

Dealing with a Contaminated Area

— an analysis of an NTC battle

By MAJ Robert C. Neumann

The dates of the mission described in the following article have been changed (by the author) to prevent identification of the units involved.

—Editor

Units at the National Training Center (NTC) at Fort Irwin, California, face realistic combat training against a well-trained, aggressive opposing force (OPFOR). The OPFOR is skilled in the use of threat tactics, to include the use of chemical weapons. The failure to accomplish an assigned mission can happen for a multitude of reasons.

During a recent battle at the NTC, the failure to recognize the impact of NBC conditions directly led to a brigade failing to achieve its assigned mission. In this article, I will identify how NBC played such a vital role and how the impact of NBC on the battlefield could have been minimized. The article will focus on the actions of the brigade's lead combat force.

Blue Task Force's Missions and Concept

The lead task force was an armor heavy battalion task force (AR TF) with three M1 tank companies and one M2 mechanized infantry company. The armor task force also had a combat engineer company reinforced with an additional engineer platoon, a TOW (M901 ITV) platoon, an air defense platoon, four GSR teams, and a mechanized smoke platoon in direct support. The task organization of the

task force is shown in Figure 1, below.

The mission of the AR TF was to attack at 130530 June to penetrate the enemy's first echelon defensive belt and seize a terrain-oriented objective to protect the flank of the adjacent brigade (Map 1, page 40). On order, the AR TF would continue the attack to the west. A mechanized infantry task force (MECH TF) would follow and support the AR TF in zone.

The AR TF's plan was to move in a box formation (figure 2, page 40) along an axis in the northern portion of the zone and assault the OPFOR's northernmost motorized rifle platoon (MRP) in Objective Ann (Map 2, page 41).

Once at the OPFOR's obstacle belt, the AR TF would execute a TF breach. Team B would establish an attack by fire position and suppress the enemy on the far side of the obstacle. The DS smoke platoon would obscure the breach area under the direction of the engineer company commander. Team E and the engineer company would act as the breaching force. Once the breach was made through the obstacle, Team C would assault through the

breach and seize OBJ MARY. Teams B and E would overwatch. Once on OBJ MARY, Team C would suppress OBJ ANN while Company A assaults and seizes OBJ ANN.

Team B follows company A and occupies OBJ R20. Team E then follows Team B and occupies OBJ R40. The two teams, B and E, occupying objectives R20 and R40 have the mission to defeat the predicted regimental counterattack force of tank company. Once OBJ R40 is occupied, Team C assaults OBJ JAN with Company A supporting by fire.

After all objectives are secured and the regimental counterattack is defeated, the TF will reform in a box formation (figure 3, page 40) in the vicinity of CP R1. The AR TF, once in its new formation, attacks to seize OBJ BULL. After OBJ BULL is seized, the AR TF establishes a hasty defense and prepares to conduct offensive operations to the west.

The AR TF's S2, in his intelligence annex to the OPORD, states the OPFOR's 17th MRD (motorized rifle division) defends along a north-south line running through Hill 876-Peanut

Figure 1. Task organization of the task force.

Company A 3 Tank Platoons	Team C 2 Tank Platoons 1 Mech Platoon 1 Engr Platoon	TF Control Scout Platoons Mortar Platoon Engr Company (—) 2 Eng Platoons Smoke Platoon
Team B 2 Tank Platoons 1 Mech Platoon 1 AT Platoon	Team E 2 Mech Platoons 1 Tank Platoon 1 Engr Platoon NBC Recon Platoon (—)	ADA Platoons 4 GSR Teams

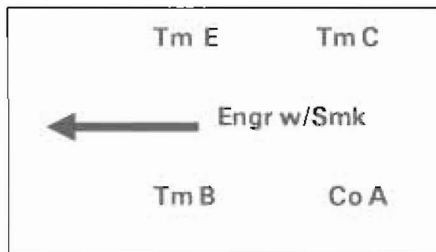


Figure 2. The AR TF's planned initial formation.

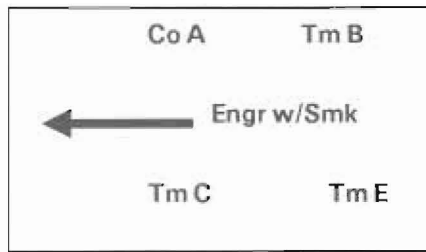


Figure 3. The AR TF's planned subsequent formation.

