMC reconnaissance teams had gone to ground in

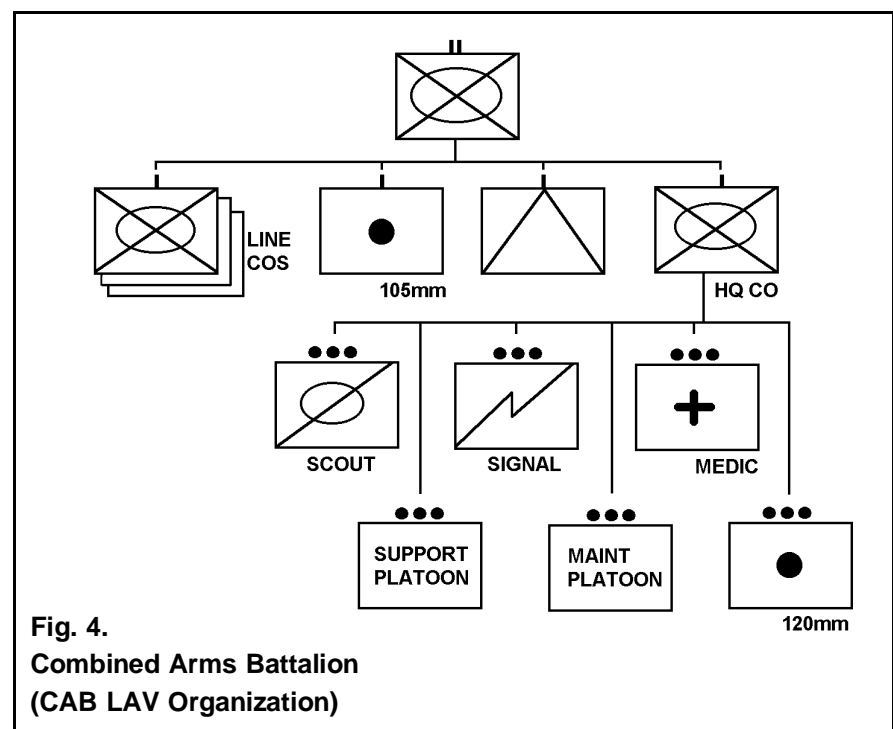
the town and were reporting on Iraqi movements.

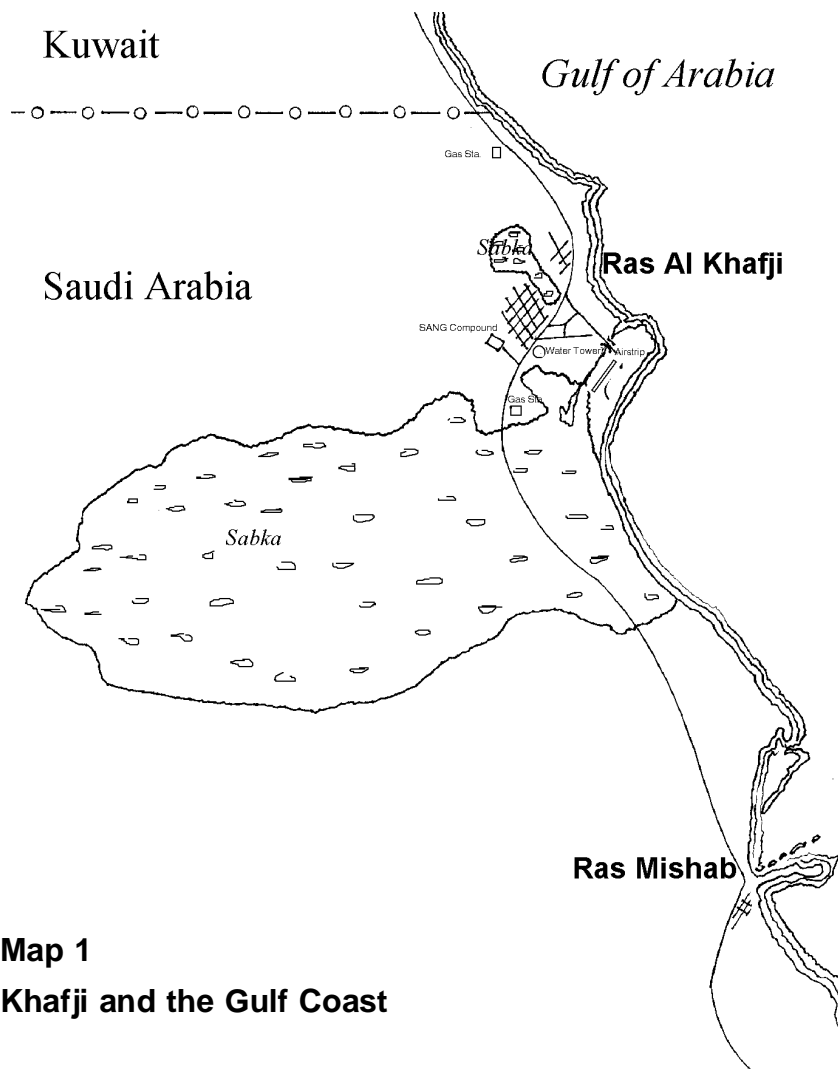
At approximately 1500 on the 30th of January, the KAAB was given the order from the Eastern Division to detach a battalion and contain the enemy in Khafji. At 1600, the 7th CAB was given the mission. For the purposes of this attack, two Qatari tank companies with French AMX-30s were attached to the battalion. The battalion commander

