PERSIAN GULF VETERANS' ILLNESSES

HEARINGS

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS

OF THE

COMMITTEE ON GOVERNMENT
REFORM AND OVERSIGHT
HOUSE OF REPRESENTATIVES

ONE HUNDRED FOURTH CONGRESS

SECOND SESSION

DECEMBER 10 AND 11, 1996

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PERSIAN GULF VETERANS' ILLNESSES

TUESDAY, DECEMBER 10, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 1:05 p.m., in room 2154, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays, Morella, Sanders, and Fattah.

Also present: Representative Buyer.

Staff present: Lawrence J. Halloran, staff director and counsel; Robert Newman, professional staff member; Thomas Costa, clerk; and Cheryl Phelps, minority professional staff.

Mr. SHAYS. I would like to call this hearing of the Subcommittee on Human Resources, of the Committee on Government Reform and Oversight, to order.

Alarms have been sounding for almost 6 years. Only now are they being heard. From the start of Operation Desert Shield, when Iraqi munitions and chemical weapons production facilities were bombed, and throughout the troop movements in Operation Desert Storm, coalition forces heard thousands of chemical weapons alarms.

On numerous occasions technicians, trained to operate sophisticated detection equipment, confirmed the presence of nerve and blister agents near United States troop positions in Iraq, Kuwait, and Saudi Arabia. Individual soldiers reported SCUD attacks followed by toxic mists and powdery fallout. They reported dead animals in the desert, and a notable lack of insects or other carrion scavengers on the carcasses.

After the fighting stopped, United States forces detonated Iraqi chemical munitions stored in bunkers at Khamisiyah.

To this day, many Gulf war veterans report the symptoms—memory loss, fatigue, muscle and joint pain—that can characterize a neurologic exposure.

Routinely, all these reports have been dismissed, discounted, discredited, or denied. Some were dismissed as false positive readings. Others were discounted as detections below life-threatening levels. Still others were discredited as attributable only to operator error.

Based on those denials, commanders sounded the "all clear" for U.S. troops to proceed, unprotected, against an invisible enemy.

Now we know the "all clear" came too soon. Last March when we began these hearings, the Pentagon's position on chemical and bio-

logical weapons in the Persian Gulf war consisted of three noes: no credible detections; no exposures; and therefore, no provable health consequences among Gulf war veterans.

These denials were echoed by the Department of Veterans Affairs and reflected in their research and treatment priorities.

Today, two of the three pillars of denial have crumbled under the weight of reluctantly disclosed facts. There were credible, verified detections of chemical nerve and blister agents. The President's Advisory Committee on Persian Gulf Veterans' Illnesses concluded detections of chemical nerve agents by Czech technicians in January 1991, were credible. The Department of Defense investigative team is examining records from 20 other detections previously dismissed or discounted. Seven of these detections were acknowledged just last week.

As a result, the number of U.S. Gulf war veterans presumed to have been exposed to some level of chemical warfare agents has climbed from zero to 400 to 1,100 to 5,000 to 15,000 to more than 20,000. In the weeks and months ahead, that number of credible exposures may go much higher.

This is our fifth hearing on Gulf war veterans' illnesses. Our purpose in all these hearings is to ensure that Gulf war veterans are properly diagnosed, effectively treated, and fairly compensated.

Since 1991, one of their health concerns has been the role of low-level exposures to a variety of toxins, including chemical nerve agents, in causing permanent neurological damage and chronic, often debilitating, symptoms.

Our purpose today and tomorrow is to ask how evidence of chemical nerve agent detections, including the firsthand accounts of Gulf war veterans, is gathered, confirmed, and disseminated.

Even now, more than 5 years after the war, chemical detection information is a critical piece of medical intelligence for a sick veteran trying to establish a service-connected disability claim or trying to provide his or her doctor with a complete toxic exposure history.

Sadly, that information has not been forthcoming. Our witnesses today will describe how evidence of toxic chemical detection in the Gulf war has been lost, destroyed, misrepresented, perhaps even suppressed, in an effort to support the premature, now insupportable conclusion that coalition forces encountered no chemical warfare agents.

For want of that information, vital research into the effects of low-level chemical exposures has been tragically delayed, and many Gulf war veterans have gotten sicker. Some have died. Only when all this information is available will veterans, their families, and their physicians be able to determine the true role of toxic chemicals in causing the variety of illnesses now called the "Gulf war syndrome." Only then can we sound the "All Clear."

This committee welcomes our witnesses today. We look forward to their testimony.

I would like to recognize Mr. Sanders, the active ranking member.

[The information referred to follows:]

Attachment 1

ONE HUNDRED FOURTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT
2157 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515–6143

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October 3, 1996

The Honorable Jesse Brown
Secretary
Department of Veterans Affairs
810 Vermont Avenue, N.W.
Washington, D.C. 20420

Dear Mr. Secretary:

The Subcommittee is deeply concerned that Department of Veterans Affairs (VA) diagnosis, treatment, research and compensation policies with regard to Persian Gulf War veterans continue to rely on discredited conclusions by the Department of Defense (DOD) concerning exposure of U.S. troops to chemical weapons and other toxins.

At our September 19, 1996 hearing on Gulf War Veterans' Illnesses, Dr. Frances Murphy, Director of the VA Environmental Health Service, conceded in testimony that the VA research agenda through 1995 placed a low priority on low-level chemical warfare agent exposure "because military and intelligence sources had stated that U.S. troops had not been exposed to chemical agents." We fear more than VA research has been distorted by reliance on premature, erroneous and misleading conclusions by DOD about the presence and effects of chemical weapons in the Gulf War theater.

As part of our continuing oversight of VA activities to address the serious illnesses suffered by Gulf War veterans, the Subcommittee requests your prompt response to the following inquiries:

1. Why did the VA diagnostic screening protocol for Gulf War veterans fail to identify even one veteran exposed to chemical weapons agent(s) or other toxins?

The DOD now estimates more than 15,000 troops were in the path of the toxic plume generated by the detonation of Iraqi chemical weapons in the pit area at Khamisiyah. We can only expect that number to increase. From an initial estimate of 400, Pentagon estimates of U.S. troops probably exposed to toxic nerve or blister agents have steadily increased, first to 1,100, then 5,000, now 15,000. A recent news report indicates the number could be as high as 130,000.

VA adherence to the DOD "no exposures" doctrine, often in the face of compelling clinical evidence to the contrary, could be viewed as Department-wide medical malpractice. Many of those exposed have been examined by the Gulf War Health Registry program. Others have sought treatment at VA facilities. How is it that VA doctors appear to have misdiagnosed all of them?

2. Please identify each specific element of the VA diagnostic screening protocol for Gulf War veterans designed to capture evidence of chemical exposure.

Recently, both Dr. Kenneth Kizer, Under Secretary for Health Affairs, and Dr. Murphy testified the "VA has always remained open to the possibility that [Persian Gulf War] PGW veterans were potentially exposed to a wide variety of hazardous agents while serving in the Southwest Asia theater of operations, including chemical warfare agents." Yet veterans consistently tell the Subcommittee that VA officials ignore or discount their recollections of battlefield exposures.

As a result, the variable range of veterans' illnesses, characterized by rashes, headaches, muscle and joint pain, gastrointestinal dysfunction and impaired cognition, are diagnosed as Post Traumatic Stress Disorder (PTSD), somatoform disorder or other psychological conditions. Could these same symptoms be associated with exposure to low levels of toxic agents?

Has the VA ignored logical, even obvious, theories of toxicological causation for Gulf War veterans illnesses for five years simply because DOD had already concluded, erroneously, that U.S. troops had not been exposed?

3. What immediate changes will VA make to diagnosis, treatment and compensation policies in light of recent disclosures by DOD regarding exposure of U.S. troops to chemical agents?

In testimony before a joint hearing of the Senate Select Intelligence and the Senate Veterans Affairs Committees, Dr. Kizer said, "The diagnosis of conditions related to nerve toxins, whether they be chemical warfare agents, pesticides or hazardous

industrial chemicals, is based on two things: first, known or **presumed** [emphasis added] exposure to the chemical agent, and second, symptoms or physical signs consistent with the known biological effects of the chemical. Absent definite exposure data and/or typical symptoms and signs, it is essentially impossible to make a definitive diagnosis of chemical-related neurotoxicity."

Do you believe you now have "definitive exposure data?" Prior to the recent revelations, the VA neither acknowledged nor presumed exposures in diagnosis, treatment or compensation of Gulf War veterans. Now that exposures may, indeed must, be presumed, will VA policies change? In what way?

4. On what data does the VA rely to conclude that low-level chemical exposures cause no chronic health effects in the absence of chronic symptoms at the time of exposure?

Both DOD and VA continue to insist that low-level exposures cause no long-term, chronic health effects unless acute symptoms appeared at the time of exposure. However, given the status of research in this area, that conclusion seems premature. Dr. Kizer told the joint Senate hearing "the research in this area is sparse and in VA's judgment it should not be construed to mean that clinically important adverse health effects cannot or definitely do not occur in the setting of low-level neurotoxin exposures." Shouldn't sick veterans be given the benefit of any doubts in this regard?

While VA research in this area is underway, what role will VA health screening and health care play in gathering data to support, rather than disprove, the hypothesis that low-level exposures can cause chronic health effects, even in the absence of evidence of acute symptoms at the time of exposure? The Subcommittee has been troubled by the VA's selective, even disingenuous, use of Gulf War Health Registry information to support epidemiological hypotheses favorable to the "no exposure" conclusion, while the VA aggressively disputes any contrary implications drawn from Registry data due to the self-selected nature of the cohort.

5. Why does the VA assume there were no acute symptoms of chemical exposure?

What does the VA consider an "acute" symptom? What evidence does VA require to support a veteran's claim that acute symptoms were the direct result of an exposure? Does the VA believe only incapacitating symptoms are acute?

Sick veterans consistently reported flu-like symptoms, rashes, headaches and other maladies during their service in the Gulf. Others simply went about their duties as

best they could, and did not report the ill-effects variably attributed to pills, vaccines, pesticides, engine fumes, rocket fuel, oil fires, indigenous infectious agents ... and chemical warfare agents.

Even when illnesses were reported, DOD medical records are not complete. Some were "lost" or destroyed. Unit chemical detection logs are also missing. DOD troop locator data is unreliable. Given this lack of consistent or reliable DOD information on chemical exposures and their effects, as opposed to consistent and persistent reports of illnesses by veterans, why does the VA choose to listen to DOD rather than the veterans? How can the VA conclude that Gulf War exposures caused no immediate health effects?

At our most recent hearing, medical witnesses discussed the possibility that pyridostigmine bromide (PB) could mute or mask the onset of acute symptoms resulting from chemical exposure. Could this account for any lack of acute symptoms noted by DOD?

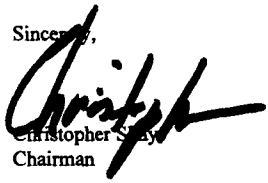
Finally, I am personally skeptical of the Pentagon's call for another review of its handling of this matter by the Institute of Medicine (IOM) and the National Academy of Sciences (NAS). Those are both prestigious institutions, but the IOM has already made detailed recommendations about the quality and quantity of government research into Gulf War illnesses. Another review of the current investigation could involve the IOM in a critique of their own earlier work. If only to avoid the perception that DOD is seeking a friendly forum for its *a priori* conclusions, shouldn't another review of these issues be truly independent of all that went before?

Moreover, many of the disease conditions of which Gulf War veterans often complain - chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity - are poorly understood and only recently characterized by standardized diagnostic criteria. Shouldn't an independent review of the issues surrounding Gulf War veterans' illnesses be broad enough to include researchers and practitioners involved in the study and treatment of these disease states?

These inquiries are made pursuant to the Subcommittee's oversight authority under House Rule X, clause 2(b) and clause 4(c). Please provide a written response, accompanied by any source documents referenced in your reply, as soon as possible but in no event later than 5p.m., Monday, October 14, 1996. Should you anticipate difficulty providing a complete response by that date, please so advise Mr. Lawrence Halloran, Subcommittee Staff Director and Counsel, by phone and in writing no later than October 9. Please indicate at that time the nature of the problem and that exact date when your response will be provided. Absent that communication, we expect receipt of a complete response on October 14.

Please feel free to provide responsive material as it becomes available, rather than waiting for all of it to be collected and forwarded at one time. Also, please note this request for information is continuing in nature, so that if additional events, information or materials responsive to our specific requests occurs or develops after your initial response, you are requested to provide that information to the Subcommittee in a timely manner.

Sincerely,



Christopher Shays
Chairman

cc: Rep. William F. Clinger, Jr.
Rep. Edolphus Towns
Rep. Bob Stump

Attachment 2

THE SECRETARY OF VETERANS AFFAIRS
WASHINGTON

NOV 1 1996

The Honorable Christopher Shays
Chairman, Subcommittee on Human Resources
and Intergovernmental Relations
Committee on Government Reform and Oversight
U.S. House of Representatives
Washington, DC 20515-6143

Dear Mr. Chairman:

Enclosed are the Department's responses to post-hearing questions you posed in connection with the September 19, 1996, hearing on issues related to Persian Gulf veterans.

We regret the delay in getting these questions answered and appreciate the opportunity to submit this information for the record.

Sincerely yours,

Jesse Brown

Enclosure
JB/rlh

cc: Hon. William F. Clinger, Jr.
Hon. Edolphus Towns
Hon. Bob Stump
Hon. G.V. (Sonny) Montgomery

Putting Veterans First

POST-HEARING QUESTIONS
CONCERNING THE SEPTEMBER 19, 1996
HEARING ON ISSUES RELATED TO
PERSIAN GULF WAR VETERANS

FOR THE DEPARTMENT OF VETERANS AFFAIRS

FROM THE HONORABLE CHRISTOPHER SHAYS
CHAIRMAN, SUBCOMMITTEE ON HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS
HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

Question 1: Why did the VA diagnostic screening protocol for Gulf War veterans fail to identify even one veteran exposed to chemical weapons agent(s) or other toxins?

The DoD now estimates more than 15,000 troops were in the path of the toxic plume generated by the detonation of Iraqi chemical weapons in the pit area at Khamisiyah. We can only expect that number to increase. From an initial estimate of 400, Pentagon estimates of U.S. troops probably exposed to toxic nerve or blister agents have steadily increased, first to 1,100, then 5,000, now 15,000. A recent news report indicates the number could be as high as 130,000.

VA adherence to the DoD "no exposures" doctrine, often in the face of compelling clinical evidence to the contrary, could be viewed as Department-wide medical malpractice. Many of those exposed have been examined by the Gulf War Health Registry program. Others have sought treatment at VA facilities. How is it that VA doctors appear to have misdiagnosed all of them?

Answer: The question assumes that there is some diagnostic test to detect temporally remote neurotoxic exposure. Unfortunately, there is no such test. The challenge we face with neurotoxic chemical warfare agents is that there is no pathognomonic set of signs or symptoms, diagnostic test or biomarker for chronic toxicity. Likewise, there is no specific treatment for any chronic effects from these exposures once they occur in an individual. Causal inference in most cases is not scientifically possible, unless exposure has been quantified by specific measurement and accurately documented. There are many similar examples where medical science cannot link a specific outcome to a specific toxic exposure in an individual patient. Conversely, similar clinical effects can be the end result of a variety of different toxic or nontoxic causes.

Inability to assign a definitive cause for an individual veteran's diagnosis hardly equates to misdiagnosis. VA's Registry physicians are aware of the environmental exposures and toxins relevant to Persian Gulf War service and have been instructed to ask questions in the veteran's medical history concerning this wide range of exposures. These exposures include, but are not

limited to: chemical warfare agents; smoke from oil well fires, tent heaters, and burning trash; CARC paint; fuels and solvents; pyridostigmine bromide; vaccinations; and depleted uranium. Many veterans report exposure to one or more of these agents during their Gulf service. In some cases, a diagnosed medical condition has been causally linked to one of the reported exposures, e.g., CARC paint and asthma. However, in many cases medical science is simply unable to determine the cause for individual symptoms or diagnoses. This does not mean such individuals were "misdiagnosed."

We strongly disagree that VA has either adhered to a "no exposures" belief or ignored compelling clinical evidence. Our policy makers, researchers, and clinicians have been open to all possibilities, and we are deeply disappointed that you would intimate that the Department committed medical malpractice. VA has diligently pursued scientifically supportable medical diagnoses in Persian Gulf War veterans. Our care is consistent with medical community standards. There is simply no factual support for your statement that there was "compelling clinical evidence" for chemical warfare agent exposure.

Question 2: Please identify each specific element of the VA diagnostic screening protocol for Gulf War veterans designed to capture evidence of chemical exposure.

Recently, both Dr. Kenneth W. Kizer, Under Secretary for Health and Dr. Frances M. Murphy testified the "VA has always remained open to the possibility that [Persian Gulf War] PGW veterans were potentially exposed to a wide variety of hazardous agents while serving in the Southwest Asia theater of operations, including chemical warfare agents." Yet veterans consistently tell the Subcommittee that VA officials ignore or discount their recollections of battlefield exposures.

As a result, the variable range of veterans' illnesses, characterized by rashes, headaches, muscle and joint pain, gastrointestinal dysfunction and impaired cognition, are diagnosed as Post Traumatic Stress Disorder (PTSD), somatoform disorder or other psychological conditions. Could these same symptoms be associated with exposure to low levels of toxic agents?

Has VA ignored logical, even obvious, theories of toxicological causation for Gulf War veterans illnesses for five years simply because DoD had already concluded, erroneously, that U.S. troops had not been exposed?

Answer: The Registry examination requires a careful medical history including an exposure history. The exposure history asks the veteran to report whether he or she believes that they were exposed to a nerve agent or mustard gas. A complete physical examination is required, which includes mental status and neurologic examinations. The Phase II protocol, a set of clinical guidelines for Persian Gulf veterans with difficult-to-diagnose medical conditions, contains symptom-specific diagnostic guidelines for numbness, muscle complaints, and memory loss which could potentially result from a toxic exposure to chemical warfare nerve agents. A copy of the manual and code sheet are attached (Attachment 1), and the relevant sections are tagged and

highlighted. As outlined in our testimony, the issue of chemical warfare agents is given specific attention and focus in the protocol.

