



# GulfNEWS

A bi-monthly newsletter serving the interests of Gulf War veterans.

## DoD, CIA release Khamisiyah modeling data

By Diana Berardocco  
OSAGWI Public Affairs

On July 24, 1997, the Department of Defense and the CIA jointly announced the results of extensive efforts to determine what happened when U. S. troops destroyed chemical weapons at an ammunition storage facility in southern Iraq March 10, 1991.

In the joint press briefing, the agencies identified units which may have been exposed to low-level chemical agents as a result of the demolitions.

Based on multiple computer models of the plume, simulated field testing, and interviews with troops present at the demolitions, DoD and CIA officials announced that nearly 99,000 service members were possibly exposed to a very low level of nerve agent vaporized during the weapons destruction. The analysis indicates that no U.S. units were close enough to the demolitions to experience any noticeable health effects at

To see a list of those units potentially exposed to low-level chemical agents between March 10-13, 1991, see our listing on the world wide web:

[http://www.gulfink.osd.mil/dugway/unit\\_list.html](http://www.gulfink.osd.mil/dugway/unit_list.html)

or write:

OSAGWI  
5113 Leesburg Pike, Suite 901  
Falls Church, VA 22041

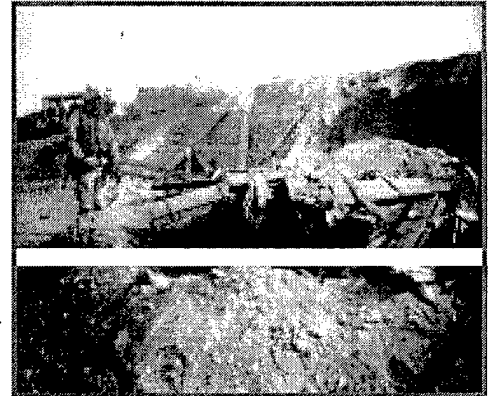
the time of the event. While little is known about delayed effects from this type of low-level exposure, current medical evidence indicates that long term health problems are unlikely.

"Our best assessment is that current medical science indicates no long term affects," explained Rostker during the press briefing on July 24, 1997. "This was a relatively brief exposure measured in hours at very low levels, not measured in days or weeks as one would have with chemical workers or agricultural workers."

Rostker stressed that the data derived from the modeling will become an important contribution to ongoing and future epidemiological studies.

The Khamisiyah findings are significant in that they provide an analysis of how the nerve agent was dispersed by winds after weapons were destroyed in an open pit at Khamisiyah and an estimate of the extent to which U.S. troops may have been exposed to nerve agent. The recent analysis is the culmination of several broad initiatives.

First, the DoD and the CIA asked the Institute for Defense Analyses (IDA) to look at their modeling efforts and make recommendations. IDA gathered a national panel of technical experts in meteorology, physics, chemistry and related



Shortly after the demolition of rockets in the "pit" at Khamisiyah, an unidentified combat engineer observes the destruction.

disciplines to develop the most appropriate meteorological, transport and diffusion models to reconstruct the Khamisiyah pit release. Based on IDA's recommendations, meteorological, diffusion and transport models were linked to furnish a composite, or union, of the plume. With this degree of advanced analysis, numerous uncertainties associated with the plume were decreased.

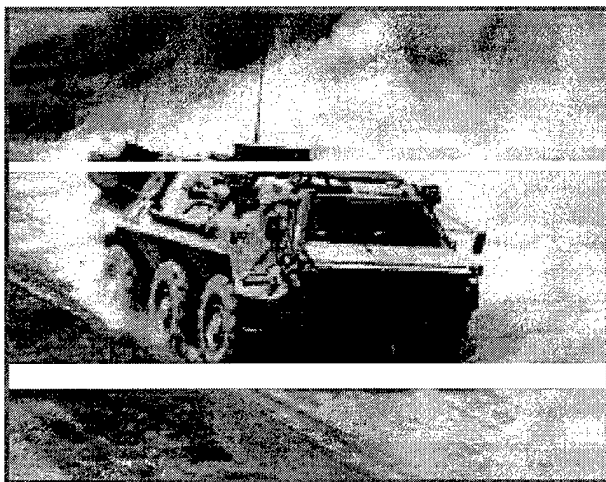
Second, a series of seven small-scale demolition tests were completed at Dugway Proving Grounds in Utah to better understand how rockets in the Khamisiyah pit area exploded, how much agent was in each rocket and how chemical agent may have been released into the atmosphere. Dugway testing clarified a lot of information about source terms — agent purity, agent per rocket, and how much agent aerosolized. That  
*(continued on p.2)*

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## Fox NBC vehicle paper details capabilities, Desert Storm role

WASHINGTON, July 29, 1997 (GulfLINK) — The Office of the Special Assistant for Gulf War Illnesses (OSAGWI) has just released an information paper outlining the capabilities of the Fox NBC Reconnaissance Vehicle, used during the Gulf War to detect Iraqi use of chemical warfare agents.