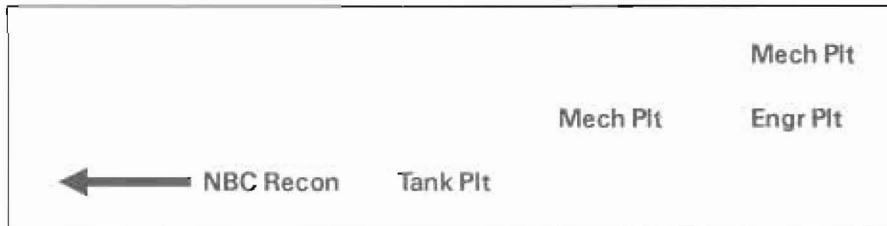


Figure 4. The lead platoon (a tank platoon) will provide overwatch and security for the recon platoon.

with two regiments—the 76th in the north, the 153d in the south. Opposing 1st Brigade is the 1st MRB (motorized rifle battalion) and the 2d MRB (25 percent) of the 76th MRR (motorized rifle regiment). Behind the two lead MRRs

are the 166th MRR and the 86th TR, which is the division reserve.

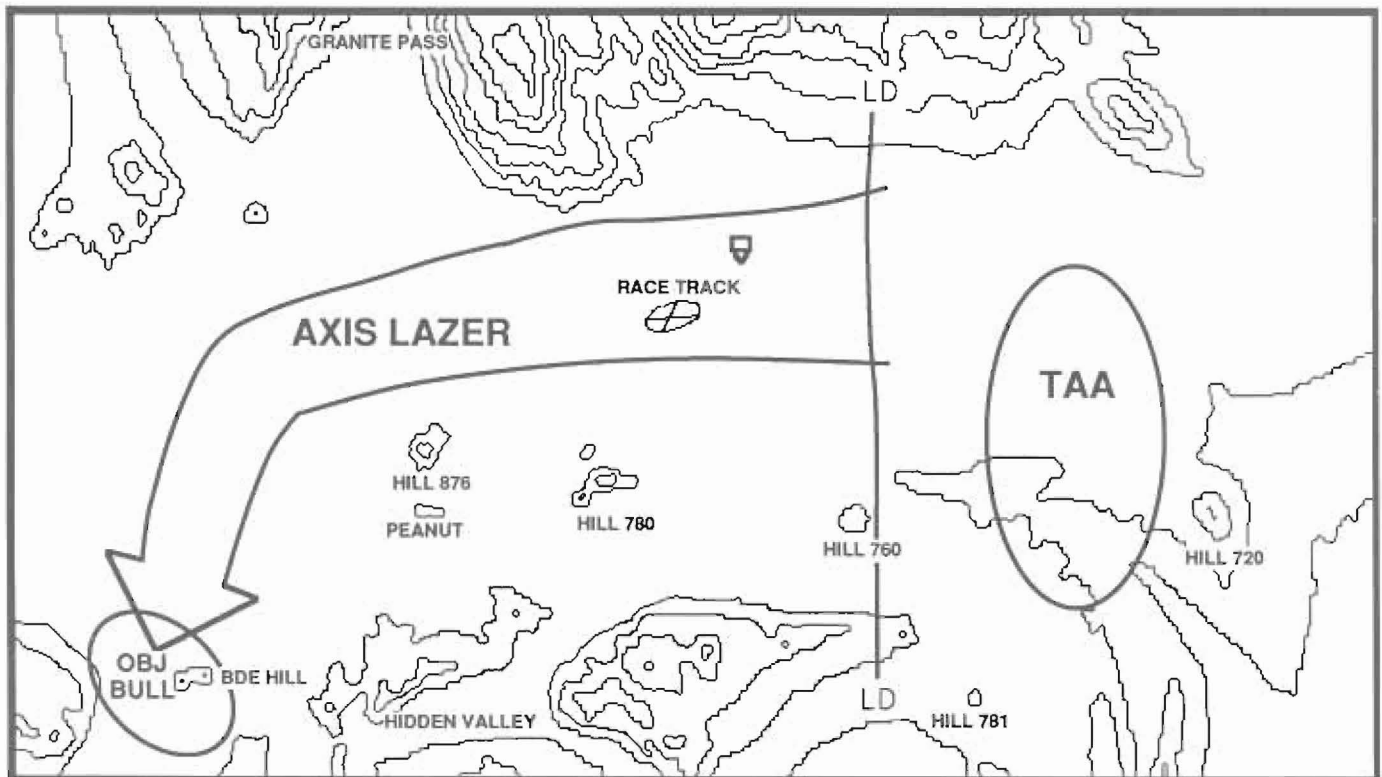
The S2 also predicts that the 2d MRB will defend forward of the Peanut Hill 876 complex to "take advantage of the terrain." Additionally,