Many of the signs, symptoms, and medical diagnoses of individual Persian Gulf veterans who have undergone VA registry examinations are not conventionally considered to be causally linked to chemical warfare agent exposures. You have stated "Both DoD and VA continue to insist that low-level exposures cause no long-term, chronic health effects unless acute symptoms appeared at the time of exposure." In VA's view, the published literature, while limited, does not demonstrate the development of readily identifiable, long-term adverse health effects due to nerve agent exposures in human subjects who have not shown signs of acute toxicity or poisoning. There are no scientifically endorsed, published studies showing clinically important adverse health effects after low dose exposures. Several prestigious medical advisory groups, including The National Academy of Science's Institute of Medicine and the Armed Forces Epidemiology Board, have also concluded that the available published scientific literature does not contain clear evidence that long-term, chronic adverse health effects result from exposures that do not produce acute clinical signs and symptoms. However, as we stated in our testimony before a joint hearing of the Senate Veterans' Affairs Committee and the Senate Select Intelligence Committee, "[I]n VA's judgment this should not be construed to mean that clinically important adverse health effects cannot or definitely do not occur in the setting of low-level neurotoxin exposures, especially if combined with other components or environmental stressors." Because there are so few studies on this question, we believe that additional research is needed to determine whether exposure to low-levels (non-poisoning, subtoxic) of chemical warfare nerve agents cause long-term health effects, including chronic or delayed onset of a characteristic set of symptoms, signs or medical conditions.

VA is fully committed to pursuing answers to this question. VA will work with DoD on a call for proposals to fund research in this area. VA is also sponsoring an international symposium on low-level chemical warfare and nerve agent exposure to stimulate scientific thinking and benefit from the scientific experts published and unpublished knowledge of the topic.

Question 3. What immediate changes will VA make to diagnosis, treatment and compensation policies in light of recent disclosures by DoD regarding exposure of U. S. troops to chemical agents?

In testimony before a joint hearing of the Senate Select Intelligence and the Senate Veterans' Affairs Committees, Dr. Kizer said, "The diagnosis of conditions related to nerve toxins, whether they be chemical warfare agents, pesticides or hazardous industrial chemicals, is based on two things: first, known or presumed [emphasis added] exposure to the chemical agent, and second, symptoms or physical signs consistent with the known biological effects of the chemical. Absent definite exposure data and/or typical symptoms and signs, it is essentially impossible to make a definitive diagnosis of chemical-related neurotoxicity."

Do you believe you now have "definitive exposure data?" Prior to the recent revelations, the VA neither acknowledged nor presumed exposures in diagnosis, treatment or compensation of Gulf War veterans. Now that exposures may, indeed must, be presumed, will VA policies change? In what way?

Answer: In light of the recent DoD announcements concerning the destruction of the Khamisiyah Ammunition Storage Area in March 1991, we believe there is evidence of release of nerve agents to the atmosphere and exposure of U.S. troops in the vicinity to unknown levels of these agents. No verifiable determination of the amount of nerve agents released or measurements of sarin or cyclosarin concentrations in the air at the time of release is available to us. Therefore, despite use of modeling techniques, the identification of troops exposed and level of the exposure will never be exact or absolute.

VHA has also requested that our advisory groups review the protocols in light of this new information. We have begun a thorough review of the evidence utilizing internal, interagency, and external advisory groups.

We have reviewed our clinical protocols and compensation policies. Based on currently available scientific information and evidence and the fact that we have always accepted the possibility of exposures, no changes in diagnosis, treatment or compensation policies will be undertaken, until the review is completed. As discussed in Response 2, current clinical protocols were designed to identify the sequelae of neurotoxic exposures. In the absence of a definitive diagnostic test and lack of specific treatment, clinical care for Persian Gulf veterans will not immediately change. Treatment, appropriate to symptoms and/or diagnosis, will continue to be provided. We have initiated several continuing medical education activities to ensure that VA health care providers have the latest information regarding chemical warfare agent exposure of Persian Gulf veterans. These activities reinforce appropriate use of the Phase I and II protocols.

While we will continue to assess our compensation policies on an ongoing basis, no immediate changes appear to be indicated. Current VBA policies already allow compensation for conditions which began during or were exacerbated by military service, including exposure to chemical warfare agents resulting in medically recognized disabling sequelae. In addition, VA can compensate Persian Gulf veterans for chronic disabilities resulting from undiagnosed conditions which develop within two years of military service in the Persian Gulf.

Question 4. On what data does VA rely to conclude that low-level chemical exposures cause no chronic health effects in the absence of chronic symptoms at the time of exposure?

Both DoD and VA continue to insist that low-level exposures cause no long-term, chronic health effects unless acute symptoms appeared at the time of exposure. However, given the status of research in this area, that conclusion seems premature. Dr. Kizer told the joint Senate hearing "the research in this area is sparse and in VA's judgment it should not be construed to mean that clinically important adverse health effects cannot or definitely do

not occur in the setting of low-level neurotoxin exposures." Shouldn't sick veterans be given the benefit of any doubts in this regard?

While VA research in this area is underway, what role will VA health screening and health care play in gathering data to support, rather than disprove, the hypothesis that low-level exposures can cause chronic health effects, even in the absence of evidence of acute symptoms at the time of exposure? The Subcommittee has been troubled by the VA's selective, even disingenuous, use of Gulf War Health Registry information to support epidemiological hypotheses favorable to the "no exposure" conclusion, while the VA aggressively disputes any contrary implications drawn from Registry data due to the self-selected nature of the cohort.

Answer: VA's assessment, based on current published scientific literature, is that low-level asymptomatic exposures to chemical warfare nerve agents have not been shown to cause delayed or long-term health effects. However, VA also recognizes that the existing scientific data is incomplete and contains gaps which need to be addressed by further scientific investigations. We have based these conclusions regarding the potential health effects of exposure on our review of the available medical literature on the subject. Several bibliographies of relevant literature are attached (Attachment 2). In addition, VA has given due consideration to the expert opinions of external scientific advisory committees. The Armed Forces Epidemiology Board and the National Academy of Science's Institute of Medicine Committee on the Health Consequences of Persian Gulf War Service have recently released reports which support this conclusion (Attachment 3).

Despite the lack of scientific evidence that long-term adverse health outcomes result from subtoxic exposures to organophosphate nerve agents, VA has provided Registry examinations and ambulatory and inpatient medical care under special medical care eligibility. In 1993, legislation that we supported gave special eligibility for VA health care to any Persian Gulf veteran whose health concerns or problems cannot be attributed to a cause other than an environmental or toxic exposure which occurred during their Gulf War service. Thus, our health care policies resolve benefit of the doubt in favor of the Persian Gulf veteran.

We strongly disagree with your statement that VA has been "disingenuous" in its use of the Persian Gulf Registry data. We would also like to emphasize that the clinical information contained in the Persian Gulf Registry and patient treatment file (PTF) databases has not been used as a method to support a conclusion of "no exposure" on any Persian Gulf health issue. VA has repeatedly stated that all exposures are still under active consideration.

The VA Persian Gulf Registry Health Examination program was established in 1992 as a health surveillance program and a mechanism for Persian Gulf veterans to gain entry to the VA health care system. The Persian Gulf Health Registry and the VA patient treatment file databases are not epidemiologic tools and, therefore, cannot be used to determine that low-level chemical warfare nerve agent exposures *cause* chronic health effects in the absence of acute symptoms at the time of exposure, as you suggest in your letter. However, these clinical databases can be utilized as a health surveillance and hypothesis-generating tool for future research studies. To date, VA has not found evidence from the Registry to support a hypothesis that neurotoxic exposures are

responsible for the illnesses of the majority of Persian Gulf veterans. If there were a neurotoxic exposure that could cause serious neurologic disease in a high proportion of Persian Gulf veterans, it would probably have been identified in the 60,000 Registry exams completed to date. However, if the illness was mild or affected a very small number of veterans, it may not be recognized in the larger clinical case series. This negative data did not change VA's resolve to continue to look for evidence to support the hypothesis that Persian Gulf veterans' illnesses could be caused by low level chemical warfare exposure but did cause that particular hypothesis to be given a lower priority by both the internal and external scientific reviewers prior to DoD's June 1996 announcement. In contrast, if a high frequency of certain peripheral or central nervous system conditions had been identified which suggested the possibility that neurotoxic exposures occurred, research is this area would have been aggressively pursued at an earlier date. These conclusions were supported by numerous internal and external scientists who have reviewed the information contained in this database.

Our use of the Registry and other clinical databases has been appropriate and scientifically accurate. In the past, VA has resisted inappropriate use or interpretation of this clinical data. VA will continue to utilize these databases in a scientifically sound manner.

Question 5: Why does VA assume there were no acute symptoms of chemical warfare exposure?

What does VA consider an "acute" symptom? What evidence does VA require to support a veteran's claim that acute symptoms were the direct result of an exposure? Does VA believe only incapacitating symptoms are acute?

Sick veterans consistently reported flu-like symptoms, rashes, headaches and other maladies during their service in the Gulf. Others simply went about their duties as best they could, and did not report the ill-effects variably attributed to pills, vaccines, pesticides, engine fumes, rocket fuel, oil fires, indigenous infectious agents ... and chemical warfare agents.

Even when illnesses were reported, DOD medical records are not complete. Some were "lost" or destroyed. Unit chemical detection logs are also missing. DoD troop locator data is unreliable. Given this lack of consistent or reliable DoD information on chemical exposures and their effects, as opposed to consistent and persistent reports of illnesses by veterans, why does VA choose to listen to DoD rather than the veterans? How can VA conclude that Gulf War exposures caused no immediate health effects?

At our most recent hearing, medical witnesses discussed the possibility that pyridostigmine bromide (PB) could mute or mask the onset of acute symptoms resulting from chemical exposure. Could this account for any lack of acute symptoms noted by DoD?

Finally, I am personally skeptical of the Pentagon's call for another review of its handling of this matter by the Institute of Medicine (IOM) and the National Academy of Sciences

(NAS). Those are both prestigious institutions, but the IOM has already made detailed recommendations about the quality and quantity of government research into Gulf War illnesses. Another review of the current investigation could involve the IOM in a critique of their own earlier work. If only to avoid the perception that DoD is seeking a friendly forum for its *a priori* conclusions, shouldn't another review of these issues be truly independent of all that went before?

Moreover, many of the disease conditions of which Gulf War veterans often complain - chronic fatigue syndrome, fibromyalgia, multiple chemical sensitivity- are poorly understood and only recently characterized by standardized diagnostic criteria. Shouldn't an independent review of the issues surrounding Gulf War veteran's illnesses be broad enough to include researchers and practitioners involved in the study and treatment of these disease states?

Answer: In medical terminology, acute symptoms are not synonymous with incapacitating symptoms. Acute in this context is defined as occurring "immediately" or "in a short period of time" after exposure to the chemical warfare nerve agents.

Exposures to high concentrations of organophosphate nerve agents, such as sarin or cyclosarin, cause loss of muscle control, generalized twitching, paralysis, unconsciousness, convulsions, and coma or even death. The most common cause of death is acute respiratory failure due to diaphragmatic paresis/paralysis. Exposure to moderate or even small amounts of these agents may result in sudden onset of impaired vision, drooling, coryza, severe flu-like symptoms, chest discomfort, and hyperhidrosis. These symptoms would have occurred either immediately or a short time after exposure. Since both pyridostigmine bromide (PB) and organophosphate nerve agents increase the amount of synaptic acetylcholine of cholinergic nerves, even if PB pretreatment had been used, one would not expect PB to blunt these acute symptoms. Troops located in the same geographic area would be expected to experience and report this characteristic constellation of symptoms simultaneously. Such outcomes were very evident after the unexpected terrorist attacks in Matsumoto and Tokyo, Japan, in 1994 and 1995, respectively. The release of sarin during these incidents resulted in large numbers of emergency room visits and hospital admissions. Neither DoD nor veterans responding to their telephone survey have reported that this occurred at Khamisiyah. Furthermore, DoD reports that no such characteristic set of signs or symptoms were reported or identified by specially-trained military physicians in the vicinity of Khamisiyah. A characteristic pattern of toxicity was not identified on DoD's review of the medical information for units in the vicinity of Khamisiyah. Veterans likewise have not reported to VA that they noted sudden onset of this symptom complex in their units near Khamisiyah in Southern Iraq during early March 1991.

In order to confirm DoD's conclusions regarding the health of troops in the vicinity of Khamisiyah in early March 1991, VA has asked to review the data upon which their conclusions were based. The data would include data from medical logs, surveys, and questionnaires. We would also welcome the review and opinions of other external scientific advisory committees on these matters.

Finally, you asked whether VA supported an independent review of these issues. VA feels that the reviews of the National Academy of Sciences Institute of Medicine, the VA Persian Gulf Expert Scientific Advisory Committees and the Presidential Advisory Committee will provide such independent, objective reviews. You also ask whether these reviews shouldn't be broad enough to include researchers and practitioners from the multiple chemical sensitivity, chronic fatigue syndrome and fibromyalgia community. I can assure you that these groups have been represented on the previous and current external, independent advisory committees, and we would welcome continuing input from credible experts in these areas. We look forward to the recommendations of these advisory groups on this important issue.

Attachment 1

Department of Veterans Affairs

PERSIAN GULF REGISTRY CODE SHEET

TT # 1 — 1. Use PTF Number Only — FACILITY NO. (2) (3) (4) — SUFFIX (5) (6) (7)

PART 1 (Phase I)

The information the veteran supplies may be disclosed outside the VA to Federal, State and local government agencies and National Health Organizations to assist in the development of programs for research purposes and other uses as stated in the "Notice of Systems of VA Records" published in the Federal Register in accordance with the Privacy Act of 1974

INSTRUCTIONS: Please print. Use only one letter or number per block. If possible use black ballpoint or felt-tip pen. Shaded areas for VA use only. (DO NOT USE BLUE INK)

2. LAST NAME (8-33)

3. FIRST NAME (34-45) | 4. MIDDLE NAME (46-56) | 5. TYPE SER.

6. SOCIAL SECURITY NUMBER (60-69) (60) | 7. D.O.B. (Complete all blanks) MO (70-71) DAY (72-73) YR (74-75)

8. ADDRESS (Street Name and Apartment Number, if applicable) 76-101

8A. CITY OR TOWN (102-127)

8B. COUNTY | STATE | 8C. ZIP CODE (128-132) | 8D. LEAVE BLANK (133) (134) (135) (136) | 8E. COUNTY (137-139) | STATE (140-141)

9. RACE/ETHNICITY (Enter one code at right) — 142
1=American Indian or Alaskan Native 2=Asian or Pacific Islander 3=Black, Not of Hispanic Origin 4=White, Not of Hispanic Origin 5=Hispanic 6=Unknown

10. MARITAL STATUS (Enter one code at right) — 143
1=Married 2=Divorced 3=Separated 4=Widowed 5=Single, Never Married

11. SEX (Enter one code at right) M=Male F=Female — 144

12. CURRENT STATUS (Enter one code at right) — 145
1 = Inpatient 2 = Incarcerated 3 = Outpatient 4 = Active Duty (Outpatient) 5=Active Duty Inpatient

13. BRANCH OF SERVICE (If more than one, enter latest Persian Gulf Service) — 146
1=Army 2=Navy 3=Air Force 4=Marine Corps 5=Coast Guard 6=Other

14. DID VETERAN HAVE MILITARY SERVICE IN PERSIAN GULF AREA? — 147
Y=Yes (If "Yes", list below the dates of veteran's last two periods of service there) N=No (If "No", Persian Gulf Veterans not eligible for PGR exam.

	FROM	MO (149-149)	YR (150-151)	TO	MO (152-153)	YR (154-155)
A. LAST PERIOD						
B. NEXT TO LAST PERIOD						

	FROM	MO (156-157)	YR (158-159)	TO	MO (160-161)	YR (162-163)
A. LAST PERIOD						
B. NEXT TO LAST PERIOD						

15A. IN WHAT AREAS DID VETERAN SERVE? (Enter appropriate code in block 164) — 164
1 = Combat Zone
2 = Other Land Area
3 = Sea Duty

15B. IF OTHER SERVICE OR "DON'T KNOW" (Enter appropriate code in block 164) — 165
4 = Other (Specify i.e. Air Force, Ground or Air Crew, etc.)
5 = Don't Know

16. MILITARY UNITS AND MOS

16A. LIST MILITARY UNITS IN WHICH VETERAN SERVED. PLEASE SPECIFY COMPLETE UNABBREVIATED TITLE. (Company, battalion, etc.)

16B. LIST MILITARY OCCUPATIONAL SPECIALTY (MOS)

16C. WERE ACTUAL DUTIES DIFFERENT FROM MOS? ENTER EITHER OF THE FOLLOWING CODES IN BLOCK 166 — 166
Y = Yes N = No

16D. IF YES, LIST HERE AND IN CONSOLIDATED HEALTH RECORD

16E. ENTER THE NAME OF THE UNIT IN WHICH VETERAN HAD THE LONGEST AND NEXT TO LONGEST PERIOD OF SERVICE WHILE IN THE PERSIAN GULF

NOTE: These units could be different from the one to which the veteran was assigned if veteran was on detached duty.