(LTC Matar) was given little intelligence and no time to conduct any reconnaissance. The battalion moved out shortly after 1700 and was accompanied by the U.S. battalion advisor, LTC Taylor, and his assistant, MSG Middleton.

When the 7th Battalion reached the gas station three kilometers south of Khafji, they encountered elements of the 3-3 Marines (see Map 2). At about this time, the 7th Battalion had its mission changed by the Eastern Division from screening south of the town to re-taking Khafji.

The scheme of maneuver developed by LTC Matar involved attack along the road with two companies abreast with a third in reserve. The lead companies would be accompanied by the Qatari armor. The scheme of maneuver was drawn up with only very rudimentary knowledge of the positions and strength of the enemy. In spite of the reporting by the Marine observer teams, there was still considerable confusion as to the Iraqi strength in the town. At this point, most of the Coalition forces were still under the impression that the Iraqis in Khafji were only in reinforced company or battalion mi-





**Map 1**  
**Khafji and the Gulf Coast**

nus strength. As it turned out, elements of three Iraqi battalions reached the town.

Prior to the attack on Khafji, further delays were experienced trying to clear prep fires with the supporting USMC artillery. At 2300, the battalion began moving forward towards Khafji from its positions south of the town.

As they advanced towards Khafji, the 7th Battalion was met by intense direct fire from the town. LTC Taylor, a veteran of infantry combat in Vietnam described the volume of enemy fire as "flabbergasting." The initial Saudi attack was halted outside of Khafji with the National Guard companies and attached Qatari tanks exchanging fire with the Iraqis for over two hours. Finally at 0320, the 7th CAB commander ordered a withdrawal to behind the National Guard barracks compound adjacent to Khafji, temporarily breaking direct fire contact with the enemy, although intermittent tracer fire could still be seen coming from Khafji.

After the initial setback, the Brigade ordered 6th and 8th CAB each to cross-attach one company to the 7th CAB and ordered the 7th CAB to attack again at 0730. The 7th CAB attack was to be coordinated with an attack by the 5th CAB and a MODA tank battalion that would take place to the northwest of the town. It was decided that the 7th CAB would attack the southeastern part of Khafji with three companies, keeping the two attached companies in reserve. The MODA forces were to take the southwestern part of Khafji. From there, the Saudis would work their way south to north to secure the town.

By 0830, the attack had commenced with 7th CAB driving into the southeast portion of town, meeting heavy but largely inaccurate fire. Most of the Saudi fatalities that occurred in this attack were from two catastrophically destroyed V150s. The 7th CAB commander committed his reserve of two attached companies to attack along the

southwestern part of town. The battalion made good progress and knocked out numerous Iraqi vehicles in the streets of Khafji. At 1000, the remainder of the 8th CAB under LTC Hamud was ordered by brigade to begin moving immediately to Khafji, along with several attached antitank platoons from the 6th CAB. Meanwhile, at 1000, the 5th CAB under LTC Naif had moved to engage and destroy an Iraqi company along the main road north of Khafji, knocking out 13 tanks and APCs and capturing six more, along with 116 prisoners, for the loss of two KIA and five WIA. After destroying all of the Iraqi forces in view and securing their prisoners, the 5th CAB withdrew about four kilometers to positions to the northwest of the SANG compound. This withdrawal was perhaps the most serious tactical error on the part of the SANG during the battle because the road from Khafji was vulnerable to being cut. Had the 5th CAB moved astride the road in a blocking position, they could have cut off all of the Iraqis in Khafji. Because of this failure, a few Iraqi vehicles managed to escape, although more could have taken advantage of this failure to block the road than did.

The attack in the town continued with the attached company of the 8th CAB making contact with and relieving the Marine observer teams at 1200. The remainder of the 8th CAB reached Khafji around 1330, linked up with the 7th CAB, and took over the northeast sector of the town. The attack continued with the two SANG battalions clearing most of the southern portion of the town. Around 1830 (dusk), the attack was discontinued with 7th CAB withdrawing to the SANG compound to rearm and the 8th CAB remaining in place within the town.