the S2 states that "persistent and non-persistent have been used. Expect chemicals to be used to close an AA (avenue of approach) and augment FPFs (final protective fires). Expect a major AA sealed off with persistent." The TF chemical officer in his NBC defense annex to the TF's OPORD gives five possible locations for the OPFOR to contaminate with persistent chemical agents.

Weather conditions on the day of the operation are predicted to favor the OPFOR's use of chemical weapons and smoke. Winds are from the southwest to west at about 20-25 kmph. Inversion conditions exist in the early morning before the sun heats the desert floor. Within one or two hours after sunrise, the air stability will change to unstable (lapse).

The OPFOR's Mission and Concept

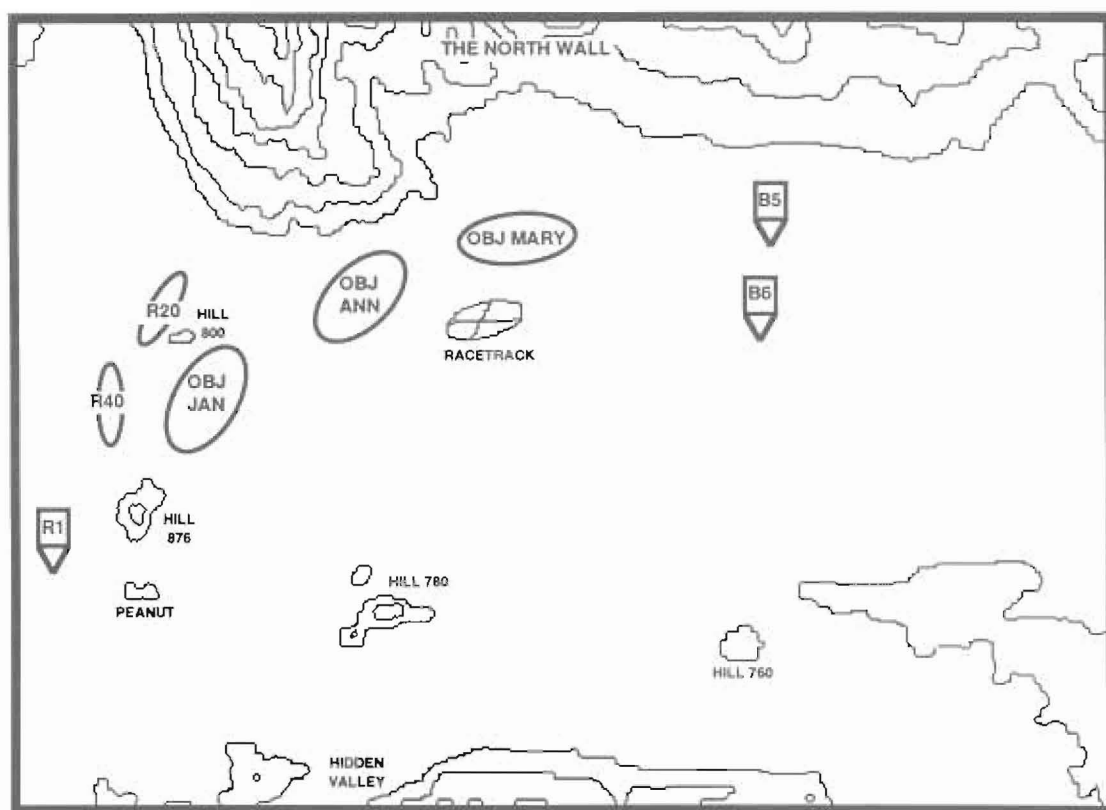
The 17th MRD defends with two MRRs in the first defensive echelon; the 76th and 154th MRRs and one



Map 1.

MRR in the second defensive echelon, the 116th MRR. The 76th MRR has the mission to "retain currently held terrain and prevent enemy penetration to the west." The MRR defends with all three MRBs: the 1st MRB defends the Hidden Valley complex, the 2d MRB defends in the central corridor, and the 3d MRB defends Granite Pass and Echo Valley. The MRBs have been severely attrited and are not operating at full strength: 1st MRB, 25 percent, 2d MRB, 40 percent, and the 3d MRB, 45 percent. The MRR's tank battalion (TB) task organizes and provides tanks to the 2d and 3d MRBs. Additionally, the TB provides a tank company (-) to act as the regimental reserve with the mission to contain penetrations or reestablish forward defensive positions which have been overrun.