17. ENTER THE DATES OF THE LAST TWO PERIODS OF SERVICE (If different from above)

	FROM	MO (167-168)	YR (169-170)	TO	MO (171-172)	YR (173-174)
A. LAST PERIOD						
B. NEXT TO LAST PERIOD						

	FROM	MO (175-176)	YR (177-178)	TO	MO (179-180)	YR (181-182)
A. LAST PERIOD						
B. NEXT TO LAST PERIOD						

VA FORM JUL 1995 10–9009a(RS)

NAME: _____

SSN: _____

18. VETERANS EXPOSURE TO ENVIRONMENTAL FACTORS (ENTER APPROPRIATE CODES)		
ARE YOU CURRENTLY SMOKING CIGARETTES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 183. IF NO, GO TO ITEM 18D.	Y=YES N=NO	(183)
18B. IF YES HOW MANY YEARS HAVE YOU BEEN SMOKING CIGARETTES? ENTER THE NUMBER OF YEARS IN BLOCK 184 AND 185.		(184) (185)
18C. ON THE AVERAGE HOW MANY PACKS ARE YOU SMOKING PER DAY? ENTER THE NUMBER OF PACKS IN BLOCKS 186 AND 187		(186) (187)
18D. HAVE YOU SMOKED CIGARETTES IN THE PAST? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 188. IF NO, GO TO ITEM 18G.	Y=YES N=NO	(188)
18E. IF YES, HOW MANY YEARS HAD YOU SMOKED? ENTER NUMBER OF YEARS IN BLOCKS 189 AND 190.		(189) (190)
18F. ON THE AVERAGE, HOW MANY PACKS DID YOU SMOKE PER DAY? ENTER THE NUMBER OF PACKS IN BLOCKS 191 AND 192.		(191) (192)
18G-Z1.WHILE IN THE PERSIAN GULF DO YOU BELIEVE YOU WERE EXPOSED TO ANY OF THE FOLLOWING:		
18G. SMOKE FROM OIL FIRES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 193.	Y=YES N=NO U=UNKNOWN	(193)
18H. SMOKE OR FUMES FROM TENT HEATERS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 194.	Y=YES N=NO U=UNKNOWN	(194)
18I. CIGARETTE SMOKE (PASSIVE) FROM OTHERS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 195.	Y=YES N=NO U=UNKNOWN	(195)
18J. DIESEL AND/OR OTHER PETROCHEMICAL FUMES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 196.	Y=YES N=NO U=UNKNOWN	(196)
18K. EXPOSURE TO BURNING TRASH/FECES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 197.	Y=YES N=NO U=UNKNOWN	(197)
18L. SKIN EXPOSURE TO DIESEL OR OTHER PETROCHEMICAL FUEL? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 198.	Y=YES N=NO U=UNKNOWN	(198)
18M. CARC (CHEMICAL AGENT RESISTANT COMPOUND)? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 199.	Y=YES N=NO U=UNKNOWN	(199)
18N. OTHER PAINTS AND/OR SOLVENTS AND/OR PETROCHEMICAL SUBSTANCES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 200.	Y=YES N=NO U=UNKNOWN	(200)
18O. DEPLETED URANIUM? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 201.	Y=YES N=NO U=UNKNOWN	(201)
18P. MICROWAVES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 202.	Y=YES N=NO U=UNKNOWN	(202)
18Q. PERSONAL PESTICIDE USE, INCLUDING CREAMS, SPRAYS OR FLEA COLLARS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 203.	Y=YES N=NO U=UNKNOWN	(203)
18R. NERVE GAS OR OTHER NERVE AGENTS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 204.	Y=YES N=NO U=UNKNOWN	(204)
18S. DRUG (PYRIDOSTIGMINE) USED TO PROTECT AGAINST NERVE AGENTS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 205.	Y=YES N=NO U=UNKNOWN	(205)
18T. MUSTARD GAS OR OTHER AGENTS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 206.	Y=YES N=NO U=UNKNOWN	(206)
18U. ATE OR DRANK FOOD CONTAMINATED WITH SMOKE, OIL OR OTHER CHEMICAL? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 207.	Y=YES N=NO U=UNKNOWN	(207)

NAME: _____

SSN: _____

18V. ATE FOOD OTHER THAN PROVIDE BY ARMED FORCES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 208.	Y=YES N=NO U=UNKNOWN	(208)
18W. BATHED IN OR DRANK WATER CONTAMINATED WITH SMOKE OR OTHER CHEMICAL? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 209.	Y=YES N=NO U=UNKNOWN	(209)
18X. BATHED IN WATER OTHER THAN PROVIDED BY ARMED FORCES? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 210.	Y=YES N=NO U=UNKNOWN	(210)
18Y. IMMUNIZATION AGAINST ANTHRAX? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 211.	Y=YES N=NO U=UNKNOWN	(211)
18Z. IMMUNIZATION AGAINST BOTULISM? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 212.	Y=YES N=NO U=UNKNOWN	(212)

18Z1. OTHER EXPOSURES? ENTER HERE AND IN CHR ONLY.

19. DID VETERAN HAVE ANY OF THE FOLLOWING EXPERIENCES WHILE IN THE PERSIAN GULF? ENTER APPROPRIATE CODE.	
19A. DID YOU EVER GO ON COMBAT PATROLS OR HAVE OTHER VERY DANGEROUS DUTY? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 213. 1=NO 2=1-3X 3=4-12X 4=13-50X 5=51+ TIMES	(213)
19B. WERE YOU EVER UNDER ENEMY FIRE (INCLUDING "SCUDS")? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 214. 1 = NEVER 2 = 1DAY 3 =< 1 WEEK 4 = 1-< 4WEEKS 5 = 4 WEEKS OR MORE	(214)
19C. WHAT PERCENTAGE OF PEOPLE IN YOUR UNIT WERE KILLED (KIA), WOUNDED OR MISSING IN ACTION (MIA), ENTER ONE OF THE FOLLOWING CODES IN BLOCK 215. 1=NONE 2=1-25% 3=26-50% 4=51-75% 5=76% OR MORE	(215)
19D. HOW OFTEN DID YOU SEE SOMEONE HIT BY INCOMING OR OUTGOING ROUNDS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 216. 1=NEVER 2=1-2X 3=3-12X 4=13-50X 5=51 OR MORE TIMES	(216)
19E. HOW OFTEN WERE YOU IN DANGER OF BEING INJURED OR KILLED (I.E. PINNED DOWN, OVERRUN, AMBUSHED, NEAR MISS, ETC.)? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 217. 1=NEVER 2=1-2X 3=3-12X 4=13-50X 5=51 OR MORE TIMES	(217)
19F. DID YOU WITNESS CHEMICAL ALARMS? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 218. Y=YES N=NO U=UNKNOWN	(218)
20. VETERAN'S HEALTH (VETERAN'S EVALUATION)	
20A. WHICH BEST DESCRIBES VETERAN'S HEALTH AFTER PERSION GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 219. 1 = Very Good 2 = Good 3 = Fair 4 = Poor 5 = Very Poor	(219)
21. VETERAN'S FUNCTIONAL IMPAIRMENT	
21A. WHICH BEST DESCRIBES VETERAN'S OWN ASSESSMENT OF FUNCTIONAL IMPAIRMENT? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 220 1=NO IMPAIRMENT 2=SLIGHT IMPAIRMENT 3=MODERATE IMPAIRMENT 4=SEVERE IMPAIRMENT	(220)
21B. HOW MANY WORKDAYS WERE LOST BY VETERAN DUE TO ILLNESS IN THE PAST 90 DAYS? ENTER NUMBER OF DAYS LOST IN BLOCKS 221-222.	(221) (222)
22. EVIDENCE OF BIRTH DEFECTS AND INFANT DEATH(S) AMONG VETERAN'S CHILDREN AND PROBLEMS WITH PREGNANCY AND INFERTILITY.	
22A. HOW MANY CHILDREN DOES VETERAN HAVE? ENTER NUMBER IN BLOCKS 223 AND 224. (I.E. 05). IF NONE, LEAVE BLANK AND GO TO ITEM 22C	(223) (224)

NAME: _____

SSN: _____

22B. HOW MANY OF THESE CHILDREN WERE BORN WITH BIRTH DEFECTS? (BIRTH DEFECTS ARE ANY STRUCTURAL, FUNCTIONAL, OR BIOCHEMICAL ABNORMALITY AT BIRTH WHETHER GENETICALLY DETERMINED OR INDUCED DURING GESTATION THAT IS NOT DUE TO INJURIES SUFFERED DURING BIRTH.) ENTER NUMBER IN BLOCKS 225 AND 226. IF NONE, GO TO ITEM 22C.		(225) (226)
22B1. HOW MANY OF THESE CHILDREN WERE CONCEIVED BEFORE GULF SERVICE? ENTER THE NUMBER OF CHILDREN IN BLOCKS 227 AND 228. IF NONE, LEAVE BLANK AND GO TO ITEM 22B2.		(227) (228)
22B1(a) STATE MATERNAL AGE AT CONCEPTION OF FIRST CHILD CONCEIVED BEFORE GULF SERVICE? ENTER AGE IN BLOCKS 229 AND 230		(229) (230)
22B2. HOW MANY OF THESE CHILDREN WERE CONCEIVED DURING AND AFTER GULF SERVICE? ENTER NUMBER IN BLOCK 231 AND 232. IF NONE, LEAVE BLANK AND GO TO ITEM 22C		(231) (232)
22B2(a) STATE MATERNAL AGE AT CONCEPTION OF FIRST CHILD CONCEIVED DURING AND AFTER GULF SERVICE? ENTER AGE IN BLOCKS 229 AND 230.		(233) (234)
22C. HAS VETERAN OR SPOUSE HAD INFERTILITY PROBLEMS? (INFERTILITY PROBLEMS OF VETERAN OR SPOUSE BECOMING PREGNANT. NOTE: INFERTILITY - RELATIVE STERILITY DEFINED AS INABILITY TO CONCEIVE AFTER 12 OR MORE MONTHS OF INTERCOURSE WITHOUT USE OF CONTRACEPTION AND WHEN NEITHER SPOUSE IS SURGICALLY STERILIZED.) ENTER ONE OF THE FOLLOWING CODES IN BLOCK 235. IF NO, GO TO ITEM 22D.	Y=YES N=NO	(235)
22C1. HAS VETERAN OR SPOUSE HAD INFERTILITY BEFORE GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 236. IF NO, GO TO ITEM 22C2.	Y=YES N=NO	(236)
22C1(a) STATE MATERNAL AGE DURING FIRST ATTEMPTS TO CONCEIVE. ENTER AGE IN BLOCKS 237 AND 238		(237) (238)
22C2. HAS VETERAN OR SPOUSE HAD INFERTILITY AFTER RETURN FROM GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 239 IF NO, GO TO ITEM 22D.	Y=YES N=NO	(239)
22C2(a). STATE MATERNAL AGE DURING FIRST ATTEMPTS TO CONCEIVE. ENTER AGE IN BLOCKS 240 AND 241.		(240) (241)
22D. HAS VETERAN OR SPOUSE HAD MISCARRIAGE(S) (NOTE: MISCARRIAGES ARE SPONTANEOUS EXPLUSION OF THE PRODUCTS OF CONCEPTION BEFORE 20 WEEKS OF GESTATION - SPONTANEOUS ABORTION) ENTER ONE OF THE FOLLOWING CODES IN BLOCK 242. IF NO, GO TO ITEM 22E.	Y=YES N=NO	(242)
22D1. HAS VETERAN OR SPOUSE HAD MISCARRIAGES BEFORE PERSIAN GULF? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 243. IF NO, GO TO ITEM 22D2.	Y=YES N=NO	(243)
22D1(a). STATE MATERNAL AGE AT CONCEPTION. ENTER AGE IN BLOCKS 244 AND 245.		(244) (245)
22D2. HAS VETERAN OR SPOUSE HAD MISCARRIAGES AFTER PERSIAN GULF? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 246 IF NO GO TO ITEM 22E	Y=YES N=NO	(246)
22D2(a). STATE MATERNAL AGE AT CONCEPTION ENTER AGE IN BLOCKS 247 AND 248.		(247) (248)
22E. HAS VETERAN OR SPOUSE HAD STILL BIRTH(S)? (NOTE: STILL BIRTH IS BIRTH AFTER 20 WEEKS OF GESTATION OF AN INFANT WHO SHOWED NO EVIDENCE OF LIFE AFTER BIRTH.) ENTER ONE OF THE FOLLOWING CODES IN BLOCK 249. IF NO, GO TO ITEM 22F.	Y=YES N=NO	(249)
22E1. HAS VETERAN OR SPOUSE HAD STILL BIRTH(S) BEFORE GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 250 IF NO, GO TO ITEM 22E2.	Y=YES N=NO	(250)
22E1(a). STATE MATERNAL AGE AT CONCEPTION. ENTER AGE IN BLOCKS 251 AND 252.		(251) (252)
22E2. HAS VETERAN OR SPOUSE HAD STILL BIRTH(S) AFTER RETURN FROM GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 253. IF NO, GO TO ITEM 22F	Y=YES N=NO	(253)
22E2(a). STATE MATERNAL AGE AT CONCEPTION ENTER AGE IN BLOCKS 254 AND 255		(254) (255)
22F. HAS VETERAN OR SPOUSE HAD INFANT DEATH(S). (NOTE: DEATH THAT OCCURRED WITHIN ONE YEAR OF BIRTH AMONG BABIES BORN ALIVE.) ENTER ONE OF THE FOLLOWING CODES IN BLOCK 256. IF NO, GO TO ITEM 22G.	Y=YES N=NO	(256)
22F1. HAS VETERAN OR SPOUSE HAD INFANT DEATH(S) BEFORE GULF SERVICE? ENTER ONE OF THE FOLLOWING CODES IN BLOCK 257 IF NO, GO TO ITEM 22F2.	Y=YES N=NO	(257)
22F1(a). STATE MATERNAL AGE AT CONCEPTION. ENTER AGE IN BLOCKS 258 AND 259.		(258) (259)
22F2. HAS VETERAN OR SPOUSE HAD INFANT DEATH(S) AFTER GULF SERVICE ENTER ONE OF THE FOLLOWING CODES IN BLOCK 260. IF NO, GO TO ITEM 22G.	Y=YES N=NO	(260)

NAME: _____

SSN: _____

22F2(A) STATE MATERNAL AGE AT CONCEPTION. ENTER AGE IN BLOCKS 261 AND 262. (261 262)

22G IF A WOMAN VETERAN REPORTS SHE WAS PREGNANT IN PERSIAN GULF, RECORD DATE OF CHILD'S BIRTH AND HOSPITAL OF BIRTH HERE AND IN VETERAN'S CHR ONLY TO FACILITATE FOLLOW-UP, IF NEEDED. (AAC WILL NOT ENTER THIS DATA IN PGR DATABASE).

DATE OF BIRTH _____ MONTH / DAY / YEAR

NAME OF HOSPITAL _____

LOCATION _____

PART II TO BE COMPLETED BY EXAMINING PHYSICIAN

23. DATE OF EXAM		
MONTH (263-264)	DAY (265-266)	YEAR (267-270)

24. TOTAL NO. OF VETERAN'S COMPLAINTS. (271-272)

25A/J. LIST UP TO TEN MAJOR, CURRENT SYMPTOMS, ICD 9 CODES, MO. & YR OF ONSET, DURATION IN MOS AND IF SYMPTOM IS CURRENTLY PRESENT ON LINES A-J, ITEMS 1-5. IF VETERAN HAS MORE THAN 10, ENTER THE MOST SEVERE & ADDITIONAL SYMPTOMS IN CHR. *MAS CODERS: USE ITEM 2, BLOCKS 271-320 FOR ICD-9-CM CODES.*

(1) DESCRIBE SYMPTOM NARRATIVE	(2) ICD-9-CODES (273-322)	(3) MO. & YR OF ONSET MONTH YEAR (323-382)	(4) DURATION (MONTHS) (383-402)	(5) CURRENTLY PRESENT? Y=Yes N=NO (403-412)
A	(273-277)	(323-328)	(383-384)	(403)
B	(278-282)	(329-334)	(385-386)	(404)
C	(283-287)	(335-340)	(387 388)	(405)
D	(288-292)	(341-346)	(389-390)	(406)
E	(293-297)	(347-352)	(391-392)	(407)
F	(298-302)	(353-358)	(393-394)	(408)
G	(303-307)	(359-364)	(395-396)	(409)
H	(308-312)	(365-370)	(397 398)	(410)
I	(313-317)	(371-376)	(399-400)	(411)
J	(318-322)	(377 382)	(401-402)	(412)

25K. LIST MOST SEVERE SYMPTOM. (A SYMPTOM FROM ITEM A-J, WHICH VETERAN CONSIDERS THE MOST SEVERE I.E. CHIEF COMPLAINT). ENTER ICD-9-CM CODE IN BLOCKS. (413-417)

26. DIAGNOSTIC CONSULTATION. ENTER THE FOLLOWING CODES IN BLOCKS 418-435.

1=NO WORKUP. NO CONSULTATION DONE. 3=WORKUP/CONSULTATION DONE. DIAGNOSIS ESTABLISHED.

2=WORKUP/CONSULTATION DONE. UNEXPLAINED ILLNESS 4=WORKUP/CONSULTATION DONE. NO DIAGNOSIS.