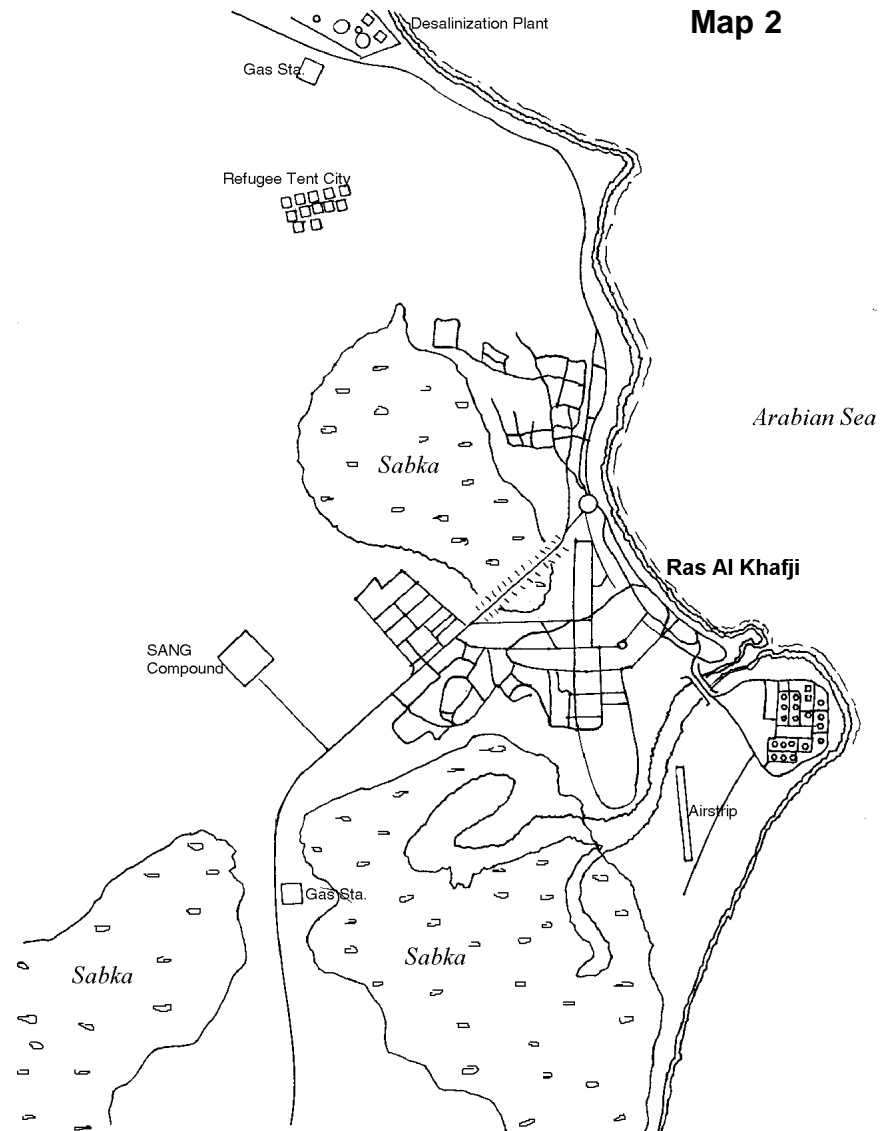
At this point, Iraqi remnants — approximately two companies and 20 AFVs — were still in the northeast part of the town. However, no attempt was made by the Iraqis to break out the night of the 31st, in spite of the fact that the road was not blocked.

The next morning (1 Feb), the attack was resumed at 0730 with the 7th and 8th CABs (+) attacking abreast, initially with the 8th CAB, then shifting south to clear the southern half of

Khafji. The 7th CAB advanced to the north to eliminate pockets of Iraqi resistance in northern Khafji and near the water desalinization plant. Iraqi resistance was sporadic, with most Iraqi soldiers surrendering upon being engaged. All remaining Iraqi armored vehicles in the town were destroyed or captured and the few remaining Iraqi soldiers who were not taken prisoner became fugitives among Khafji's deserted buildings. Meanwhile, the 5th CAB and MODA forces moved to the north and west of the town but never actually succeeded in cutting the road. Several Iraqi vehicles attempting to escape were destroyed either by Saudi TOWs or USMC attack helos. Later in the afternoon, the 7th CAB shifted to the west and the 8th CAB moved north abreast of the 7th to occupy positions forward of the desalinization plant. By 1500, the battle for Khafji was over, and the Saudis were consolidating to the north of the town.