The 2d MRB, 76th MRR, defends in two echelons (Map 3, page 42). The first echelon consists of two companies: one positioned in the north vicinity of the Iron Triangle and one in the south in a reverse slope defense of Hill 780. The mission of the first echelon companies is to destroy the enemy, retain terrain, create conditions favorable to fire strikes, counterattacks, and the resumption of offensive operations. The second echelon is composed of one company in a battle position to the northeast of Hill 80. The MRR's tank battalion is task organized to provide tanks to each of the battle positions. The regimental recon company provides a reconnais-



Map 2.

sance screen forward to provide early warning. The adjacent MRB in the south has battle positions located in the Hidden Valley complex. Because there is no division security zone or regimental security outposts, each motorized rifle company (MRC) will position a combat security outpost forward. Each combat security outpost consists of one T72 and one BMP.

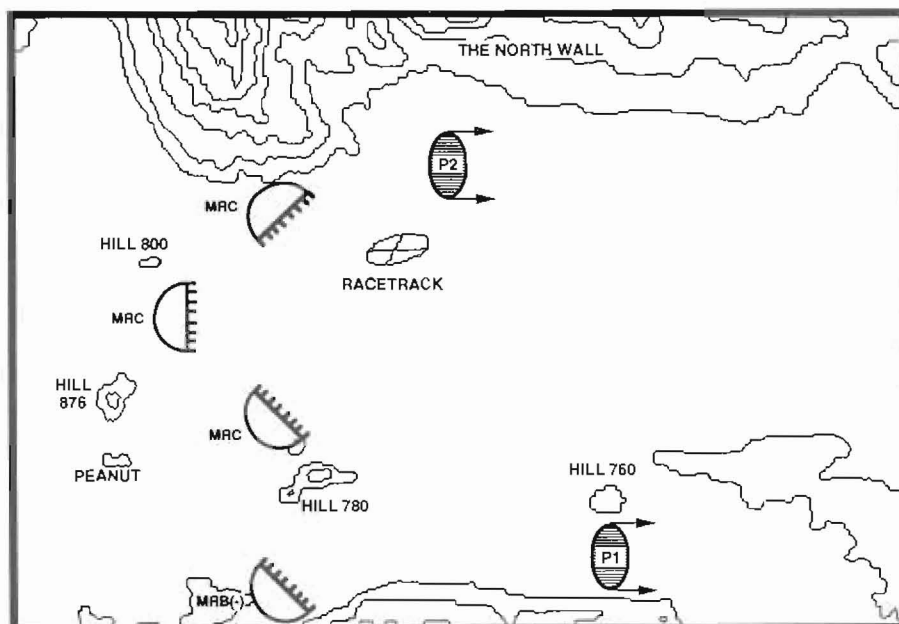
The intent of the MRB commander is to attrit the enemy with deep strikes using artillery and frontal aviation. The combat security outposts will force the enemy to deploy early, revealing his intent, and confusing him to the true defensive dispositions. As the enemy moves into the fire sacks, all possible weapon systems will engage him and the anti-tank reserve will move to firing lines to cover the most threatened sector. Units not in contact may reposition to allow their weapons to bear on the attacking forces.

The OPFOR commander plans to

use chemical weapons as obstacles to shape the battlefield, assist in the conduct of counter-attacks, and to prevent reconsolidation by enemy forces. Persistent type agents, such as thickened GD, will be used to create zones of contamination to act as obstacles. Three zones of contamination are planned: P1 south of Hill 760 to block the southern avenue of approach into the sector (considered the most dangerous), P2 along the northern wall to push attacking units to the south into the fire sack and to protect the northern flank, and P3 to block the western end of the John Wayne pass. Nonpersistent agents, such as blood (AC) or nerve (GB) will be employed if the enemy penetrates the first defensive echelon.