A. ALLERGY/IMMUNOLOGY. BLOCK 418	(418)
B. AUDIOLOGY. BLOCK 419	(419)
C. CARDIOLOGY. BLOCK 420	(420)
D. DENTISTRY. BLOCK 421	(421)
DERMATOLOGY. BLOCK 422	(422)
F. EAR, NOSE AND THROAT 423	(423)
G. ENDOCRINOLOGY. BLOCK 424	(424)
H. GASTROENTEROLOGY. BLOCK 425	(425)

NAME: _____

SSN: _____

HEMATOLOGY/ONCOLOGY. BLOCK 426	(426)
J. INFECTIOUS DISEASES/PARASITOLOGY. BLOCK 427	(427)
K. NEPHROLOGY. BLOCK 428	(428)
L. NEUROLOGY. BLOCK 429	(429)
M. OCCUPATIONAL MEDICINE. BLOCK 430	(430)
N. PULMONARY. BLOCK 431	(431)
O. PSYCHIATRY. BLOCK 432	(432)
P. PSYCHOLOGY/PSYCHOMETRIC TESTING. BLOCK 433	(433)
Q. RHEUMATOLOGY. BLOCK 434	(434)
R. OTHER, ENTER FOLLOWING CODES IN BLOCK 435 Y=YES N=NO	(435)

S. ADDITIONAL WORKUPS/CONSULTATIONS PERFORMED WHICH WERE NOT LISTED IN ITEMS 26A-Q LIST HERE AND IN CHR.

_____

_____

_____

NAME: _____

SSN: _____

27. DIAGNOSIS: LIST UP TO 10 MAJOR DEFINITE MEDICAL DIAGNOSES ON LINES 27A-J. LIST PRIMARY DIAGNOSIS ON LINE A. BLOCKS 436-485 FOR CORRESPONDENCE ICD-9-CM CODES. LEAVE BLANK IF NO DIAGNOSIS IS MADE. MAS CODERS: USE ICD-9-CM CODES IN FIRST FIVE NUMBERED BLOCKS OF EACH DIAGNOSIS

'A. DESCRIBE DIAGNOSIS (Narrative)	(27B) ICD-9-CM (Codes)				
A. (PRIMARY)	(436)	(437)	(438)	(439)	(440)
B.	(441)	(442)	(443)	(444)	(445)
C.	(446)	(447)	(448)	(449)	(450)
D.	(451)	(452)	(453)	(454)	(455)
E.	(456)	(457)	(458)	(459)	(460)
F.	(461)	(462)	(463)	(464)	(465)
G.	(466)	(467)	(468)	(469)	(470)
H.	(471)	(472)	(473)	(474)	(475)
I.	(476)	(477)	(478)	(479)	(480)
J.	(481)	(482)	(483)	(484)	(485)

NOTE: CODERS: DO NOT REPEAT OR LIST SYMPTOM CODE ALREADY LISTED UNDER ITEM 25A-J.

28. BLOCK 486 IF NO DIAGNOSIS IS MADE, ENTER "1" IN BLOCK AT RIGHT, OTHERWISE, LEAVE BLANK. THIS ITEM MUST BE CONSIDERED IN CONJUNCTION WITH ITEM 27 "DIAGNOSIS." 486

29. DISPOSITION (Enter code Y-Yes or N-No)

29A. EXAMINATION COMPLETED? Y=Yes N=No	487	29B. HOSPITALIZED AT VAMC FOR FURTHER TESTS? Y=Yes N=No	488	29C. HOSPITALIZED AT VAMC FOR TREATMENT? Y=Yes N=No	489
29D. REFERRED FOR OUTPATIENT CARE? Y=Yes N=No	490	29E. REFERRED TO PRIVATE PHYSICIAN, NON-VA CLINIC OR NON-VA HOSPITAL? Y=Yes N=No	491	29F. BIOPSY? Y=Yes N=No	492
30. AFTER COMPLETION OF PHASE I EXAM (REFER TO PAR 6), THE PHYSICIAN HAS DETERMINED THE VETERAN HAS UNEXPLAINED ILLNESS? Y=Yes N=No	493	31. HAS PHASE II EXAM (REFER TO CH. 3) BEEN INITIATED? Y=Yes N=No			494

32. UTILIZE THIS SECTION FOR ADDITIONAL INFORMATION (E.G. PAR 1.07 - M-10, PT III).

33. NAME OF EXAMINER. (PRINT FULL NAME)

TITLE OF EXAMINER. (FULL TITLE OF EXAMINER)

35. SIGNATURE OF EXAMINER.

35A. SIGNATURE OF VRP (VETERANS REGISTRY PHYSICIAN)

NAME: _____

SSN: _____

PART III
PHASE II - UNIFORM CASE ASSESSMENT (UCA)

1. WERE THE FOLLOWING TESTS PERFORMED? Enter the following codes in blocks 1-24. Y = YES N = NO
2. BLOOD TESTS. BLOCKS 1-18; OTHER - BLOCKS 19-24.

A. CBC (COMPLETE BLOOD COUNT)	(1)	B. SED RATE? (SKIN ERETHYMA DOSE)	(2)	C. C-REACTIVE PROTEIN	(3)
D. RHEMATOID FACTOR?	(4)	E. FLUORESCENT ANA? (ANTI-NUCLEAR ANTI-BODY)	(5)	F. SGOT (AST)? (GLUTAMIC OXALOACETIC TRANSAMINASE)	(6)
G. SGPT (ALT) (TRANSAMINASE GLUTAMIC PYRUVATE)	(7)	H. LDH (LACTIC ACID HYDROGENASE)	(8)	I. ALKALINE PHOSPHATASE	(9)
J. CPK? CREATINE PHOSPHOKINASE)	(10)	K. HEPATITIS B SURFACE ANTIBODY?	(11)	L. HEPATITIS B CORE ANTIGEN?	(12)
M. VDRL? (VENEREAL DISEASE RESEARCH LABORATORY)	(13)	N. VITAMIN B-12	(14)	O. FOLATE?	(15)
P. HIV (HUMAN IMMUNO-DEFICIENCY)	(16)	Q. T4 (THROXINE TOTAL SERUM)?	(17)	R. TSH (THYROID STIMULATING HORMONE)?	(18)
S. URINALYSIS	(19)	4. TB SKIN TEST (PPD)? (TUBERCULOSIS SKIN TEST PURIFIED PROTEIN DERIVATIVE)	(20)	S. CHEST XRAY	(21)
PSYCHIATRIC EVALUATION?	(22)	6A. SCID FOR DSM-III-R (STRUCTURED CLINICAL INTERVIEW FOR DIAGNOSIS)	(23)	6B. CAPS PTSD SCALE (CLINICAL ADMINISTERED POST TRAUMATIC STRESS DISORDER)	(24)

7. LIST DIAGNOSES: MAS CODERS: ENTER ICD-9-CM CODE IN BLOCKS 25-39. IF NONE, LEAVE BLANK.

DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
1.	(25)	(26)	(27)	(28)	(29)
2.	(30)	(31)	(32)	(33)	(34)
3.	(35)	(36)	(37)	(38)	(39)

8. PSYCHOLOGY-NEUROPSYCHOLOGICAL TEST? Enter code in block 40) Y=Yes N=No (40)

8A. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 41-45. IF NONE, LEAVE BLANK

DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
1.	(41)	(42)	(43)	(44)	(45)
2.	(46)	(47)	(48)	(49)	(50)
3.	(51)	(52)	(53)	(54)	(55)

9. INFECTIOUS DISEASE - SCREENING EXAM? (Enter code in block 56) Y=Yes N=No (56)

9A. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 57-66. IF NONE, LEAVE BLANK

DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
1.	(57)	(58)	(59)	(60)	(61)
2.	(62)	(63)	(64)	(65)	(66)

10. DENTAL EXAM? (Enter code in block 67) Y=Yes N=No (67)

10A. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 68-77. IF NONE, LEAVE BLANK

DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
1.	(68)	(69)	(70)	(71)	(72)
2.	(73)	(74)	(75)	(76)	(77)

SSN: _____

11. DIARRHEA AND/OR ABDOMINAL PAIN

11A. GI (GASTROINTESTINAL) CONSULT? (Enter code in block 78) Y = Yes N = No	78	11B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 79-89. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(79)	(80)	(81)	(82)	(83)
		2.	(84)	(85)	(86)	(87)	(88)
		3.	(89)	(90)	(91)	(92)	(93)
		4.	(94)	(95)	(96)	(97)	(98)

12. HEADACHE AND/OR MEMORY LOSS

12A. NEUROLOGY CONSULT? (Enter code in block 99) Y = Yes N = No	99	12B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 100-109. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(100)	(101)	(102)	(103)	(104)
		2.	(105)	(106)	(107)	(108)	(109)

13. MUSCLE ACHES AND/OR NUMBNESS

13A. NEUROLOGY CONSULT? (Enter code in block 110) Y = Yes N = No	110	13B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 111-120. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(111)	(112)	(113)	(114)	(115)
		2.	(116)	(117)	(118)	(119)	(120)

14. CHRONIC FATIGUE

14A. CHRONIC FATIGUE? (Enter code in block 121) Y = Yes N = No	121	14B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 122-131. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(122)	(123)	(124)	(125)	(126)
		2.	(127)	(128)	(129)	(130)	(131)

15. JOINT PAIN

15A. RHEUMATOLOGY CONSULT? (Enter code in block 132) Y = Yes N = No	132	15B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 133-142. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(133)	(134)	(135)	(136)	(137)
		2.	(138)	(139)	(140)	(141)	(142)

16. CHRONIC COUGH AND/OR SHORTNESS OF BREATH

16A. PULMONARY CONSULT? (Enter code in block 143) Y = Yes N = No	143	16B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 144-153. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(144)	(145)	(146)	(147)	(148)
		2.	(149)	(150)	(151)	(152)	(153)

17. SKIN RASH

17A. DERMATOLOGY CONSULT? (Enter code in block 154) Y = Yes N = No	154	17B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 155-164. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(155)	(156)	(157)	(158)	(159)
		2.	(160)	(161)	(162)	(163)	(164)

18. VERTIGO AND/OR TINNITUS

18A. AUDIOLOGY? (Enter code in block 165) Y = Yes N = No	165	18B. LIST DIAGNOSES. MAS CODERS: ENTER ICD-9-CM CODES IN BLOCKS 166-175. IF NONE, LEAVE BLANK.					
		DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
		1.	(166)	(167)	(168)	(169)	(170)
		2.	(171)	(172)	(173)	(174)	(175)

NAME: _____

SSN: _____

19. CHEST PAIN AND/OR PALPITATIONS

A. CARDIOLOGY CONSULT (Enter code in block 176) Y=YES N=NO	176	188. LIST DIAGNOSES. MAS CODERS ENTER ICD-9-CM CODES IN BLOCKS 177-188. IF NONE, LEAVE BLANK. DESCRIBE DIAGNOSES (Narrative)		ICD-9-CODES			
		1.	(177)	(178)	(179)	(180)	(181)
		2.	(182)	(183)	(184)	(185)	(186)

20. REPRODUCTIVE CONCERNS

20A. MALES - UROLOGY CONSULT? (Enter code in block 187) Y=YES N=NO	187	188. LIST DIAGNOSES. MAS CODERS ENTER ICD-9-CM CODES IN BLOCKS 189-198. IF NONE, LEAVE BLANK. DESCRIBE DIAGNOSES (Narrative)		ICD-9-CODES			
		1.	(189)	(190)	(191)	(192)	(193)
20B. FEMALES - GYN CONSULT? (Enter code in block 188) Y=YES N=NO	188	2.	(194)	(195)	(196)	(197)	(198)

21. FINAL DIAGNOSES: PHASES II

21A. DIAGNOSES. LIST UP TO 10 MAJOR DEFINITE MEDICAL DIAGNOSES ON LINES 20A-J. LIST PRIMARY DIAGNOSIS ON LINE A. BLOCKS 199-248 OR CORRESPONDING ICD-9-CM CODES. LEAVE BLANK IF NO DIAGNOSIS IS MADE. MAS CODERS: USE ICD-9-CM CODES IN FIRST FIVE NUMBERED BLOCKS OF EACH DIAGNOSIS

DESCRIBE DIAGNOSES (Narrative)	ICD-9-CODES				
A. (PRIMARY)	(199)	(200)	(201)	(202)	(203)
B.	(204)	(205)	(206)	(207)	(208)
C.	(209)	(210)	(211)	(212)	(213)
D.	(214)	(215)	(216)	(217)	(218)
E.	(219)	(220)	(221)	(222)	(223)
F.	(224)	(225)	(226)	(227)	(228)
G.	(229)	(230)	(231)	(232)	(233)
H.	(234)	(235)	(236)	(237)	(238)
I.	(239)	(240)	(241)	(242)	(243)
J.	(244)	(245)	(246)	(247)	(248)

22. AFTER COMPLETING PHASE II, UNIFORM CASE ASSESSMENT PROTOCOL, THE PHYSICIAN FEELS THAT THE VETERAN HAS AN UNEXPLAINED ILLNESS? (Enter code in block 249) Y=YES N=NO (249)

Statement of Rep. Christopher Shays
December 10, 1996

Alarms have been sounding for almost six years. Only now are they being heard.

From the start of Operation Desert Shield, when Iraqi munitions and chemical weapons production facilities were bombed, and throughout the troop movements in Operation Desert Storm, coalition forces heard thousands of chemical weapons alarms.

On numerous occasions, technicians trained to operate sophisticated detection equipment confirmed the presence of nerve and blister agents near U.S. troop positions in Iraq, Kuwait and Saudi Arabia. Individual soldiers reported Scud attacks followed by toxic mists and powdery fallout. They reported dead animals in the desert, and a notable lack of insects or other carrion scavengers on the carcasses.

After the fighting stopped, U.S. forces detonated Iraqi chemical munitions stored in bunkers at Khamisiyah.

To this day, many Gulf War veterans report the symptoms - memory loss, fatigue, muscle and joint pain - that can characterize a neurotoxic exposure.

Routinely, all these reports have been dismissed, discounted, discredited or denied. Some were dismissed as false positive readings. Others were discounted as detections below life-threatening levels. Still other were discredited as attributable only to operator error.

Based on those denials, commanders sounded the "All Clear" for U.S. troops to proceed, unprotected, against the invisible enemy.

Now we know the "All Clear" came too soon.

Statement of Rep. Christopher Shays
December 10, 1996
Page 2

Last March, when we began these hearings, the Pentagon position on chemical and biological weapons in the Persian Gulf War consisted of three noes: No credible detections; no exposures; and therefore no provable health consequences among Gulf War veterans. Those denials were echoed by the Department of Veterans Affairs (VA), and reflected in their research and treatment priorities

Today, two of the three pillars of denial have crumbled under the weight of reluctantly disclosed facts. There were credible, verified detections of chemical nerve and blister agents. The President's Advisory Committee on Persian Gulf Veterans' Illnesses concluded detections of chemical nerve agent by Czech technicians in January, 1991 were credible. The Department of Defense (DoD) investigative team is examining records from 20 other detections previously dismissed or discounted. Seven of those detections were acknowledged just last week.

As a result, the number of U.S. Gulf War veterans presumed to have been exposed to some level of chemical warfare agents has climbed from zero, to 400, to 1,100, to 5,000, to 15,000 to more than 20,000. In the weeks and months ahead, that number of credible exposures may go much higher.

This is our fifth hearing on Gulf War veterans' illnesses. Our purpose in all these hearings is to insure that Gulf War veterans' are properly diagnosed, effectively treated and fairly compensated.

Since 1991, one of their health concerns has been the role of low-level exposures to a variety of toxins, including chemical nerve agents, in causing permanent neurological damage and chronic, often debilitating, symptoms.

Our purpose today, and tomorrow, is to ask how evidence of chemical nerve agent detections - including the first hand accounts of Gulf War veterans - is gathered, confirmed and disseminated.

Even now, more than five years after the war, chemical detection information is a critical piece of medical intelligence for a sick veteran trying to establish a service-connected disability claim or trying to provide his or her doctor with a complete toxic exposure history.

Sadly, the information has not been forthcoming. Our witnesses today will describe how evidence of toxic chemical detection in the Gulf War has been lost, destroyed, misrepresented, perhaps even suppressed, in an effort to support the premature, now insupportable conclusion that coalition forces encountered no chemical warfare agents.

For want of that information, vital research into the effects of low-level chemical exposures has been tragically delayed and many Gulf War veterans have gotten sicker. Some have died.

Only when all this information is available will veterans, their families and their physicians be able to determine the true role of toxic chemicals in causing the variety of illnesses now called the "Gulf War Syndrome." Only then can we sound the "All Clear."

I welcome our witnesses today and look forward to your testimony.

Mr. SANDERS. Thank you very much, Mr. Chairman. I really want to applaud you for your persistence in dealing with this issue and the successes that you have been having.

Answers to questions about troop exposure to chemical agents and their connection to the Persian Gulf war syndrome are long overdue. Over the last 5 years approximately 50,000 men and women connected with the American military have complained of various ailments associated with the Persian Gulf war, and the time has long passed when they should be getting answers to their problems.

Mr. Chairman, clearly one of the major concerns all of us had on this committee is that even though the Pentagon had information since 1991—and this was not top secret information; this is information that was publicly disseminated—that coalition troops may have been exposed to chemical agents, I think the key question all of us want to know is how come it took the Pentagon 5 years to acknowledge that. In fact, as you indicated, it was an acknowledgment, kicking and screaming as a result of congressional action. I think we have a right, the American people have a right, and most importantly, Persian Gulf war veterans have a right to know why this information was not forthcoming and, in fact, who is responsible for what might be termed at least an apparent cover-up, why did we not get this information.

What disturbs me very much, I don't think anyone here or any place in this country knows the exact cause of the problems. We wish we did. Scientists are working very hard to try putting together the various pieces. But if in fact what now appears to be the case, that at least some of our soldiers were exposed to chemical agents, then think about the waste of time our researchers and our physicians had to undergo not to have this information.

With that information they could have come up with better diagnoses, better treatments, but they did not have that information. I think there are people at the Pentagon who should be held accountable for that.

What makes me especially sad is that it appears that we went through this syndrome once before in terms of Agent Orange. Some of us had hoped that the Pentagon had learned its lessons.

These are complicated issues; nobody knows all of the answers. But the very least that the American people and the veterans have the right to believe is that the Pentagon will be honest and forthcoming and will bring forth all of the information, so that our scientists and our physicians can get to work in trying to make life as best they can for the people who are suffering from the various ailments.

Mr. Chairman, let me just conclude by thanking you and thanking, mostly, all of the witnesses and the people who have worked so hard on these hearings; and I am confident that this committee will go forward to get to the bottom of the story.

Mr. SHAYS. Thank you, Mr. Sanders.

Mrs. Morella.

Mrs. MORELLA. Thank you, Mr. Chairman. I also want to commend you for holding this hearing, not only this hearing, but I guess, as you have said, this is No. 5. We have another one coming up tomorrow. All of these hearings are in search of the truth.