This information paper describes how the Fox uses a two-step process in the detection and identification of the presence of chemical agents. First, the vehicle uses a very sensitive



An XM93 Fox Reconnaissance Vehicle on the move

process that instantly detects chemical agents, along with many harmless substances. This quick alert allows time for troops to don protective gear and take additional, more precise readings.

The Fox then uses a mass spectrometer which takes several minutes to thoroughly analyze and identify the substance detected, to determine more specifically whether it is a chemical warfare agent or a harmless substance. This two-step process is used because the mass spectrometer takes several minutes to identify a specific chemical — time in which

troops in the area could be exposed if they did not have the early alert that chemical agents might be present.

There are two problems that have arisen in attempting to reconstruct incidents in which chemicals were detected by Fox vehicles during the Gulf War. Troops performing offensive operations, such as the Marine breaching operations, needed to move

quickly to reduce the risk of loss of troops and equipment from enemy fire. This meant that Fox vehicle operators were prohibited from stopping and

performing the second step of detailed chemical analysis, which takes 10 to 15 minutes.

The second problem is that there were no requirements to print out permanent records of these chemical analyses, or even to maintain these records. Without the actual print-outs of the chemical analyses, reconstruction of the potential chemical incidents is much more difficult.

The 20-page paper on Fox vehicles is now available on GulfLINK (<http://www.gulfink.osd.mil>) under "Current News."

(Khamisiyah modeling- from Page 1) information was applied to the models.

Third, selected officers from units that were in the vicinity of Khamisiyah met. The meetings, held at the U.S. Armed Services Center for Research of Unit Records, at Fort Belvoir, Virginia, enabled DoD to better identify the location of U.S. military units on the day Iraqi chemical weapons were destroyed in the pit area as well as the weeks preceding and following.

On July 24, letters were mailed to units identified as being near Khamisiyah, Iraq in early March 1991. The letters informed soldiers whether their unit was, or was not, in an area where they may have been exposed to a very low level of nerve agents. The letters also encouraged those veterans who have health concerns to enroll in the DoD Comprehensive Clinical Evaluation Program (CCEP) at 1-800-796-9699 or the Department of Veterans Affairs Persian Gulf Registry at 1-800-749-8387.

Rostker stressed that the investigation of Khamisiyah or other Gulf War activities did not end with the latest announcement.

"We have several investigations ongoing and welcome any information people have which will contribute to our efforts," he said. "Much of what we know about incidents like Khamisiyah is directly related to information we've received from Gulf veterans."

Rostker urged Gulf War veterans with information to contact the DoD Incident Reporting Line toll-free at 1-800-472-6719 or DSN 878-3261.

### We're looking for a few good photos!

Send your Gulf War photos and proposed captions for publication in GulfNEWS. We'll credit your work and return your photos. — Editor

As I look back on the past two months, I can see that we are continuing to make significant progress in our efforts to help Gulf War veterans with their many concerns.

Our biggest effort has been the release of our year-long Khamisiyah plume analysis. A joint project with the CIA, this study utilized state of the art computer models to determine how many Gulf War veterans might have been exposed to low levels of chemical agents as a result of the Khamisiyah "pit" detonations.

Based on new data, computer models, and interviews with troops involved in the demolitions, we now believe 98,910 service members were in an area generally south of Khamisiyah and were possibly exposed to a very low level of nerve agent vaporized during the weapons' destruction. Little is known about delayed effects from a brief, low-level exposure to nerve agents such as might have occurred in this case. However, current medical evidence indicates that long term health problems are unlikely. We are continuing our research on this issue.

Our information paper on the XM93 Fox NBC Reconnaissance Vehicle explains the strengths and weaknesses of this mobile detection laboratory, with its MM-1 mass spectrometer. The M43A1 chemical vapor detector which was added, expanded capabilities to the Fox. As a result of our study, planned improvements to this vehicle include the installation of a Global Positioning System (GPS) and an M21 stand-off chemical protector.

We also released our report covering the U.S. Marine breaching operations of February 24, 1991. Our



extensive investigation of the two breaching events in southern Kuwait by the 1st and 2nd Marine Divisions concluded that chemical agent presence was unlikely in both cases.

The Scud piece narrative we have just released centers on a souvenir fragment from the Gulf War, reported to cause blisters when it was touched. Analysis by two different laboratories failed to find any evidence of chemical agents, although the piece provided was metallurgically consistent with a Scud missile.

Our Al Jubayl narrative released at the same time, deals with separate incidents including Scud missile over-flights and subsequent destruction, reported missile explosions that turned out to be sonic booms, a recovered Scud missile in the harbor, and military T-shirts reported to have turned purple, because of exposure to chemical agents. After intensive investigation, we found no evidence of any chemical warfare agent exposures or exposure to chemical by-products from the local industrial area operations.

