

Biological Operations During Desert Storm

By CPT Jon Drushal

Mission: The 9th Chemical Detachment provides point biological and stand-off chemical detection capability to strategic sites throughout the theater of operations to provide early warning and confirmation of suspected chemical and biological attacks by Iraqi forces.

During Operations Desert Shield/Storm, there was concern that Saddam Hussein might use biological weapons. At the time, no system existed capable of detecting and confirming the use of these agents. As a result, the 9th Chemical Detachment was formed to counter that threat.

This is the story of a unit whose obscure mission during Operation Desert Storm played a big role in the United States' ability to counter Iraq's chemical and biological threat. The 9th Chemical Company was in the process of downsizing with the loss of the 9th Infantry Division. On 12 January 1991 during the downsizing process, the company was alerted for deployment.

The orders specified a detachment of soldiers be formed from the company consisting of two officers and 43 NCOs. The division immediately began a search to come up with 19 additional NCOs that could not be filled

from within the company. Orders called for the detachment to be organized into 12 teams with a headquarters element. Each team would consist of a team chief and two biological detection NCOs. The headquarters consisted of those elements necessary to sustain the teams along with a command and control element. Teams were further organized as biological (bio) teams and chemical/biological (C/B) teams. The C/B teams had the additional requirement to conduct chemical agent monitoring and were all led by staff sergeants. The bio teams were lead either by a staff sergeant or sergeant.

On 15 January 1991, 30 soldiers were sent to Aberdeen Proving Ground, Maryland, to undergo training on three systems: the XM-2 Biological Sampler, the PM-10 Commercial Sampler (also a biological detector), and the XM-21 Chemical Agent Automatic Alarm. An additional 30 soldiers arrived on 19 January 1991 to undergo training, but only on the biological samplers (these would be the biological teams).

The XM-2 and PM-10 are biological samplers capable of collecting airborne particles in a collection media typical of those used in a biological warfare

attack. They do not identify, detect, or alarm in the presence of agents. The procedure calls for a liquid sample used in conjunction with a smart ticket. There were two smart tickets, one anthrax and one for Botulism (test tickets A and B). The results of the test with the smart tickets signal the presence of one of the agents.

The XM-21 Chemical Agent Automatic Alarm is an automatic scanning, passive infrared sensor that detects nerve and blister agent vapor clouds at an LOS distance up to 3.1 miles (5.0 kilometers). It was tripod-mounted and powered by a 1.5k generator.

All teams transported their XM-2s and/or M-21s on an M998 HMMWV with 3/4-ton trailer. In addition to the soldier's personal weapon, each team was issued a .50-caliber machine gun with tripod. The crew-served weapon was usually integrated into the base defense plan of the supported unit.

Final orders for the detachment were received attaching it to the Foreign Material Intelligence Battalion (FMIB) of the 513th Military Intelligence Brigade. The relationship was established due to similar missions. The FMIB already had established evacuation procedures to a CONUS

laboratory and had a Technical Escort Detachment attached to it as well. On 26 January 1991, the first serial of the detachment deployed out of McChord Air Force Base on four C-141 aircraft with all equipment coming from Fort Lewis, Washington. All systems and associated equipment coming from Aberdeen would rendezvous with the detachment at the airhead in Daharan. The second serial of only 16 soldiers deployed on 2 February 1991 in the same manner.

Upon arrival at Daharan International Airbase, the detachment was initially housed in Khobar Towers. The FMIB headquarters was within walking distance. Two liaisons from Edgewood Arsenal met the detachment at Daharan. These two captains assisted the detachment commander by providing technical expertise and logistical assistance. All equipment from Aberdeen arrived on 29 January 1991 at the airbase. Pallets were broken down and the equipment transported to FMIB headquarters.

Orders were promptly received on 31 January 1991 to deploy the C/B teams to Jubail, Ras Safania, Riyadh, KKMCC, and Daharan. These five teams were to begin sampling immediately two times daily. Meanwhile, the second serial arrived on 3 February, received their equipment from Aberdeen on 4 February, and were ready for deployment on 5 February. Once all teams were on the ground, orders were received to move the five C/B teams to the forwardmost sites at Log Bases Charlie, Echo, and Alpha, Al Qaisumah, and IMEF Forward. The remaining teams with just the biological samplers were deployed to Riyadh (Eskan Village and CENTCOM HQ), Daharan/Dammam (FMIB HQ and Daharan Airbase), Jubail, KKMCC, and Log Base Bastogne. Sites were established by CENTCOM J3 NBC based on the current threat to large U.S. troop concentrations. Sites were located at log bases, port facilities, and major headquarters.

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Once all teams were in place, procedures were established to begin periodic monitoring. Monitoring would begin under the following conditions: Special operations forces in the area with special equipment, offensive actions by either side, unexplained dead animals, artillery impacting away from troop concentrations, or on order. The frequency of samples depended on the type of condition and ranges anywhere from one sample every three hours to continuous. Any "Hot Samples" were handled using DD Form 1911, Material Courier Receipt, to ensure the chain of custody was not broken. Samples required a sample number consisting of country code, date and time, sequence number, location, and sampler's initials. Each C/B team utilized its M-21 during specific vulnerability windows.