At some of the hearings we have heard from Gulf war veterans who have given us all of the symptoms and the concerns, the stress, the manifestations of what would be considered the Gulf war syndrome. Then we have had testimony saying that there was nothing to be concerned about, that in fact it didn't happen, it was all imaginary. Now we know that there has been some detection of the toxic chemicals, but we don't know what happened to the detection.

This is, again, a search for the truth. The public needs to know Gulf war veterans have suffered for too long. I appreciate the fact that you have had this hearing, and look forward to hearing from the witnesses. Thank you for coming.

Mr. SHAYS. Thank you, Mrs. Morella.

Mr. Fattah.

Mr. FATTAH. Mr. Chairman, thank you very much.

This is our fifth hearing convened to explore issues related to the diseases suffered by some of the Persian Gulf war veterans and their families. There is compelling evidence that these illnesses are related to Gulf service and, in particular, to exposure to Iraqi chemical and biological weapons.

Our purpose today is to determine what is known about the United States troop exposure to chemical and biological agents during the Persian Gulf war. Toward this end, I welcome the views of today's witnesses, and thank them for their hard work in preparing for this hearing. Especially I would like to thank the active duty personnel, both for their presence before the subcommittee and for their service to the Nation.

The subcommittee is revisiting this matter because our understanding of what has happened to our soldiers in the Persian Gulf has changed. In the 10-month timeframe encompassed by the subcommittee's hearings, the Pentagon's position has evolved from denial that any chemical exposures occurred to its current view that some 20,000 troops may have been exposed to chemical weapons. Serious questions have also arisen that troops may have been exposed to biological warfare agents.

DOD's questionable handling of intelligence reports on chemical detections, coupled with its poor management of the issue in general, has jeopardized its credibility with the American public. Moreover, the Department of Defense's early conclusions that no troops were exposed have clearly influenced medical and compensation policies at the Department of Veterans Affairs. We should be troubled that these policies were insufficient and inappropriate, and may have resulted in the provision of unresponsive health care to Gulf veterans and their families.

It is critical that we understand that there has been a sincere effort from the President to call explicitly in his directives for the Pentagon to pursue this issue more aggressively. He has named Rear Admiral Paul Busick at the White House to coordinate Persian Gulf illnesses and an appropriate response.

Also, since our last meeting, Secretary Perry has designated Bernard Rosker, Navy Assistant Secretary for Manpower and Reserve Affairs, to lead the Pentagon's inquiry into troop exposures and the medical consequences.

Further, in response to public and congressional criticism, DOD has adopted six initiatives to improve its efforts. I am hopeful these very positive steps will help DOD intensify its focus, and we will see meaningful outcomes.

Mr. Chairman, I encourage you to convene another hearing in the 105th Congress, perhaps jointly with the National Security Subcommittee, in which we can receive a report from the Department of Defense on its response and what has happened with its new approaches.

I also urge you to include DOD's current findings, if any, regarding chemical and biological exposures, so that today's hearing record accurately reflects the information the Pentagon now endorses.

Mr. Chairman, I commend your diligence and interest in this critical issue, and I look forward to working closely with you as we continue this investigation in the 105th Congress.

Mr. SHAYS. Thank you, likewise, Mr. Fattah. Thank you very much.

We are joined, the Human Resources Subcommittee is joined by our colleague, Steve Buyer, from the National Security Committee. He, it is my understanding, will be chairing the personnel side of that subcommittee, and also serves on the Veterans Affairs Committee.

Without objection from any of the other committee members, we welcome you as a participating member today in our hearing. You have been in the past, and I would also just point out that Mr. Buyer is a Persian Gulf veteran as well.

Mr. BUYER. Thank you, Mr. Chairman. I just have a couple of comments I would like to make at this point. Having dealt with this issue now for 4 years, I am hopeful that the new Secretary of Defense will clean house with some of the individuals who have been stonewalling myself, Joe Kennedy, Lane Evans, and this committee likewise, not only on the operational side but also on the health aspects of this Gulf war illness issue.

It is easy for us to pound the table. I have been involved—we all do that, but doggone it, this one is so challenging. Having dealt with this one for so many years, we have to almost take the issue and divide it between the operational aspects and the health care.

I really appreciate this subcommittee getting involved. The National Security Committee, in my conversations with the chairman, will be very ambitious on this issue, and just because the National Security Committee in the next Congress begins to look at this both on the health delivery system side of this for the military and the operational side—and I know the Veterans' Committee will also move out on the claims aspect of this one—I encourage you to continue your focus, as you have done in the 104th Congress.

On the operational side, I am glad they are finally moving out, but this issue with regard to the logs—and we are going to have some testimony on the FOX vehicles—this was an issue that was covered 3 years ago by Ike Skelton when he chaired the Personnel Committee, and we got into this. We were giving advice to the Pentagon that if you want to begin looking at whether or not there were chemical munitions in the theater, check out the historian with the unit, whoever has these logs down at the small unit level.

In the press over the last week, there has been an overplay of the hands with regard to missing logs at CENTCOM. Don't let that cloud the vision here. When you have a senior NBC officer at CENTCOM, and you have a command structure that is placing a lot of stress that there are—here is the disconnect: There are no chemical munitions in the theater of operations. All right, then why did you give so many innoculations to the soldiers? Why did you prepare us for the threat? So we are all prepared for the threat, but you have always maintained that they weren't within the theater. It is a tremendous disconnect.

There is a filtering process that I think will begin to develop with this testimony when they make actual positive readings, yet because of this holding on tight, based on intelligence, that there were no munitions, chemical munitions in theater, that if you had a reading, that then it must be a false positive.

Then you have this press from chain of command downward, so by the time things actually get to the senior NBC officer at CENTCOM and whatever actually he gets into a log, it has pretty much been filtered by the time it gets to him. I just wanted to share that with you, that we have visited that issue. Don't get too bent out of shape with saying, well, this may be the proof. I don't believe so.

The foot-dragging aspect of this—and I think Mr. Sanders touched on it; he is absolutely right, the issues of causation I think we are going to continue to struggle with for quite a while. Let us never refer to this as a syndrome. It is not the Gulf war syndrome. It is Gulf war illnesses, because there are many forms, common denominators of causation with overlapping symptoms. The pursuit with regard to the causation should be very real.

What has been difficult in this process and why I compliment this subcommittee is because where I have had to go over the wall and around the wall, you went through the wall on the issue of the chemical munitions. A lot of compliment has to go to you and mostly to the veterans community, and to the spouses who have pressed the issue. They have been living with the debilitating illnesses of their loved ones in the face of "no chemical munitions." So there is a lot of compliment to go around, and you share a lot of it on this committee.

I think we are going to continue to struggle on the issues of causation on the medical side of this because, of all the millions of dollars which we have funded, whether it be through the Department of Defense, whether it be through the Veterans Administration, whether it be even in the private delivery systems of health, much of the research has been detection at the exclusion of chemical weapons, in the protocols. So it is almost as if we are having now to start over with a lot of our research.

I am pleased that Chairman Shays has taken this ball and run with it. The only thing that we have not developed further, which we should, is a lot of focus now, all of a sudden, has been placed upon chemical munitions, and it should, Mr. Shays; but what about biological? And if you gave us shots for anthrax and you gave us shots for botulism, there must have been the biological threat present in the theater. So if they are also denying biological in the face of an admission now, years later, with regard to chemical, I

am not satisfied by saying that there were no biologicals within theater.

In the face of Boutros Boutros-Ghali just giving an OK for Iraq to now have sale of oil for humanitarian reasons, without them coming forth with regard to a lot of their intelligence on biological and chemical munitions, I am distressed at the moment.

I yield back the balance of my time.

Mr. SHAYS. I thank the gentleman. I would want to make sure that for the record it is clear that this has really been an undertaking of the entire committee. Mr. Towns, the ranking member, has been a proactive equal partner in this process. I have no problem giving him the gavel at times, because this has been, in fact, a bipartisan undertaking to get at the truth; and the bottom line is, we are looking to properly diagnose, treat, and fairly compensate veterans who need to be compensated.

Before calling our witnesses, I will point out that we will be having another hearing, our seventh hearing, on January 21. At that time, Dr. Kenneth Kaiser, Assistant Secretary for Veterans Affairs, head of the health care for Veterans Affairs, will be coming to testify, as will Bernard Rosker, who is the Special Assistant for Gulf War Illnesses in the Office of the Secretary of Defense. We will be having that hearing on January 21st of next month.

At this time, the committee is privileged to bring to testify Major Michael Johnson from the U.S. Army; Sgt. Grass, U.S. Marine Corps; and Major Randy Hebert, U.S. Marine Corps, all of whom were in the Persian Gulf. Mr. Hebert is accompanied by his father, Loyd Hebert, and his wife, Kim. We will be having three testimonies, but in response to—I believe, Mr. Hebert, you will be reading the testimony, and both of you will be helping your son and your husband respond to—helping us to understand his response to questions.

Since you are there, I am going to ask those of you who can, including Mr. Hebert, the father, as well as Kim, his wife, to stand and be sworn in as well; and Mr. Hebert, if you can't stand, we understand.

[Witnesses sworn.]

Mr. SHAYS. We are privileged to have all of you here. You may be seated.

I will note for the record that all the witnesses have responded in the affirmative.

If I could, just for some bookkeeping, I ask unanimous consent that all members of the subcommittee, all members, be permitted to place an opening statement in the record, and the record will remain open for 3 days with that purpose.

Without objection, so ordered.

[The prepared statement of Hon. Edolphus Towns follows:]

OPENING STATEMENT OF REP. ED TOWNS
BEFORE THE GOVERNMENT REFORM AND OVERSIGHT
SUBCOMMITTEE ON
HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

"THE IMPACT OF CHEMICAL EXPOSURE DISCLOSURES ON
VA HEALTH CARE"

December 11, 1996

MR. CHAIRMAN, THANK YOU FOR CONVENING THIS SIXTH HEARING EXAMINING ISSUES RELATED TO DISEASES SUFFERED BY SOME GULF WAR VETERANS AND THEIR FAMILIES. TESTIMONY RECEIVED IN YESTERDAY'S HEARING ADDRESSED THE PENTAGON'S ABYSMAL MANAGEMENT OF INTELLIGENCE ON U.S. TROOP EXPOSURE TO CHEMICAL AND BIOLOGICAL WEAPONS. TODAY WE WILL CONSIDER THE IMPACT OF DOD'S REVISED CONCLUSIONS THAT 20,000 TROOPS WERE "PRESUMED EXPOSED" ON MEDICAL PROTOCOLS AT THE DEPARTMENT OF VETERANS AFFAIRS.

I AM CONVINCED THAT OUR SOLDIERS WERE EXPOSED TO TOXIC AGENTS DURING THEIR SERVICE IN THE PERSIAN GULF. AND I CANNOT IGNORE THE COMPELLING EVIDENCE THAT THE NUMEROUS DISEASES AND SYMPTOMS THAT SOME SOLDIERS ARE EXPERIENCING ARE RELATED TO THAT EXPOSURE. ALSO, BECAUSE THE DEPARTMENT OF DEFENSE REPEATEDLY DENIED THAT TOXIC EXPOSURES OCCURRED, QUESTIONS HAVE BEEN RAISED THAT PERHAPS THE AGENCY WITH RESPONSIBILITY FOR CARING FOR SICK VETERANS GAVE INSUFFICIENT CONSIDERATION TO THE POSSIBILITY THAT A LINK EXISTED BETWEEN EXPOSURE AND ILLNESS.

I AM DEEPLY CONCERNED THAT THE VA'S DIAGNOSTIC, TREATMENT, AND COMPENSATION POLICIES REGARDING SICK GULF VETS ARE BASED ON DOD'S ERRONEOUS PREMISE OF NO LOW LEVEL CHEMICAL EXPOSURES. IF THIS IS THE CASE, THEN IT IS PROBABLE THAT THOSE POLICIES ARE INAPPROPRIATE; AND IT IS CERTAINLY PROBABLE THAT SICK GULF VETERANS AND THEIR FAMILIES HAVE BEEN RECEIVING INAPPROPRIATE AND INSUFFICIENT CARE AND COMPENSATION.

I LOOK FORWARD TO THE TESTIMONY OF DR. MATHER, THE VA'S CHIEF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS OFFICER, AND VA DOCTORS JACKSON AND GORDON. I WELCOME THE OPPORTUNITY TO BE REASSURED THAT MY CONCERNS ARE MISPLACED. I AM INTERESTED IN HOW THE VA'S POLICIES REGARDING TOXICOLOGICAL RESEARCH, CLINICAL CARE, AND COMPENSATION OF GULF VETS HAVE EVOLVED TO REFLECT CURRENT KNOWLEDGE OF THE NATURE AND EXTENT OF TOXIC EXPOSURES.

I ALSO WELCOME THE VIEWS OF OUR VETERANS. I THANK THEM FOR THEIR PRESENCE BEFORE THE SUBCOMMITTEE, AS WELL AS FOR THEIR SERVICE TO OUR COUNTRY.

FINALLY, MR. CHAIRMAN, I COMMEND YOUR DILIGENCE AND CONTINUED INTEREST IN THIS CRITICAL ISSUE. I LOOK FORWARD TO WORKING CLOSELY WITH YOU AS WE PURSUE THIS ISSUE IN THE 105TH CONGRESS.

Mr. SHAYS. I ask unanimous consent that the witnesses be permitted to include their written statements in the record, as well.

Without objection, so ordered.

[The prepared statement of Mr. Cullinan follows:]

VETERANS OF FOREIGN WARS OF THE UNITED STATES

STATEMENT OF

DENNIS CULLINAN
DEPUTY DIRECTOR, NATIONAL LEGISLATIVE SERVICE
VETERANS OF FOREIGN WARS OF THE UNITED STATES

BEFORE THE

HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT
SUBCOMMITTEE ON HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS

REGARDING POSSIBLE CHEMICAL/BIOLOGICAL EXPOSURES
IN THE GULF WAR

WASHINGTON, DC DECEMBER 10, 1996

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE:

On behalf of the 2.1 million men and women of the Veterans of Foreign Wars, I thank you for the opportunity to express the views of the VFW on the very important matter of possible chemical/biological exposure by Gulf War troops in the Gulf War. The VFW has worked diligently in the effort to resolve this controversial issue, and will continue to do so until a resolution is reached that appropriately cares for the veterans involved.

Of the number of proposals the VFW is advocating with regard to Gulf War illness, three are of particular importance. The first one involves doing away with the current two-year presumptive period for undiagnosed illnesses associated with service in the Gulf and instead replacing it with an open-ended presumptive period The VFW has approached the Department of Veterans Affairs (VA) about this proposal—which VA has the authority to carry out under Public Law 103-446—however, VA Secretary Jesse Brown has responded that VA is unwilling at the present time to do away with the two-year presumptive period.

Currently, the medical and scientific community cannot state with any amount of confidence the exact long-term effects of low-level chemical/biological exposure.

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Therefore, until such effects can be pinpointed, it seems irrational and counterproductive to establish a time limit as to when exposure symptoms will manifest.

Additionally, out of the over 10,000 Gulf War veterans who have been rated for an "undiagnosed illness" claim (Gulf War Illness), only 529 have been service-connected for compensation. The restrictive presumptive period concerning the manifestation of the condition is the primary reason why 95% of all "Undiagnosed-Illness" claims have been denied.

The second major proposal advocated by the VFW concerns either the open-ended extension of the life of the Presidential Advisory Committee on Gulf War Veterans Illnesses (PACGWVI) and the expansion of its authority, or in lieu thereof, the creation of an independent oversight committee. This is of particular importance concerning the problems associated with gathering the necessary data from the Department of Defense (DOD). DOD has been, quite simply, less than forthright in its effort to provide all the relevant and crucial intelligence documents necessary to reaching a resolution.

Only recently, and after much prodding by the VFW, other VSOs, and in large part, the PACGWVI, has DOD begun cooperating in any sense of the word. This is exemplified by the Pentagon's recent admission to the exposure of U.S. troops to chemical warfare agents in the Gulf following the demolition of the munitions dump at Kamisiyah. DOD had steadfastly denied any such exposures, only to alter its position in the face of irrefutable evidence. However, even this admission came piecemeal, with its estimate on the possible number of U.S. troops exposed starting out small and rising exponentially over a short period of time. Additionally, recent reports that the Pentagon has "lost" records covering certain days of the Gulf War, days which may coincide coincidentally with the exposure dates at Kamisiyah, warrant its oversight by an independent board. Only an oversight board similar in scope and authority to the PACGWVI can ensure that DOD acts appropriately. Its significant and outstanding work done thus far is testimony to this fact.

Lastly, the VFW also urges the medical and scientific community to agree on a case-definition for what is now commonly referred to as "Gulf War Syndrome." While it is believed that there is probably more than just one, identifiable illness ailing Gulf War veterans, agreement has been reached on what are the most common symptoms prevalent. Similar to what was done with Chronic Fatigue Syndrome (CFS), a list of symptoms could be developed. Any veteran suffering from an agreed upon number of them, who has been clinically evaluated and who exhibits them in an unexplained, persistent manner for at least six months, would fall under this case-definition, as is done with CFS.

By having such a case-definition, Gulf War veterans who suffer from undiagnosable and debilitating symptoms would not be left floundering while their illnesses go unchecked. Additionally, it would help ensure that such veterans receive due compensation from VA for the combat-related illnesses, which is not the case given VA's current compensation system.

The VFW will not rest until the questions surrounding the Gulf War illnesses are answered in full. We will work with any and all individuals and organizations necessary to come to an appropriate resolution.

Once again Mr. Chairman, on behalf of the VFW's entire membership, and on behalf of those Gulf War veterans who suffer today as a result of their unselfish service to this great nation of ours, I thank you for inviting our participation in the important hearings that will occur over the next two days.