The Battle

During the brigade rehearsal, the afternoon prior to the attack, the brigade commander places the NBC recon platoon (-) under control of the AR TF. Immediately following the re-



Map 3.

hearsal, the AR TF S3 informs both the chemical company/team commander and the Team E commander that the NBC recon platoon (–) will operate under the control of the Team E commander. The NBC recon platoon's mission is to locate and identify possible contaminated areas along the AR TF's axis. The chemical company/team commander instructed the platoon to establish an overwatch of the area to identify possible artillery impact flashes forward of the LD in the vicinity of the brigade's templated contaminated areas. The Team E commander develops a plan to have the NBC recon platoon move in front of his lead platoon by about 500 meters to give him adequate warning of chemical contamination. The lead platoon, a tank platoon, will provide overwatch and security for the recon platoon (figure 4, page 40).

Both the brigade and AR TF's S2's template the likely areas where the enemy may use persistent chemical agents to contaminate the ground. Even though the AR TF indicated possible contaminated areas on the enemy situation template, they were not designated as named areas of interest (NAI) and added into the TF's reconnaissance

and surveillance (R&S) plan. The AR TF's S2, in fact, templated a contaminated area near the TF's axis and planned a route for a scout section through the area to emplace an OP team. The scout platoon was not assigned any chemical survey missions nor were they instructed to confirm or deny any of the templated contaminated areas.

The OPFOR, based on intelligence from their OPs, determines that chemical target P2 should be executed. A little past midnight on 13 June, a 2S3 battalion from the regimental artillery group (RAG) initiates a fire mission that contaminates approximately one square kilometer of ground with thickened nerve agent. While the flashes from impacting artillery rounds are clearly visible past the line of departure, nothing is reported.

In the early morning hours of the day of the attack, a scout vehicle from the "RED" section moves along its designated route to establish a deep OP. The section is in MOPP2, even though their route takes them through a templated contaminated area. At approximately 0258 hours, the scout vehicle enters the contaminated area. The crew immediately begins to suffer

the initial effects of nerve agent poisoning. The quickly react to the hazard and perform the correct buddy aid. The scouts radio the AR TF S2 and inform him of their situation. The only way they can identify the contamination is because of the symptoms they suffered when they first entered the contaminated area. The scout section is not equipped with any chemical detection or identification equipment (M256 detector kit, M8A1 chemical alarm, or M9 detector paper, for example). Additionally, the scouts report their location incorrectly, approximately 1,000 meters to the southeast of the actual contamination. The section leader, when asked by the AR TF's TOC to confirm the location of the contamination, informs the TOC he can't give an accurate grid of his location. The section leader is unable to see because he has broken the optical inserts for his protective mask.

The TF reports the location of the chemical contamination to the brigade main CP using a spot report (SPOTREP). The brigade chemical section disseminates a warning to all brigade units informing them of the reported contaminated area.

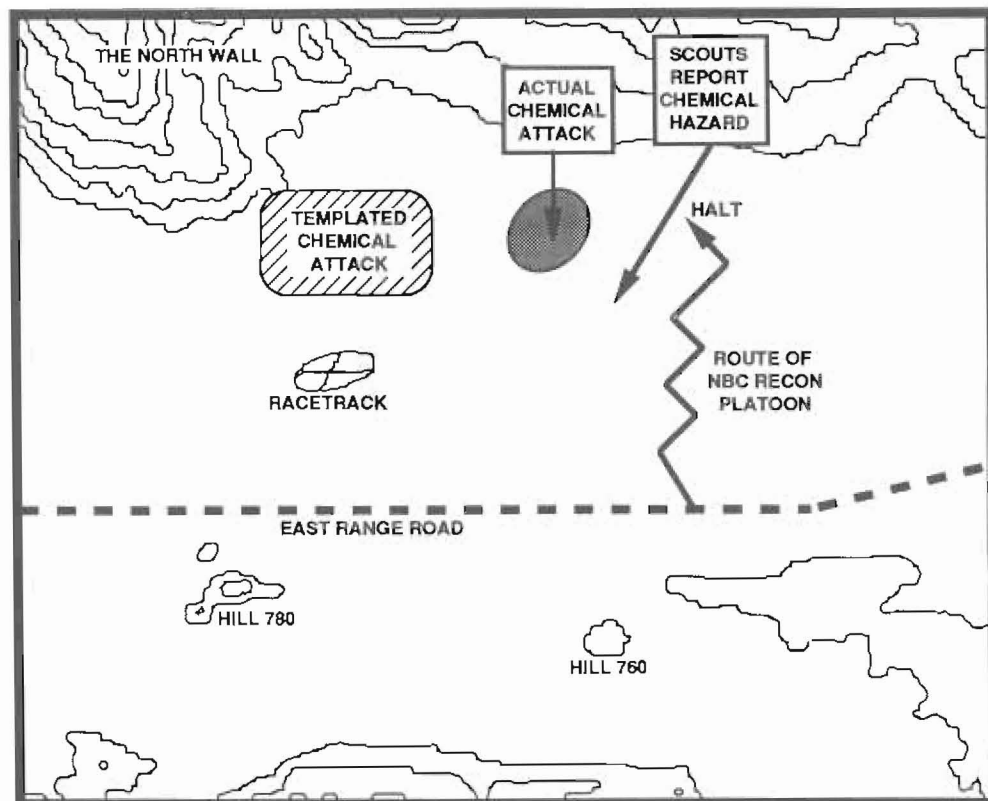
Team E, at 0405 hours, is instructed to "move the chemical recon squad to grid 495159 and test for a chemically contaminated area." The Team E commander is also told by the AR TF TOC that "one of our scout sections reports running into a chemically contaminated area." About one hour later, the platoon begins a chemical survey starting near East Range Road and moving north. The platoon zig-zags along a route to the north. The platoon checks for ground contamination with chemical detector paper and for vapor contamination with the M256 kit (all told, the platoon uses four M256 detector tickets during the recon mission). The platoon misses the location reported by the scouts by at least 1,000 meters. The NBC recon platoon reaches the north wall at about 0612 hours and ends its recon mission. The