The first "Hot Sample" was received on 17 February 1991. The sample was taken at FMIB headquarters, Daharan, and had a high positive reading. It was taken using the XM-2 and was evacuated to the Naval Theater Laboratory in Jubail for further analysis. They ran a smart ticket test and took 10-15 ml of fluid to grow a culture. The additional smart ticket test showed that there was a possibility of anthrax contamination. It was not until the culture had matured that it was determined not to be anthrax, but a similar organism.

Simultaneously, the sample was being evacuated via Technical Escort to CONUS (Fort Detrick). This chain of custody, with the exception of actually evacuating the samples to CONUS, remained consistent throughout the entire operation. On 22 February additional

"hot" samples were received from across the theater. One test site was positive for botulinum toxin and all remaining locations were positive for anthrax. Half of the samples were taken using the PM-10 Commercial Sampler and the remaining samples using the XM-2.

All samples were proven to be false positives. This large number of false positives triggered a number of procedural changes. Technical Escort no longer automatically evacuated the samples to CONUS. The unit maintained the samples at the FMIB headquarters until such time that the lab could confirm the samples as positive through culture results. Additionally, procedural changes to the PM-10 Commercial Sampler and actual testing procedures were made.

The filter paper used in the PM-10 was discarded due to the fact that it contaminated the wet sample. Fibers from the filter paper reacted with the smart ticket, rendering a false positive. The only reliability concern was the fact that the sample medium had to be diluted 10 to 1 with sterile water. This problem was quickly corrected with help from the Naval Forward Laboratory by introducing graduated 50ml vials to aid in the dilution. An additional preventive step was provided to the soldiers on checking and reading the smart tickets. All soldiers checked their smart tickets to ensure that there was a small pinhole in the middle of the test ticket. This pinhole allowed the fluid to properly distribute throughout the test ticket paper. If this hole was not present, they were to discard the ticket and

use another one. The soldiers also received additional instruction on the reading of the test spots. If the reaction spot was not a bright red and filled in completely, it was to be discarded.

Resupply missions were conducted every 4-5 days or as the mission dictated. The logistics base at FMIB headquarters sustained all teams within theater with supplies required to execute the mission. The resupply of teams was conducted utilizing a HMMWV and a commercial truck provided by the LNOs. The theater was broken down into two distinct sectors—an eastern and a western sector. Each vehicle would resupply six teams with enough expendables to support them for 5 days of 24-hour operations. In addition to system materials, maintenance, and administrative support were provided during these resupply efforts. On 21 February, it became necessary to move part of the headquarters element out of Daharan to KKMCC. This move allowed stockpiling of supplies at a forward location, decreased the distance traveled, and allowed a command and control element to be readily available to the teams.

With the cessation of hostilities, orders were received on 1 March to rede-

ploy 11 teams back to FMIB headquarters. A team with a command and control element would deploy forward to Kuwait City to conduct biological and chemical operations. On 3 March, an additional team was ordered to move to Kuwait City. These teams collected eight biological samples in Southern Iraq. This included one soil sample in which a team was air-inserted into the sampling position at Tallil Airfield. The teams also assisted FMIB in the search for chemical munitions within Kuwait. Although no munitions were found, the teams remained within Kuwait City to assist FMIB in the gathering of technical intelligence information on Iraqi chemical equipment. The two teams redeployed back to FMIB headquarters on 17 March.

On 23 March, the detachment was released by CENTCOM J3 from its mission, but had to leave four contingency teams on standby in case of emergency. Most soldiers took a MAC flight back to Fort Lewis.

The execution of this mission during Operations Desert Shield/Storm was critical to the United States. Several hundred samples were processed through labs with only minimal false positives. This was a direct reflection

of the efforts of the operators and the CRDEC liaisons refining the sampling process. Between January and March 1990, the 9th Chemical Detachment employed 12 teams with CENTCOM, MARCENT, CENTAF, SOCCOM, and ARCENT. The 9th Chemical Detachment was the first unit of its kind in U.S. military history and the predecessor to the new Biological Integrated Detection System (BIDS) Company.

At the time this article was written, CPT Drushal was observer-controller at the National Training Center, Fort Irwin, California. His previous assignments include battalion chemical officer, 1-506th IN, 2ID in Korea and 2-1 IN, 9th ID at Fort Lewis, Washington; dual purpose platoon leader, 9th Chemical Company, 9th ID; deputy brigade chemical officer, 199th SIB, Fort Lewis, Washington; Armored Brigade Chemical Officer, 1AD, Germany; company commander, 25th Chemical Company, 1AD; and light infantry TF trainer, NTC. He holds a BS degree from the University of Tampa in Business Administration. He is a graduate of the chemical officer basic and advanced courses and CAS³.

Wanted: History of 71st Chemical Company

SSG John Velarde, 71st Chemical Company, 25th Infantry Division (L), Schofield Barracks, Hawaii 96786, is looking for any information on the history of the 71st Chemical Company, particularly past campaigns or soldiers in combat. Anyone with information to share with SSG Velarde, please contact him at the above address. Phone him at (808) 655-9416. His e-mail address is: Velfamily@worldnet.att.net. His FAX number is (808) 655-9109.