Mr. SHAYS. Major Johnson, we will start with you, sir, and we will just go right down the line. Again, it is a privilege to have all of you here. We thank you for your willingness to come before this committee.

STATEMENT OF MAJOR MICHAEL F. JOHNSON, U.S. ARMY

Major JOHNSON. Good afternoon, Mr. Chairman and members of the committee. Thank you for the opportunity to present information on the events surrounding my unit's detection of toxic chemical warfare agents in Kuwait on 7 and 8 August 1991. I am here today in uniform at the invitation of this committee. My testimony is, however, not official Army policy, but comes from my personal experience during my tour of duty in the Persian Gulf.

On those days, 7 and 8 August 1991, my unit participated in a joint chemical detection mission with the 21st British Explosive Ordnance Disposal Squadron, Royal Engineers, to identify the content of a container suspected of containing a toxic chemical warfare agent. Our mission was to confirm or deny the presence of chemical agents in the container. I was the commander of the 54th Chemical Troop and would lead the U.S. portion of the mission.

We began by conducting a leaders' reconnaissance of the area where the container was located. We then conducted back briefs to the Chief of Security Assistance and Senior Defense Representative, United States Embassy, Kuwait, on our plan to execute the mission.

On 8 August 1991 we moved to the site with two FOX nuclear, biological, and chemical reconnaissance vehicles. We conducted 21 tests of the substance in the container. The British conducted 17 of the tests, and my unit or my FOX teams conducted the remaining four tests.

Based on our analysis of the liquid in the container, we confirmed the presence of a blister agent commonly referred to as Mustard or HD, traces of Phosgene, a nonpersistent choking agent, and traces of Phosgene Oxime, a nonpersistent blistering agent.

While on the site, I observed a British soldier come in contact with the liquid while working to take a sample collection for transport out of the area. I personally observed the liquid effects on his wrist, and concluded that he was exposed to a blistering agent based on the reaction of the liquid-to-skin contact.

The soldier was decontaminated and transported to a hospital for medical treatment. To date, I have no information concerning the health condition of the soldier that was contaminated.

After completing the mission, and once the FOX vehicles were decontaminated, I was instructed to remove the tapes from the mobile mass spectrometer on the FOX vehicles. The tapes were to be further analyzed, along with the samples that were removed from the area by personnel in desert uniforms. I had no idea who these personnel were or what organization they represented.

I was later given a "be prepared" mission to provide support to the British in their efforts to move the container out of the area for destruction. We never executed that mission. I was told by my chain of command that we would not conduct the mission, and that the British had complete control of the container.

Before departing Kuwait—and our return back to home base in Fulda, Germany—I did not receive any information on the final outcome of the analyzed samples that were taken from the area.

These are the facts as I observed them on 7 and 8 August 1991. My written testimony goes into greater detail on the specifics of my unit's actions in accomplishing the mission to confirm or deny the presence of toxic chemical warfare agents.

Mr. Chairman, I ask that the testimony or the document that Mr. Tuite provided be submitted into the record to support my testimony.

[The information referred to follows:]

Report on the Fallout From the Destruction of Iraqi Chemical Warfare Agent Research, Production, and Storage Facilities into Areas Occupied by U.S. Military Personnel During the 1991 Persian Gulf War

19 September 1996

James J. Tuite, III
International Security Consultant
and Director, Gulf War Research Foundation

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SCOPE OF REPORT

This report is limited to an assessment of prior reports of the exposure of U.S. military personnel to chemical warfare agents from fallout as a result of the bombings of Iraq's chemical warfare production and storage infrastructure. Particular attention is given to the relationship between the air attacks during the early phase of the Coalition "air war" campaign and the detections of sarin by members of the Czechoslovak chemical defense units on January 19, 1991. These detections have been described by the Department of Defense as both "reliable" and "credible."

Attention is also given to additional Czechoslovak chemical defense unit detections of the nerve agents sarin and tabun, and the blister agent sulfur mustard, on January 19-21, 1991. These detections are of particular importance because the Department of Defense has assessed the Czechoslovak chemical warfare agent detection technology to be both "reliable," "credible," and based on "wet chemistry" analysis. According to declassified U.S. intelligence reports, the substances housed in the facilities that were attacked in the first days of the "air war" included sarin, tabun, and mustard, whose presence in Coalition troop areas was confirmed by these Czechoslovak technologies. The Department of Defense has said in recent reports that these detections are "possible."

According to the Department of Defense, Central Intelligence Agency, and the CIA subcontractor currently conducting the modeling of the distance and direction fallout from the bombings might have traveled during this period, the Czech findings have not been considered "confirmed." This lack of confirmation, they claim, is because the wind, and therefore the fallout, was traveling in the wrong direction. Since an explanation could not be provided to explain the presence of these agents in Coalition troop areas, the detections were denied. A confirmation in these areas has enormous implications, since it means that hundreds of thousands of U.S. service men and women were exposed to varying levels of chemical warfare agents from these bombings. This report provides the necessary scientific data to refute the Department of Defense and Central Intelligence Agency position and confirm the exposure of U.S. troops to chemical warfare agents.

KEY FINDINGS OF THIS REPORT

This report provides evidence that establishes that U.S. soldiers were exposed to chemical warfare agent fallout from the aerial bombings of Iraqi chemical warfare agent research, production, and storage facilities by Coalition forces. This report identifies:

- the location of, and in many cases the date that, chemical warfare agent research production and storage facilities known to contain chemical warfare agents, chemical warfare agent precursors, and other hazardous chemical toxins were bombed;

- archived meteorological data, including visible and infrared satellite imagery illustrating that the heat and smoke, and therefore the toxic debris, from these facilities traveled directly towards U.S. military personnel; and,

- scientific confirmation of the presence of these exact compounds using technologies evaluated by the U.S. Department of Defense to be both "credible," "reliable," and based on scientific techniques.

Unlike previous government disclosures claiming that the number of soldiers exposed to these compounds is minimal and limited to the immediate area around the destruction of the Kamisiyah facility after the war, this research demonstrates conclusively that chemical warfare agents and precursors were present in areas where hundreds of thousands of U.S. soldiers were massing for the upcoming invasion of Iraq and liberation of Kuwait. The evidence provided by the Czech detections of chemical warfare agents in troop areas also lends credence to the thousands of chemical agent alarms deployed with U.S. troops that also began sounding with the initiation of the bombings.

AERIAL BOMBING OF IRAQI CHEMICAL WARFARE AGENT RESEARCH, PRODUCTION, AND STORAGE FACILITIES

Table 1 identifies known Iraqi chemical warfare agent research, production, and storage facilities, based on information provided in declassified Defense Intelligence Agency (DIA) intelligence information reports (IIR), which are presumed to be accurate. The geocoordinate data provides precise locations for the principal sites targeted. The dates on which the sites were bombed is also based on declassified DIA and Joint Chiefs of Staff reporting.[1] United Nations Special Commission on Iraq (UNSCOM) reports confirm that chemical agents were present at many of these facilities. According to DIA reports, "all known or suspected CW/BW storage sites were damaged or destroyed during Desert Storm with the exception of four cruciform bunkers at Samarra [the others were destroyed] and two 12-frame refrigerated bunkers."[2]

A recent unclassified report from the Central Intelligence Agency reveals that Iraq has declared to the United Nations that nearly 17 metric tons of sarin were destroyed during the attacks on the Muthanna State Establishment (Samarra) and that 2. 9 metric tons of nerve agents were destroyed during Coalition attacks on the chemical warfare agent storage site at Muhammadiyat (3315N04121E).[3]

[1] Source (classified). Subject: The following are assessed to be chemical munitions storage bunkers, 23 JAN 1991 (declassified 11 AUG 1991). Intelligence Assessment of Chemical and Biological Warfare in the Gulf; For the Defense Science Board investigating Desert Storm Syndrome (1993), (declassified 25 SEP 1995). Office of the Joint Chiefs of Staff, U.S. Department of Defense, Washington, D.C. (declassified 21 December 1995); Internal Staff Paper, Release Covered by MOP 39, Subject: Soviet Request for Info on Chem/Radiologic Leaks, 23 JAN 1991 (declassified 21 December 1995). McConnell, J.M., RADM, USN, Director for Joint Staff, Intelligence Internal Staff Paper, Soviet Embassy Request for Information on Desert Storm, 18 JAN 1991, Washington, D.C. (declassified 21 DEC 1995).

[2] Defense Intelligence Agency. Subject: (classified). 11 APR 1991 (partially declassified, 19 JUL 1991).

[3] Central Intelligence Agency, CIA Report on Intelligence Related to Gulf War Illnesses (2 August 1996).

TABLE 1. LOCATION OF KNOWN/SUSPECTED CHEMICAL AGENT RESEARCH PRODUCTION, STORAGE, PRECURSOR, AND RELATED HAZARDOUS STOCKPILES BOMBED BY COALITION FORCES

FACILITY	LOCATION	ACTIVITY	REPORTED DATES OF BOMBINGS
MOSUL AIRFIELD	361822N/0430849E	CW STORAGE	1/29/91
QAYYARAH WEST AMMO DEPOT	355140N/0430630E	CW STORAGE	2/10/91
QUYYARAH WEST AIRFIELD	354611N/0430718E	CW STORAGE	2/10/91
KIRKUK AMMO DEPOT WEST	353230N/0435800E	CW STORAGE	2/05/91
KIRKUK AIRFIELD	352810N/0442018E	CW STORAGE	2/05/91
MUTHANNA STATE ESTABLISHMENT – CW RESEARCH, PRODUCTION AND STORAGE (also called: SAMARRA)	335020N/0435030E	CW STORAGE CW PRODUCTION CW RESEARCH	1/17/91
H-3 AIRFIELD	325551N/0394446E	CW STORAGE	2/09/91
AL TAQADDUM AIRFIELD	331958N/0433804E	CW STORAGE	2/04/91
BAGHDAD AMMO DEPOT - TAJI	3332223N/0441636E	CW STORAGE	2/10/91
UBAYDAH BIN AL JARRAH AIRFIELD	322915N/0454544E	CW STORAGE	1/17/91
AN NASIRIYAH AMMO STORAGE FACILITY SOUTHWEST	305750N/0461030E	CW STORAGE	2/09/91
TALLIL AIRFIELD	305808N/0460527E	CW STORAGE	1/29/91
ASH SHUAYBAH AMMO STORAGE DEPOT NORTHEAST	3022840N/0473630E	CW STORAGE	2/01/91
HABBANIYAH-1 (FALLUJAH-3)	3333N04339E	PESTICIDES CW PRECURSORS[4]	1/17/91 2/01/91
HABBANIYAH - 2 (FALLUJAH-2)	3329N04340E	PRODUCTION: CHLORINE HCL ACID SULFUR CHLORIDE SULFUR TRIOXIDE THIONYL CHLORIDE DICHLORO METHYL PHOSPHINE OXIDE PHOSPHORUS TRICHLORIDE PHOSPHOROUS OXYCHLORIDE METHYL PHOSPHITE STORAGE: DIISOPROPYL AMINE DIMETHYLAMINE HCL (25 TONS) THIODIGLYCOL (40 TONS)	1/17/91 2/01/91
HABBANIYAH-3 (FALLUJAH-1)	3329N04349	NO COMPLETED PRODUCTION WORKS OR STORAGE SITES – COMPLETELY DESTROYED BY ALLIED BOMBINGS	1/17/91 2/01/91
HABBANIYAH (OTHER)	3322N04331E	CW STORAGE	2/17/91
FALLUJAH (OTHER)	3313N04341E	CW STORAGE	2/21/91
AL QAIM	3350N04110E	CW STORAGE	2/10/91
K-2 AIRFIELD	3466N04524E	CW STORAGE	2/09/91
TIKRIT	3443N04339E	CW STORAGE	2/13/91
KARBALAH	3223N04330E	CW STORAGE	2/03/91
AD DIWANIYAH	3158N04454E	CW STORAGE	2/03/91
QABATIYAH	3353N04239E	CW STORAGE	1/19/91

[4] U.S. ARMY Operations Group INSCOM, Subject: IIR 2 201 0022 92, Inspection of Chemical Warfare Facilities, 3 OCT 91 (declassified 1995). Report provides information on activities at the three Habbaniyah sites.

Unidentified Variables

The location or locations at which chemical munitions and bulk agent were stored after being removed from known chemical warfare agent production and storage facilities adds an unknown variable to estimates of bombing damage to chemical warfare stocks. Identifying these additional facilities would complicate observations, but does not alter events associated with known locations bombed in the days prior to detections of chemical warfare agents in areas occupied by U.S. troops. Many of the facilities suitable for the storage of these materials were in areas in which Iraqi forces were deployed. The presence of three such facilities at An Nasiriyah and Kamisiyah have recently been confirmed by the Department of Defense. Further, a declassified signals intelligence (SIGINT) intercept report,[5] recent UNSCOM reporting,[6] and a recent press interview with a former Iraqi commander[7] indicate that chemical rounds were deployed to the front with the Iraqi forces and that Iraqi commanders had limited or pre-designated authority to use them. Each of these reports indicates that the probability of chemical warfare agent fallout from bombing targets not then known to contain these materials is also high.

[5] CENTCOM CCJ3-X (NBC) Log, February 5, 1991 (partially declassified)
[6] Security Council Report S/1995/864, 11 October 1995 (UNSCOM).
[7] Riding the Storm: How to Tell Lies and Win Wars, personal interview by Maggie O'Kane, Cinecontact, 175 Wardour Street, London, W1V3FB, U.K.

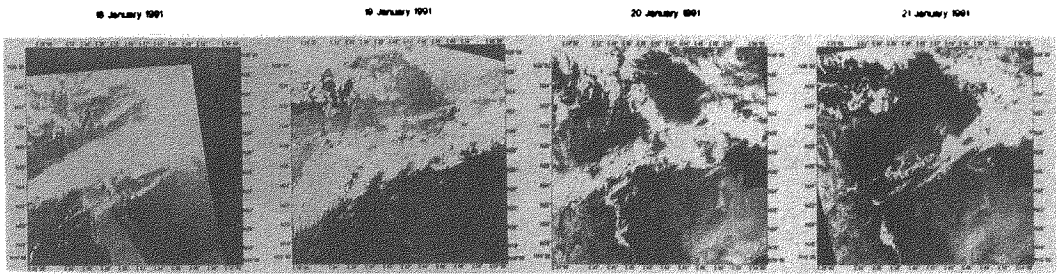
STALLED FRONTAL ACTIVITY, WINDS ALOFT, AND VISIBLE AND INFRARED SATELLITE IMAGERY

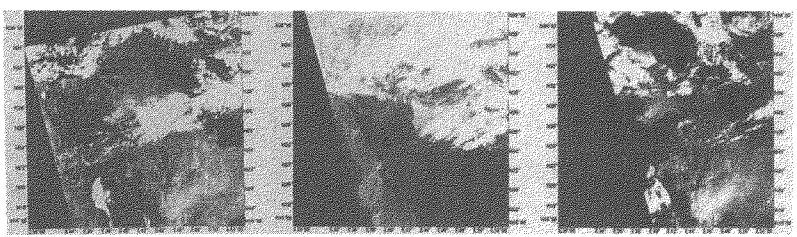
STALLED FRONTAL ACTIVITY

Shortly after the initiation of the air war and throughout the period covered in this section (January 17-24, 1991), a low pressure system over Iraq and a high pressure center over the Indian Ocean resulted in a stationary frontal pattern and the development of low-level cloud activity directly over the area occupied by coalition forces. This stalled weather pattern was reported in the official history of the weather (Gulf War Weather) prepared by the United States Air Force in 1992.

A composite of NOAA-11 visual images showing the stalled front appears on the following page. This composite image covers the period January 18-24, 1991 (Coverage for January 17, 1991, was not available from the National Climatic Data Center).

NOAA-11 AVHRR LEVEL 1B VISUAL IMAGE SERIES

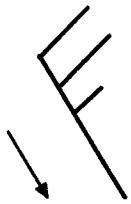




WINDS ALOFT

In analyzing whether or not fallout is a factor in the "valid"[8] detections we are aware of thus far, wind directions in the hours before, not just during, the detections are relevant. The Department of Defense and the Central Intelligence Agency rely on point time data rather than data over time. While this information is important, it is much less relevant than analyzing the winds that may have transported toxic effluents to the area of detection in the hours immediately before the detections occurred.

Winds are represented on National Weather Service (NWS) surface charts by the following symbol:[9]



(Speed: long bar 10 kts each; short bar - 5 kts)
Example: 25 kts

Direction

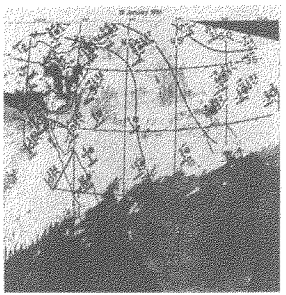
However, above the frictional surface layer, wind speeds are geostrophic and tend to follow isobar contours. Wind speeds are subgeostrophic throughout the mixing layer (ML) with wind directions crossing the isobars at a small angle towards low pressure .[10] Low pressure is the lower isobar on each of the charts displayed on the following composite image (page 10) for the period prior to the "credible" Czechoslovak chemical detections on January 19, 1991.

[8] Letter to the author from Col. E. Koenigsburg, U.S. Department of Defense (DoD), Persian Gulf Investigative Team (PGIT), dated April 18, 1996, acknowledging that it is the position of the DoD that the Czech chemical detection methods are valid.
[9] Dusan Djuric, Weather Analysis, (Englewood Cliffs, NJ: Prentice Hall) 249.
[10] Roland B. Stull, An Introduction to Boundary Layer Meteorology, (Norwell, MA: Kluwer Academic Press, 1988), 15.