NBC recon platoon leader reports no chemical contamination found. The platoon then continues to the northwest toward the actual contaminated area in MOPP2, finds a deep wadi, halts, and begins to eat breakfast at 0630 hours (Map 4, right).

The S2, in his intel update, reports the location of the suspected contaminated area using the location that the scouts provided. The AR TF's S3 informs the Team E commander to move "just to the south of the 15 (east-west) grid line and just north of [checkpoint] B5" to avoid the contaminated area. there is no change to the directed MOPP level (MOPP2).

The AR TF moves out of its tactical assembly area (TAA) and begins to occupy an attack position at about 0500 hours. the AR TF's chemical officer leaves the TOC to assist in positioning elements of the smoke platoon along the LD. At 0505 hours, the TF commander calls the Team E commander to talk to the NBC recon platoon leader. The Team E commander informs the TF commander that he instructed the platoon leader to operate on the TF command net. The TF commander is unable to make contact with the NBC recon platoon.

At 0535 hours, the AR TF crosses the LD and begins to move to the northwest. The AR TF has not yet achieved its desired box formation. Team E, attempting to go to the north of the reported contaminated area, runs directly into the actual contaminated area at 0553 hours. Team E reports, "GAS GAS, GAS" on the TF command net and informs the TF commander, "We got reports of chemical agents coming in at this time" at about 0555 hours. Team E quickly assumes MOPP4, but before the team can avoid the contaminated area, the entire team and TF command group moves into the



Map 4.

contaminated area. A total of fifteen vehicles are contaminated. At 0614 hours, Team E informs the TF commander "first 256 indicated negative, initiating a second 256."

The forward momentum of the AR TF halts. At about 0620 hours, the Team C commander informs the Company A commander, "We found the contaminated area that Echo was talking about. We are moving to the south to get around it." The Team C commander responds back, "We'll make the cut, too." The two trailing teams then begin to move to the southwest to avoid the hazard. The chemical officer has not returned to the TOC and is unable to advise the TF commander or the second in command.

As the AR TF is halted, the OPFOR begins to attrit the stopped teams with close air support and artillery. Team B alone loses 10 combat vehicles (8 to artillery and 2 to air) while the TF is stopped. Because of Team E's quick reporting of the chemical hazard, the

entire TF is instructed to go to MOPP4. The TF's command group (TF commander and FSO) move through the contaminated area in MOPP4.

Team C initiates an M256 kit to determine if they are in the chemical hazard area. The result of the kit was misread as "nonpersistent nerve" instead of "all clear." The results of the test are sent to the TF commander on the command net, compounding the problem of identifying the exact NBC threat facing the TF. Based on the knowledge that the NBC recon platoon found no contamination and Team C identified the agent as nonpersistent nerve, the TF commander and S3 assume that Team E was hit by a nonpersistent nerve chemical attack. After hearing several units report all clear readings on the command net, the TF commander orders the TF to MOPP2. Within minutes after removing his mask, the TF commander becomes a nerve agent casualty and

passes command to the S3. The TOC immediately orders the entire TF to MOPP4.