The coalition casualties consisted of seven V150s of various types and two Qatari AMX-30s (which were subsequently recovered). Most of the V150s were knocked out by RPG-7 fire in the close-range fighting inside the town of Khafji, although one of the two that was a catastrophic kill was hit by a 100mm main gun round from a T-55. Two of the destroyed V150s were catastrophic kills with 100 percent crew casualties. The others were abandoned by their crews after being disabled. Some of these were burned out after being abandoned. A few Saudi vehicles were hit by 12.7mm MG fire, but none were disabled. Saudi forces suffered 18 dead and 50 wounded in the battle with most of the dead coming from the two killed V150s.

Iraqi casualties were much heavier, the author personally having counted 81 burned out hulks in and around Khafji. Most of these vehicles were Chinese Type 63 APCs or T-55/59 tanks. Some of the tanks had Iraqi-manufactured add-on armor. In addition there was one MTLB and a pair of SP 122s, as well as a half dozen soft-skinned wheeled vehicles among the enemy wrecks. A dozen of the type 63 APCs were taken intact. The enemy lost approximately 60 dead and 400(+) prisoners. The most effective direct fire antiarmor weapons against the Iraqi ar-



mor were TOW 1 missiles and 90mm Cockerill guns of the Saudi V150s and the 105mm guns of the Qatari AMX-30s. By far the most Iraqi armored vehicle kills were to air and ground launched TOW missiles, although surprisingly, several T-55s had to be re-engaged several times before they were completely destroyed. The TOW was effective in all cases against the Type 63 APC, with numerous spectacular catastrophic kills (several of which had roadwheels flung over 100 feet into the air). The 105mm of the Qatari tanks was successful against all armor encountered. No evidence of 90mm Cockerill hits on Iraqi T-55s could be found but the Cockerill gun was effective against the Chinese Type 63 APC with several catastrophic kills and numerous penetrations. In addition, some of the Type 63 APCs were knocked out by shoulder-fired Carl Gustavs (most

after they had been abandoned). Most Iraqi vehicles in the town evidenced numerous .50 cal MG strikes, but there was no way of determining if the damage had any impact on the cause of the vehicles' demise. The Iraqi armor at Khafji was also engaged effectively by USMC AH1s and high performance aircraft (USAF, USMC) as well as 155mm field artillery.

The SANG motorized brigade organization had proven that it could persevere in a stand-up fight with armored opponents. The cross-attachment of Qatari tanks and the massive expenditure of TOW missiles, as well as all other classes of munitions, literally smothered the Iraqi forces with fire. Significantly, much of the fighting was at close quarters within the town itself, where supporting arms did not play as critical a role. The Saudis commented

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on the maneuverability of the V150 versus that of the Iraqi T-55s and type 63 APCs.

For the remainder of the war, the King Abdul Aziz Brigade secured Khafji and conducted artillery raids across the border. During the coalition offensive, its engineers breached the border berm and the first Iraqi obstacle belt to allow the other brigades of the Eastern Coalition division to pass through. The KAAB's FA battalion was cross-attached to division control, and the brigade itself was given the mission of MSR improvement and security in southern Kuwait.

### **The Future LAV 25s**

SANG is currently in the process of reequipping its motorized brigades with LAV variants. The variants included are the basic LAV 25, the LAV recovery, command and control, ambulance, AT (with the Emerson turret), air defense, and 120mm turreted mortar system. The SANG is also funding the development of the LAV 105 with a soft recoil 105mm tank gun.

The organization of the motorized brigades will be identical in terms of number and types of units. LAVs will generally replace V150s in the CS and

CSS units. The difference in the new organization will be in the battalions. Each combined arms battalion will consist of three LAV 25 companies, one LAV AT company, and one LAV 105 company. The scout platoon will have LAV 25s, and the battalion heavy mortar platoon will consist of two sections of three LAV 120mm mortars each. The switch to single-system companies reflects SANG's recognition of the superiority of this type of organization following studies conducted in the late 1980s, when the replacement for the V150 was being sought. This decision was cemented by SANG experience in the Gulf War (the multi-system company being too cumbersome, especially in the employment of company mortar platoons).

### **Summary**

Uniquely adapted for sustained operations in the harsh desert environment of Saudi Arabia, the SANG motorized brigade organization (both present and future) represents an innovative approach to what can be accomplished with wheeled armor. By itself, an extremely potent internal security force, the SANG motorized brigades, when employed in conjunction with the Royal Saudi Land Forces, represent the

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concept of a wheeled cavalry regiment in its most mature form. The SANG motorized brigades offer tremendous capability in terms of troops employed and the cost of the units to field and maintain. They represent a very successful example of sound force structure decision-making on the part of the Saudi government.