During night time bombings the area closest to the ground is highly stable, partly due to the absence of solar thermal activity. This stable layer normally would trap pollutants in this surface layer. However, high explosive weapons and highly volatile agent material would have created their own thermal activity, and toxic effluents and agent vapor penetrated the surface layer to travel with the winds aloft in the residual layer (RL) of the night time atmosphere. "Although the winds at ground level frequently become lighter or calmer at night, the winds aloft may accelerate to supergeostrophic speeds in a phenomena that is called the low-level jet or nocturnal jet...Winds exhibit very complex behavior at night. Just above the ground the wind speeds become light or even calm. At altitudes on the order of 200 meters above the ground, the wind may reach 10-30 meters/second [36-108 kilometers/hour].[11] Regardless of the night time behavior of the pollutants, the return of the mixing layer after sunrise results in the fanning out of the toxic effluent debris throughout the mixing layer (altitudes of 1000 meters and higher).

The available surface weather data reveals that during the period just prior to the January 19, 1991, chemical warfare agent detections by Czechoslovak and French forces, surface frictional winds varied with location. However, the isobaric contours confirm that the non-frictional winds were moving from the areas over the bombed facilities towards the units involved in the detection activity. The next composite chart shows that throughout this period the 1000mb (millibar) contours indicate that winds aloft at the lowest recorded levels flowed directly towards the detecting elements, even when surface winds did not.

[11] Ibid.



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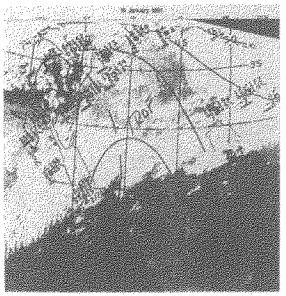

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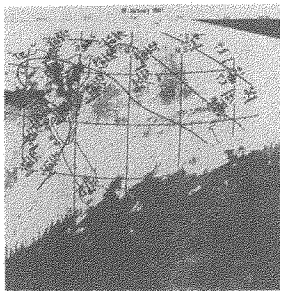

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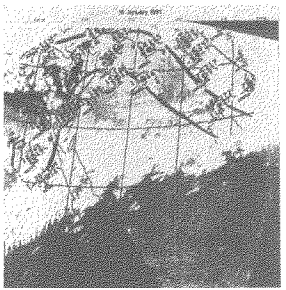

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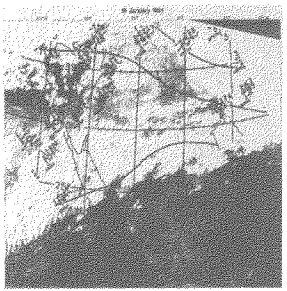

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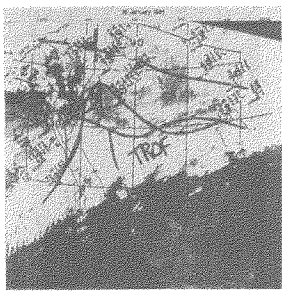


12Z SAT 19 JAN 1991 1620Z RW3

NATIONAL WEATHER SERVICE SURFACE CHART SERIES PRIOR TO 19JAN1991 CHEMICAL WARFARE AGENT CONFIRMATIONS

The confirmation necessary to establish that the bombings of these facilities caused enormous thermal events and plumes that extended directly towards Coalition military personnel should be observable using satellite imagery if the collected data is not obscured by dense clouds. Such a confirmation can be made by (1) identifying the location of the facilities (accomplished above), and (2) by reviewing both the visible and infrared imagery available immediately before and contemporaneous with the detection of chemical warfare agent materials in areas where Coalition forces were located which are identical to those contained in the facilities that were destroyed.

VISIBLE AND INFRARED METEOROLOGICAL SATELLITE IMAGERY

Source of Data: Advanced Very High Resolution Radiometer (AVHRR) Level 1B satellite images taken by NOAA-11 were acquired from the National Climatic Data Center, National Oceanographic and Atmospheric Administration (NOAA), Asheville, North Carolina. The AVHRR aboard NOAA-11 collects on five distinct spectral bands; three infrared bands and two visible bands.

Data resolution: 1.1 kilometer (km)

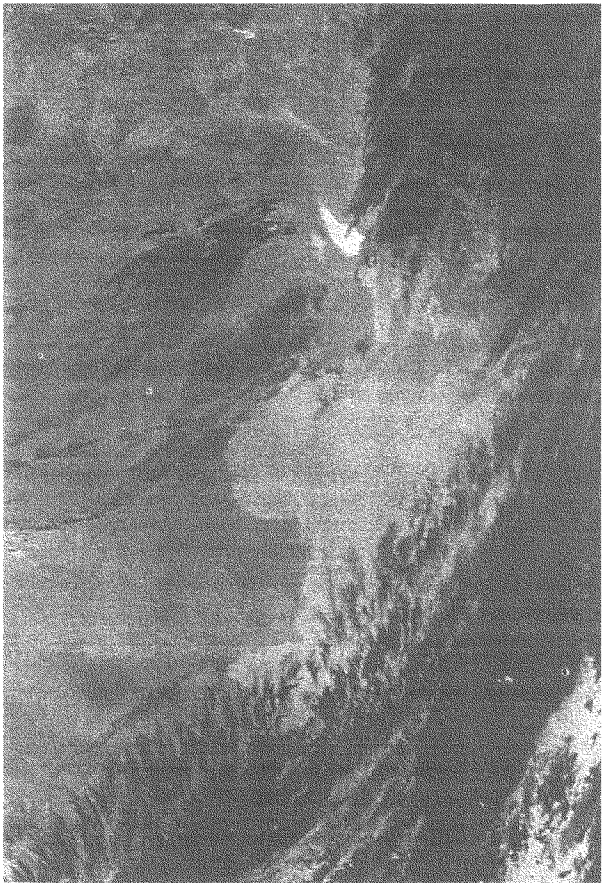
Image Processing: ERDAS Imagine, Version 8.2, geographic information system (GIS) software was used to process the images that follow.

Annotated images were rotated to true north alignment. Locational annotations were geolocated using readily identifiable reference points. No enhancement or alteration of the images was performed. Infrared images are outside of the visible spectrum; visible detail on these images is the result of thermal and infrared reflecting activity. A map of Iraq appears at the end of the report to assist in reader orientation.

19JAN1991; 0008Z; CHANNEL 4 (10.3-11.3 nanometers (IR))

The image on the following two pages was taken by NOAA-11 on January 19, 1991, at 0008Z, several hours prior to the first Czech detections. This is the image recorded by AVHRR channel 4, which measures thermal and other infrared activity in the 10.3-11.3 nanometer range. The two other infrared channels (3, 5) also measured the activity recorded on the image. The visible imagery channels (1,2) record no activity since the image was taken during a period of darkness. The first image in unannotated. The second image is annotated for reader orientation.

NOAA-11 18JAN91; 0008Z; CHANNEL 4 (10.3-11.3mm (IR))



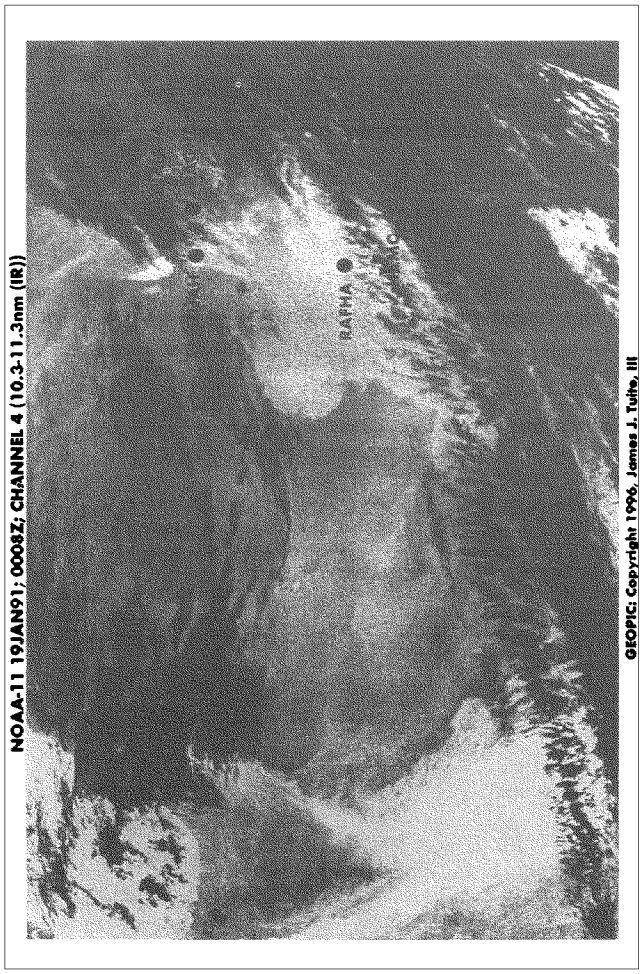

NOAA-11 19JAN91; 0008Z; CHANNEL 4 (10.3-11.3nm (IR))
RAPHA
GEOPIC; Copyright 1996, James J. Tuttle, III

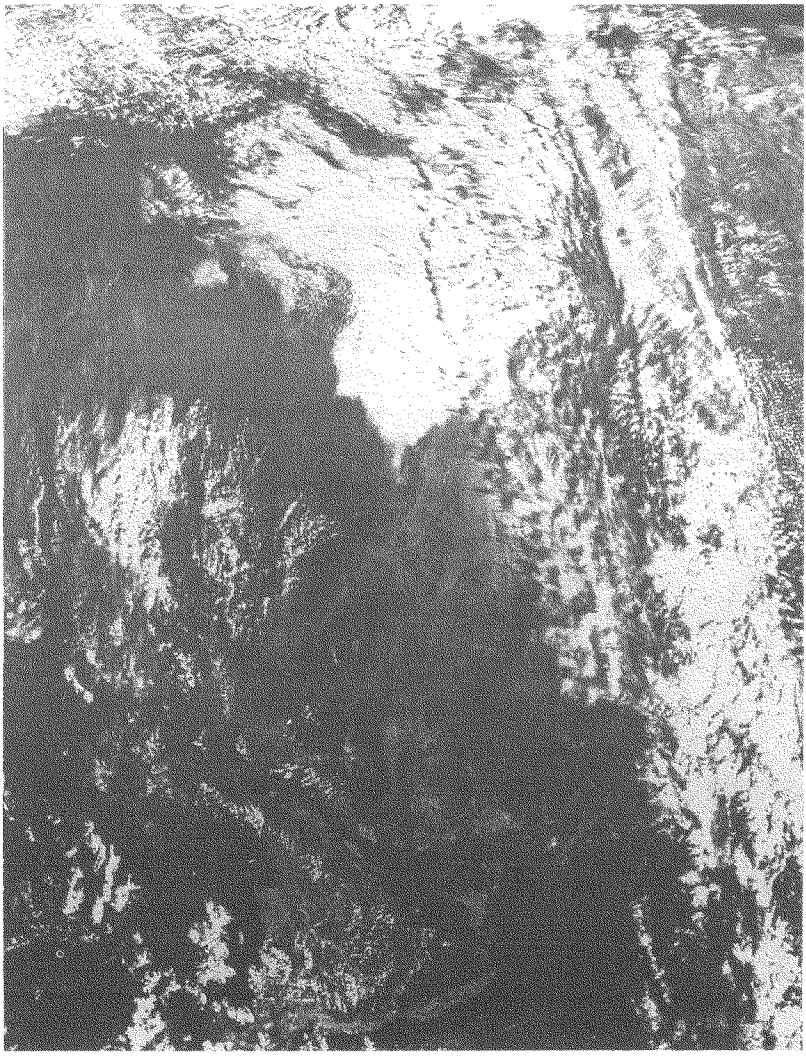
Image information:

The preceding images identify an intense point source thermal event originating in the area directly over the Muthanna State Establishment in Iraq. This was Iraq's largest chemical warfare agent research, production, and storage facility. The plume from this facility extends south toward a larger area of thermal activity. This larger thermal activity covers a number of other facilities in Iraq known to contain chemical warfare agents, chemical warfare agent precursor materials, and other hazardous industrial and agricultural chemicals. These facilities were also bombed during this period and would have contributed to the thermal activity. This composite plume continues southward toward the areas in which the Czechoslovak chemical teams detected chemical agents identical to those known to be stored or produced at the bombed facilities. These detections occurred in an area where this warm air mass collided with the colder clouds in the stalled front described above. This predictably would have resulted in both instability and condensation activity. The chemical warfare agents, which are 4-6 times heavier than air, should have dropped to the surface as a result of this activity.

19JAN1991; 1125Z; MULTISPECTRAL IMAGE (CH. 1,2 (VISIBLE) CH. 4 (IR))

The image on the following page was taken by NOAA-11 on January 19, 1991, at 1125Z. This is the image recorded by AVHRR channels 1 and 2, which measure visible activity, and channel 4, which measures thermal and other infrared activity in the 10.3-11.3 nanometer range. By analyzing the images from the 0008Z pass just prior to the Czech detections and the 1125Z pass just after the Czech detections, both the direction and nature of this enormous thermal and visible plume are confirmed.

Again, there is an intense point source multispectral plume of thermal and visible debris originating from the area directly over the Muthanna State Establishment. This activity extends directly southward, passing over other known and suspected chemical warfare agent storage sites which were also attacked during this period. Again, this plume interacts with the stalled front in the area where the detections occurred.



NOAA-11 19JAN91; 1125Z MULTISPECTRAL IMAGE (CH. 1, 2 (VISIBLE) CH. 4 (IR))

These images are from the NOAA-11 satellite passes that occurred just prior to and after the first Czechoslovak chemical agent detection, which the Department of Defense has labeled as "credible" and "reliable" but not confirmed because the wind was allegedly blowing the wrong way.

These images directly contradict several Department of Defense and Central Intelligence Agency positions about the direction the fallout moved and the stated position that U.S. forces were not exposed to chemical warfare agents "in any widespread way." They also lend weight to other simultaneous chemical agent detection activity that occurred across the theater by other Coalition forces during the period this front was stalled over Coalition forces. Detection technologies and individual detections during the period of the stalled frontal activity are discussed in the next section of this report. Subsequent to this period, however, visible satellite imagery shows that plume activity from the bombings continued towards Coalition troop deployments. This new knowledge about the distances these materials may have traveled demands a reassessment of the hazards associated with bombing these facilities throughout the war.

CZECHOSLOVAK AND COALITION DETECTION TECHNOLOGIES

Sensor Technology

The three major powers participating in the 1991 Persian Gulf War, the U.S, U.K., and France, all expected chemical warfare agent use by the Iraqi military. These governments brought a diverse array of chemical warfare detection and identification equipment with them to the Gulf. Soviet equipment, such as the GSP-1 and GSP-11 and a mobile chemical agent laboratory were also used by Czech chemical troops. This broad array of equipment used varying technologies to detect and confirm the presence of chemical warfare agents, as well as to identify the specific agent present. The following is a listing of the different physical principles employed:

- wet chemistry
- mass spectrometry
- ion mobility spectrometry
- chemical reaction
- biochemical enzyme reactivity
- flame photometry
- ionization

The Department of Defense has only acknowledged up to this point that the Czechoslovak technology is reliable and credible and the Czech confirmation procedure uses wet chemistry principles, which permit a qualitative confirmation of specific chemical warfare compounds. Only two of seven detections by Czech units have been called credible and reliable. The remainder are said to be possible. The Department of Defense claims that none of the detections using any of the other technologies have been confirmed.

Table 2 identifies detector/sensor and agent identification systems deployed by coalition forces reporting the detection of chemical warfare agents.

TABLE 2. DETECTOR/SENSOR AND AGENT IDENTIFICATION SYSTEMS DEPLOYED BY COALITION FORCES REPORTING THE DETECTION OF CHEMICAL WARFARE AGENTS[12]

NATION/ SYSTEM	CHEMICAL AGENTS	SENSITIVITY	METHOD/ TECHNOLOGY
FRANCE/F1	G/V AGENTS	DATA NOT AVAILABLE	BIOCHEMICAL ENZYME DETECTOR
FRANCE/TDCC	GA/GB AC CK	1 mg/m3 350 mg/m3 2000 mg/m3	CHEMICAL/BIOCHEMICAL DETECTOR
FRANCE/ADLIF	GB/GD	DATA NOT AVAILABLE	FLAME SPECTROMETRY
UK/CAM	G/V AGENTS H AGENTS	0.1 mg/m3 2.0 mg/m3	ION MOBILITY SPECTROMETRY (QUANTITATIVE FEATURE)
UK/NAIAD	G AGENTS V AGENTS	0.05mg/m3 0.005 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY)
UK/MARK I	G/V AGENTS H AGENTS	DATA NOT AVAILABLE	BIOCHEMICAL/CHEMICAL REACTIVITY
UR-CZ/GSP-1	G/V AGENTS	0.05mg/m3	AIR SAMPLING/ BIOCHEMICAL ENZYME (CHOLINESTERASE REACTIVITY)
UR-CZ/GSP-11	G/V AGENTS	0.05 mg/m3	AIR SAMPLING/ BIO-CHEMICAL ENZYME (CHOLINESTERASE REACTIVITY)
CZ/PPCHL-90	MOST CHEMICAL WARFARE AGENTS	AGENT IDENTIFICATION THROUGH WET CHEMISTRY ANALYSIS	FIELD PORTABLE CHEMICAL AGENT LABORATORY - CHEMICAL REAGENTS/ WET CHEMISTRY ANALYSIS
US/M8(A1)	G AGENTS V AGENTS	0.1 mg/m3 0.2 mg/m3	IONIZATION AUTOMATIC ALARM
US/M8 PAPER	G/V AGENTS H AGENTS	YES/NO YES/NO	CHEMICAL REACTIVITY COLOR INTERPRETATION
US/M9 PAPER	G/V AGENTS H AGENTS	YES/NO YES/NO	CHEMICAL REACTIVITY COLOR INTERPRETATION
US/M256	G AGENTS V AGENTS H AGENTS	0.05 mg/m3 0.15 mg/m3 3.0 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY) CHEMICAL REACTIVITY
US/M256A1	G AGENTS V AGENTS H AGENTS	0.005 mg/m3 0.02 mg/m3 3.0 mg/m3	BIOCHEMICAL ENZYME DETECTOR (CHOLINESTERASE REACTIVITY) CHEMICAL REACTIVITY
US/CAM	G/V AGENTS H AGENTS	0.1 mg/m3 2.0 mg/m3	ION MOBILITY SPECTROMETRY (QUANTITATIVE FEATURE)
US/M91 FOX NBC VEHICLE	G AGENTS 60 OTHER PREPROGRAMMED AGENT SPECTRA	SEVERAL mg/m3 M8A1 (M43) IONIZATION BACKUP UNIT (EARLY WARNING)	QUADRAPOLE GC-MS FULL GC-MS

[12] Specifications (where available) obtained from DOD FM Series 3; the Chemical Research, Engineering and Development Command (CRDEC), Aberdeen Proving Grounds, MD; the manufacturers; and, Jane's NBC Protection Equipment 1991-1992, and 1995-1996.