Team B, now attrited to platoon size, continues to move west to occupy its designated support by fire position. The team remains in MOPP4, even though two subsequent M256 tests indicate no chemical agents present. Target identification is difficult and the team begins to suffer from accurate long-range fires. It is not until most of the team is destroyed that the MOPP level is downgraded.

The remainder of the AR TF assaults through a breach in the OPFOR obstacle system, but does not have sufficient combat power to continue. The brigade orders the AR TF to assume a hasty defense. The MECH TF begins to move forward with the mission to pass through the AR TF and continue the attack.

The MECH TF crosses the LD and moves toward the contaminated area. Although the MECH TF received warnings of the contaminated area, the warning was not fully disseminated to the subordinate units. As a result of the failure of the lead TF to report and mark the contamination, a significant number of vehicles from the MECH TF enter the contaminated area. The lead team of the MECH TF loses two platoons (three tank crews and four Bradley crews/squads) and is rendered combat ineffective. A platoon from the antitank company also enters the contamination and loses four M901 ITV crews. The impact on the MECH TF is significant: 13 combat vehicles are rendered inoperable because of crew losses. The MECH TF alone suffers 53 NBC casualties (28 KIA and 25 RTD). At change of mission, the brigade has 32 combat vehicles contaminated and has lost 88 soldiers to NBC.

Additionally, the AR TF's main command post moves into the contamination while moving forward to establish command and control within the TF. The CP, unaware of the hazard, is only in MOPP2 and suffers sig-

nificant losses. Command and control within the AR TF is now completely lost. The loss of the CP and the majority of the TF staff will hamper future operations.

While the brigade did penetrate the OPFOR's first defensive belt, there is insufficient combat power remaining to force the OPFOR to withdraw. As a result of the brigade's limited combat power, the brigade is forced to withdraw to the east. The next morning, after reconstitution, the brigade will conduct a hasty attack to seize OBJ BULL. As part of the brigade's reconstitution effort, the direct support decontamination platoon will conduct three hasty decontamination operations.

Lessons Learned

NBC Threat Analysis. Identify the NBC threat and determine how the enemy will employ chemical agents to support his operation. Template all possible targets for both persistent and nonpersistent chemical agents. The enemy's decision criteria and trigger points must also be determined. Designate all templated contaminated areas as NAI. Task a unit to observe the NAI. If the contaminated area could affect the scheme of maneuver, a physical reconnaissance of the NAI should be attempted. Close coordination between the S2 and the unit's chemical officer or NCO is required throughout the intelligence preparation of the battlefield (IPB) process. The use and type of chemical agents should be a priority information requirement (PIR).

Reporting of Chemical Attacks/Hazards. Accurate reporting of chemical hazards is required to allow the rapid dissemination of warnings. Units do not accurately describe the NBC hazard they have encountered. Units should only report they are under a chemical attack if they have observed the means of delivery (artillery impacting, missile detonation, or aircraft spray attack, for example). If they have not observed the delivery means, but

identify a hazard through early warning (chemical alarms sound) or symptoms, then the unit should report the presence of an NBC hazard. Use contact and spot reports to quickly report NBC attacks/hazards. When using contact and spot reports, ensure all essential information is provided.

Basic Load of NBC Equipment.

Each unit must carry and maintain the proper basic load of NBC detection equipment. Unit SOPs should indicate the type and quantity of NBC detection equipment and who is responsible for operating the equipment. As stocks of expendable equipment (detector kits and paper) or supplies (batteries) is depleted, the unit must requisition the proper quantities. Cross leveling of supplies is an acceptable means of ensuring an equitable distribution of detection equipment when resupply has not been completed.

Role of the Chemical Officer/NCO.

The role of the unit chemical staff officer/NCO is to act as the principal advisor to the commander. The only place that he can effectively function in his primary capacity is in the unit's main CP. During the execution of an operation, he must actively participate as a member of the battle staff. He must evaluate all incoming reports of NBC attacks/hazards and advise the commander or second in command on their impact. Additionally, he must crosstalk with the S2 on the enemy's use of NBC weapons so the S2 can determine the impact on probable enemy courses of action. He must coordinate for decontamination or NBC recon support as necessary. The TF must rely on the leadership of the supporting chemical units to execute their assigned missions.