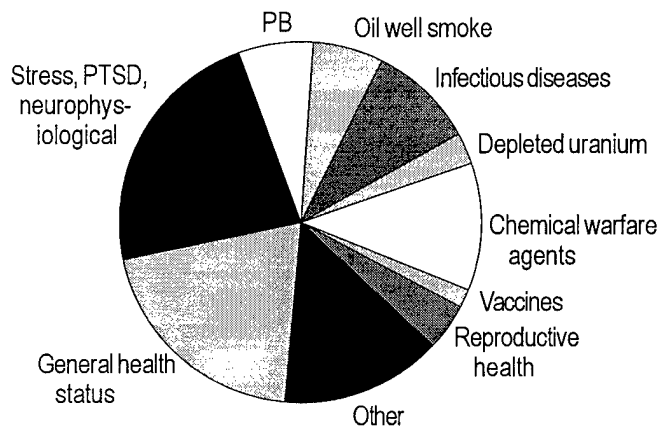
Next is a rescheduled meeting with some of our coalition partners from the Gulf War. This and other events should allow us to reduce the uncertainties we face and help provide answers as we continue our investigations of Gulf War illnesses.

*From the desk of  
Bernard D. Rostker  
Special Assistant for  
Gulf War Illnesses*



## What medical research is underway?

Federally funded research  
Gulf War veterans' illnesses



141 ongoing, completed, or projected research projects funded by the Departments of Defense, Veterans Affairs or Health and Human Services.

Medical studies looking at  
many possibilities



DoD committed \$27 million for Gulf War-related research FY '97



Persian Gulf Veterans' Coordinating Board and VA oversee research plan



Civilian expert panels providing oversight:

- Presidential Advisory Committee
- Institute of Medicine
- Defense Science Board
- National Institutes of Health

## Resources for veterans

Your ticket to the information highway — visit our GulfLINK web site at:  
<http://www.gulflink.osd.mil>

Gulf War veterans seeking information on VA benefits of all types should call the Gulf War Information Hotline at:  
1-800-749-8387

Anyone with information on Gulf War incidents should call the DoD Incident Reporting Line at:  
1-800-472-6719

Are you a Gulf War veteran (or know one) with health problems? Call the DoD Gulf War Veterans Hotline at:  
1-800-796-9699

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*A hospital corpsman checks a Marine's blood pressure in a field hospital during Operation Desert Storm.*

### Other web sites which may be of interest include:

DefenseLINK - Department of Defense (DoD).....	( <a href="http://www.dtic.mil/defenselink/">http://www.dtic.mil/defenselink/</a> )
American Forces Information Service - (DoD).....	( <a href="http://www.dtic.mil/defenselink/afis/">http://www.dtic.mil/defenselink/afis/</a> )
Defense Technical Information Center - (DoD).....	( <a href="http://www.dtic.mil/">http://www.dtic.mil/</a> )
U.S. Army.....	( <a href="http://www.army.mil">http://www.army.mil</a> )
U.S. Navy.....	( <a href="http://www.navy.mil">http://www.navy.mil</a> )
U.S. Marine Corps.....	( <a href="http://www.hqmc.usmc.mil">http://www.hqmc.usmc.mil</a> )
U.S. Air Force.....	( <a href="http://www.af.mil">http://www.af.mil</a> )
U.S. Coast Guard.....	( <a href="http://www.dot.gov/dotinfo/uscg">http://www.dot.gov/dotinfo/uscg</a> )
DoD Health Affairs.....	( <a href="http://www.ha.osd.mil/">http://www.ha.osd.mil/</a> )
Center of Military History - (DoD).....	( <a href="http://imabbs.army.mil/cmh-pg/">http://imabbs.army.mil/cmh-pg/</a> )
The Intelligence Community.....	( <a href="http://www.odci.gov/ic/">http://www.odci.gov/ic/</a> )
Central Intelligence Agency.....	( <a href="http://www.odci.gov/cia/">http://www.odci.gov/cia/</a> )
Government Accounting Office (GAO).....	( <a href="http://www.gao.gov">http://www.gao.gov</a> )
The Department of Veterans Affairs (DVA).....	( <a href="http://www.va.gov">http://www.va.gov</a> )
Persian Gulf Veteran's Illnesses.....	( <a href="http://www.va.gov/health/envIRON/persgulf.htm">http://www.va.gov/health/envIRON/persgulf.htm</a> )
The Presidential Advisory Commission on Gulf War Illnesses.....	( <a href="http://www.gwvi.gov/">http://www.gwvi.gov/</a> )
The White House.....	( <a href="http://www.whitehouse.gov/WH/Welcome.html">http://www.whitehouse.gov/WH/Welcome.html</a> )
The U.S. Senate.....	( <a href="http://www.senate.gov">http://www.senate.gov</a> )
The U.S. House of Representatives.....	( <a href="http://www.house.gov">http://www.house.gov</a> )
Library of Congress.....	( <a href="http://www.loc.gov">http://www.loc.gov</a> )