Operational Employment of NBC Reconnaissance Units. NBC recon units are no different from other recon assets. The employment of NBC recon units are planned as part of the overall reconnaissance and surveillance plan. The S2, S3, and the chemical staff officer/NCO must be involved in the

CASUALTIES							
	START	KIA	WIA	RTD	NBC KIA	NBC RTD	
AR TF	895	33	142	187	27	0	
MECH TF	910	55	51	104	28	25	
OPFOR INF	71	18	—	—	—	—	

EQUIPMENT							
System	BLUEFOR				OPFOR		
	AR TF	MECH TF	Start	Lost	System	Start	Lost
M1	37	32	21	8	T72	27	7
M2 IFV	13	12	22	10	BMP	52	11
M901 ITV	3	3	8	4	BRDM	5	4
M109	10	5	5	0	MTLB	1	0
Vulcan	8	3	3	2	ZSU 23-4	4	1
M1059	4	4	—	—	BRDM AT-5	9	4
Scout Veh	9	3	—	—	SA-13	2	1
M3 CFV	—	—	3	1	Frontal AVN	8	5
					HIND-D	4	1

KIA — killed in action
WIA — wounded in action
RTD — returned to duty

AR TF scout platoon was equipped with 10 Hummers and the MECH TF scout platoon was equipped with 6 M3s.

Figure 5. US/OPFOR Casualties and Losses.

planning for the employment of NBC recon assets. While it may be necessary for the NBC recon unit to move with the lead combat element, operational control should never be delegated below Bn/TF level. During the execution of an operation, it may be necessary to give the NBC recon unit additional missions. When this is necessary, clear and understandable mission statements with sufficient coordinating instructions issued to the NBC recon units are critical for successful mission execution.

Conducting an NBC Recon. The NBC recon unit must select the proper reconnaissance technique, in coordinate with the supported unit, to accomplish its assigned mission. The NBC recon unit must recognize that errors in reporting the exact location of chemical attacks/hazards will occur. The NBC recon platoon for the above described mission should have conducted an area recon using a Vee formation. The spread between individual vehicles in the formation should have been no less than 200 meters until the contamination was located.

Marking NBC Hazards. The failure to mark the contaminated area caused the trailing MECH TF to lose significant combat power needlessly. The presence of chemical contamination on the battlefield during offensive operations must be treated as an obstacle. The standard NATO NBC marking signs are not highly visible at long distances. A far recognition signal, such as a VS-17 aircraft marking panel, is needed to warn units that they are approaching a hazardous area. If possible, guides should be left near the contaminated area to assist units in bypassing the hazard. After combat operations have ceased, the perimeter of the area must be marked with standard warning signs and bypass routes clearly marked.

Conclusion

While a unit cannot win a battle through NBC defense, it is possible to lose a battle through the inability to conduct NBC defense. The battle described above was not solely lost because of NBC, but the failure to avoid the contaminated area compounded all the other problems. Units routinely fail to assess the impact that NBC may have

on their operations during training at the NBC. Chemical officers/NCOs are not integrated or, in some cases, not even involved in mission planning. S2s brief the NBC threat to the unit without really understanding what they are saying. S3s plan their scheme of maneuver through templated contaminated areas and wonder what went wrong when half of the unit dies in a contaminated area. Chemical units are piecemealed about the battlefield or given vague missions beyond their capability to accomplish.

Units must understand the impact that NBC warfare may have on their mission. Acceptance of the unit chemical officer/NCO as full-time members of the battle staff and realistic NBC training at all levels are just a few of the solutions to the problems encountered by many units at the NTC in the area of NBC defense. The NBC threat is not diminishing as more Third World countries obtain chemical weapons and seek the development of nuclear weapons.

At the time this article was written, MAJ Robert C. Neumann was assigned as brigade chemical trainer at the National Training Center. MAJ Neumann's previous assignments include assistant chemical officer, 1-87th Infantry; brigade chemical officer and assistant S3 Plans for 2d Brigade, 8th Infantry Division; brigade chemical officer for 1st Brigade, 2d Armored Division; commander, 44th Chemical Company and assistant division chemical officer, 2d Armored Division; assistant S3 and Senior Chemical Trainer at the National Training Center. MAJ Neumann is a graduate of the Chemical Officer Basic and Advanced Courses as well as the Field Artillery Officers Advanced Course, Marine Corps Amphibious Warfare School, the Command and General Staff College, and the Army Management Staff College. He is a graduate of Norwich University and holds a BS in chemistry.