SUMMARY OF CHEMICAL WARFARE AGENT DETECTIONS

PERIOD ONE: JANUARY 17, 1991 - JANUARY 24, 1991

During this critical period, coalition forces targeted and bombed the key Iraqi chemical warfare research, production, and storage facility at Samarra (also known as Muthanna) on January 17, 1991; major chemical warfare agent production and storage facilities at Habbaniyah I, Habbaniyah II, and Habbaniyah III (also known as Fallujah I, II, III) on January 17-18, 1991; and chemical weapons storage facilities at An Nasiriyah and Ubaydah Bin Al Jarrah Airfield on January 17, 1991. This pattern of chemical weapons facility bombing activity is likely incomplete, but the bombings of these critical targets are confirmed in contemporaneous intelligence reports. [13]

TABLE 3. PRINCIPAL REPORTED CHEMICAL AGENT DETECTIONS BETWEEN 17 JANUARY 1991 - 24 JANUARY 1991 [14]

DATE	LOCATION	NATION/UNIT	AGENT DETECTED	METHOD/TECHNOLOGY
17 JAN 91	N.W. HAFIR AL BATIN	US/ 2/5TH SFG	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTION, ION MOBILITY SPECTROMETRY M8A1, M256, CAM
19 JAN 91	N. HAFIR AL BATIN	CZ/ CHEM. DET. UNIT	SARIN (GB)	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90
19 JAN 91	N.E. HAFIR AL BATIN	CZ/ CHEM. DET. UNIT	SARIN (GB)	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90

[13] Defense Intelligence Agency, Intelligence Assessment of Chemical and Biological Warfare in the Gulf: For the Defense Science Board investigating Desert Storm Syndrome, Washington, D.C. (1993) (declassified September 25, 1995);OSD-CCC SOA 1294, Subject: Soviet Request for Info on Chemical/Radiological Leaks, 17 JAN 1991, Office of the Joint Chiefs of Staff, U.S. Department of Defense, Washington, D.C. (declassified 21 December 1995); Internal Staff Paper, Release Covered by MOP 39, Subject: Soviet Request for Info on Chem/Radiologic Leaks, 23 JAN 1991 (declassified 21 December 1995); McConnell, J.M., RADM, USN, Director for Joint Staff, Intelligence Internal Staff Paper, Soviet Embassy Request for Information on Desert Storm, 18 JAN 1991, Washington, D.C. (declassified 21 DEC 1995); Memorandum for the Assistant Deputy Under Secretary of Defense, Soviet and East European Affairs, Subject: Soviet Embassy Request for Information on Desert Storm (declassified 21 DEC 1995).

[14] Detection/confirmation reports are primarily from CENTCOM CCJ3-X log (partially declassified 1995), Defense Science Advisory Board (DSAB) report (June 1994), reports from the Czech government regarding detection activity during the Persian Gulf War, and declassified DIA reports regarding chemical detection activity. Several events (3) are identified in CENTCOM reporting and discounted by CENTCOM but confirmed by interviews with chemical detection specialists. These reports have been included only if the reports are corroborated or documented by multiple independent sources.

19 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY WET CHEMISTRY GSP-1(11), PPCHL-90
19 JAN 91	30 KM FROM KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
19 JAN 91	30 KM FROM KKMC	CZ/ CHEM. DET. UNIT	CONFIRM FRENCH DETECTION	WET CHEMISTRY PPCHL-90
19 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	SULFUR MUSTARD (HD)	WET CHEMISTRY PPCHL-90
19 JAN 91	JUBAYL	UK	UNKNOWN BLISTER (AFTER UNEXPLAINED EXPLOSIONS)	CHEMICAL REACTIVITY, ION MOBILITY SPECTROMETRY M-9, CAM
19 JAN 91	JUBAYL	US/ NMCB-24	UNKNOWN BLISTER (AFTER UNEXPLAINED EXPLOSIONS)	CHEMICAL REACTIVITY M-256 (2/3 TESTS)
20 JAN 91	NW of KKMC	US/ 800TH MP BDE	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTIVITY M8A1, M256
20 JAN 91	DHAHRAN	UK	UNKNOWN NERVE (AFTER SCUD ATTACK)	BIOCHEMICAL REACTIVITY (SEPARATE DEVICES) NAIAD, MARK I
20 JAN 91	NEAR KKMC	CZ/ CHEM. DET. UNIT	SULFUR MUSTARD (HD) FOR 2 HRS	WET CHEMISTRY PPCHL-90
20 JAN 91	NEAR KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
20 JAN 91	FRENCH SECTOR KKMC	CZ	SARIN (GB)/TABUN (GA)	BIOCHEMICAL REACTIVITY WET CHEMISTRY PPCHL-90
21 JAN 91	KKMC	FR	UNKNOWN NERVE AGENT	BIOCHEMICAL REACTIVITY
21 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	SARIN (GB)/TABUN (GA), SULFUR MUSTARD (HD)	BIOCHEMICAL REACTIVITY WET CHEMISTRY PPCHL-90
21 JAN 91	KKMC	FR	UNKNOWN CW	CHEMICAL OR BIOCHEMICAL REACTIVITY
22 JAN 91	RAFHA	US	UNKNOWN NERVE AGENT	IONIZATION, BIOCHEMICAL REACTIVITY M8A1, M256
23 JAN 91	KKMC	CZ/ CHEM. DET. UNIT	UNKNOWN CW	WET CHEMISTRY PPCHL-90
23 JAN 91	NEAR KKMC	CZ/ CHEM. DET. UNIT	PATCH OF SULFUR MUSTARD (HD)	WET CHEMISTRY PPCHL-90
23 JAN 91	CENTCOM	US/ CENTCOM NBC CELL	ORDER TO CENTAF	DISREGARD CHEMICAL AGENT REPORTS COMING FROM THE CZECHS
17 JAN - 23 JAN 91	THEATER-WIDE	US	UNKNOWN NERVE AGENT	IONIZATION M8A1

OBSERVATION

This period of widespread chemical agent sensing by the instruments and methodologies cited above directly coincides with the release of the detected material, the identification of thermal and visual plume activity extending from the area of the damaged facilities towards prepositioned military personnel, and a meteorological phenomena that would stall the toxic vapors and debris directly over the area in which coalition troops were deployed.

PERIOD TWO: JANUARY 24, 1991 - FEBRUARY 28, 1991

This period is marked by the continued bombing of Iraqi chemical weapons research, production and storage facilities and by the continued sounding of the M8A1 automatic ionization nerve agent alarms throughout the area occupied by U.S. and Coalition forces. In testimony before the Senate Banking Committee on May 24, 1994, Department of Defense officials acknowledged that the 14,000 chemical agent alarms deployed with U.S. forces in the Gulf sounded three times per day, on average, during the period of the air and ground war.

French, Czech, and U.S. commanders publicly or privately reported that the alarms sounded because of traces of nerve agent in the air from the bombing of Iraqi chemical weapons facilities, but asserted, incorrectly, that the amount of agent present was insufficient to cause physiological harm. The commander of the Soviet Chemical Troops, Major General Igor Yestafyev and Soviet Foreign Minister, Vitaly Churkin, publicly expressed concern over the bombings and their potential impact to the safety of the Soviet Union.[15]

[15] Associated France Presse, Paris, February 4, 1991 as reprinted in The Independent (cites General Raymond Germanos that chemical fallout-related neurotoxins from allied bombings were being detected "a little bit everywhere;" Kanishchev, A. and Timofeyev, L, "Soviet Spokesman on Attacks on Iraqi Chemical Objects," TASS, February 8, 1991; Handleman, S., "Kremlin Growing Frustrated with Role of Outsider," Toronto Star, February 10, 1991.

Soldiers continued to report flu-like illnesses, rashes, and large unexplained cross-species/cross-family die-offs of animals in the desert. Several reports of chemical nerve agent detections/confirmations using US/M256 chemical agent detection kits were also received.

During this period, the general pattern of reliable known or reported chemical agent detections decreased, but it is unclear whether this is the result of (1) a CENTCOM directive on January 23, 1991, ordering subordinate elements to disregard reliable detections such as those made by the Czechs; (2) U.S. units reportedly being told to ignore or disable chemical agent detection equipment; (3) an absence of data based on the refusal of the Department of Defense to declassify the entire CENTCOM CCJ3-X NBC and other subordinate unit log entries for most of this period; or (4) a reduction of the levels of agent material present due to the passing of the stationary front observed during Period One.

Satellite Data

Visible and thermal satellite imagery and smoke plume data shows that the debris from the bombings consistently moved with the weather patterns towards and over positions occupied by coalition forces assembling for the upcoming invasion of Kuwait and Iraq. One study conducted after the war on the debris from the Kuwaiti oil well fires indicated that satellite imagery revealed visible debris observed at heights of 6-7 km above ground level and at distances of nearly 2,000 km from their source.[16] While the smoke and toxic debris from the bombings of the chemical warfare agent research, production, and storage facilities were not always visible, there is no reason to believe that, except for the decomposition of the agents themselves, they would behave any differently than any other airborne effluent debris.

[16] Limaye, S., Suomi, V., Velden, C., Tripoli, G. "Satellite Observations of Smoke from Oil Fires in Kuwait," Science, Vol 252, 15 June 1991 pp. 1536-1539.

CONCLUSIONS

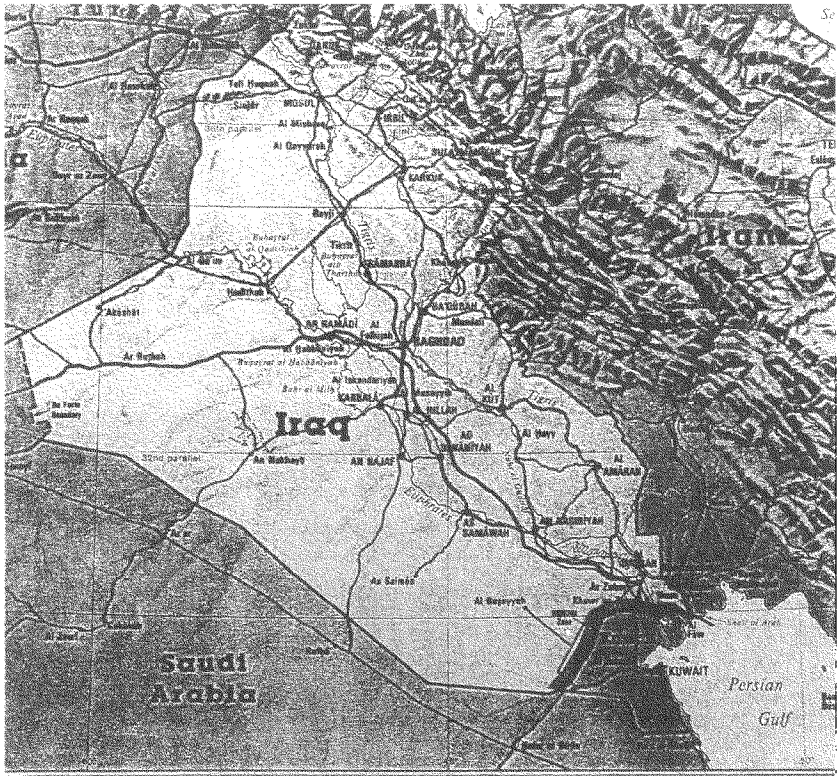
U.S. soldiers were exposed to detectable levels of chemical warfare agent fallout from the aerial bombings of Iraqi chemical warfare agent research, production, and storage facilities by Coalition forces. This report identifies the location of, and in some cases the date that, chemical warfare agent research, production, and storage facilities known to contain chemical warfare agents, chemical warfare agent precursors, and other hazardous chemical toxins were bombed. Archived meteorological data, including visible and infrared satellite imagery illustrates that the heat and smoke, and therefore the toxic debris, from these facilities traveled directly towards U.S. military personnel. Finally, it establishes scientific confirmation of the presence of these exact compounds by technologies evaluated by the U.S. Department of Defense to be both "credible" and "reliable."

Unlike previous government disclosures claiming that the number of soldiers exposed to these compounds is minimal and limited to the immediate area around the destruction of the Kamisiyah facility after the war, this research demonstrates that chemical warfare agents were present in areas where hundreds of thousands of U.S. soldiers were massing for the upcoming invasion of Iraq and liberation of Kuwait. A review of other detections and detection technologies is needed. In cases where sensor technologies utilizing different and complementary scientific principles simultaneously indicated the presence of chemical warfare agents, these detections should also be considered credible.

FUTURE EFFORTS

Additional research is being conducted on plume and fallout activity occurring throughout the entire war. Further, imagery should be able to determine the extent of fallout resulting from the destruction of the Kamisiyah facility. Imagery datasets for the entire war have been acquired and will be analyzed to determine, as far as possible, just how extensive the these exposures may have been. Such a research approach will also assist in identifying areas of potential exposures. The fallout data developed in this report should, however, result in a policy determination assuming that all U.S. military personnel may have been exposed to these materials.

Additional independent interdisciplinary research is also being conducted to determine the course and progress of this disease, which appears to have neurological, immunological, and microbiological aspects. This type of research is a necessary first step to develop inexpensive diagnostic tools and possible treatment protocols for Persian Gulf War Related Illnesses.


Iraq
Iran
Saudi Arabia
KUWAIT
Persian Gulf
BAGHDAD
KARKUK
MOSUL
AN NAJAF
AS SAMAWAH
Euphrates
Tigris
SCALE 1:6,430,000
0 50 100 150 200 Kilometers
0 50 100 150 200 Miles
Lambert Conformal Conic Projection, standard parallels 12°N and 38°N
International boundary
National capital
Province capital
Railroad
Expressway
Road
Track

Major JOHNSON. Mr. Chairman, I appreciate the opportunity to appear before this committee to share my personal experience in the Persian Gulf. Mr. Chairman, I am prepared to answer your questions.

Mr. SHAYS. Thank you, Major. We are going to defer questions until all the witnesses in this panel have given their testimony.

[The prepared statement of Major Johnson follows:]

RECORD VERSION

STATEMENT BY

MAJOR MICHAEL F. JOHNSON

TRAINING WITH INDUSTRY STUDENT

UNITED STATES ARMY STUDENT DETACHMENT

BEFORE THE

SUBCOMMITTEE ON HUMAN RESOURCES AND INTERGOVERNMENTAL

RELATIONS

COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

104TH CONGRESS

INVESTIGATIONS ON THE PERSIAN GULF WAR VETERAN'S ILLNESSES

AND EXAMINATION OF REPORTS OF ADDITIONAL CHEMICAL DETECTIONS AND

POSSIBLE EXPOSURE TO TROOPS

10 DECEMBER 1996

NOT FOR PUBLICATION UNTIL
RELEASED BY THE HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS
COMMITTEE ON GOVERNMENT REFORM
AND OVERSIGHT

RECORD TESTIMONY

INVESTIGATIONS ON THE PERSIAN GULF WAR VETERAN'S ILLNESSES AND EXAMINATION OF REPORTS OF ADDITIONAL CHEMICAL DETECTIONS AND POSSIBLE EXPOSURE TO TROOPS

TRAINING WITH INDUSTRY STUDENT

UNITED STATES ARMY STUDENT DETACHMENT

UNITED STATES ARMY

RECORD TESTIMONY

Good afternoon Mr. Chairman and members of the Committee, thank you for the opportunity to present my information on the activities and events that occurred on 7 & 8 August 1991 regarding the positive identification of chemical warfare agents in Kuwait. I was the Commander of the 54th Chemical Troop, 11th Armored Cavalry Regiment. My primary mission was to provide decontamination, deliberate offensive and defensive smoke, and NBC (Nuclear, Biological, and Chemical) Reconnaissance support to the 11th Armored Cavalry Regiment. I am here today in uniform at the invitation of this Committee. My testimony, however, is not official Army policy, but comes from my personal experience during my tour of duty in the Persian Gulf. Specifically, I will discuss my unit's role in detecting the presence of Iraqi toxic chemical warfare agents in Kuwait on 7 & 8 August 1991.

My intent is to provide you with a detailed analysis of our actions on 7 & 8 August 1991 in support of a joint and combined live toxic chemical agent detection mission involving US and British forces. The information provided are the facts as they occurred on both days during the detection operation.

On 4 January 1994, I prepared a report titled **IRAQI CHEMICAL AGENTS-- INFORMATION PAPER**. The purpose of the report was to present first hand knowledge of Iraqi chemical agents identified in Kuwait. At that time, three years had passed since Operation Desert Shield / Storm. I was concerned that it was possible that the history of my unit's chemical detection actions with the 21st British Explosive Ordnance (EOD) Royal Engineers, was not properly documented. I had not seen any official or unofficial record of those actions. It was my intent, on 4 January 1994, to inform my chain of command at the United States Army Infantry School - Fort Benning, Georgia, were I was the chief instructor for Nuclear, Biological, and

Chemical Operations, about my unit's actions in the desert and to get approval to modify some of my course instruction for my Advanced and Basic Course Officers (students), which would focus on the lessons learned in NBC defensive operations during the Gulf War.

My report was returned back to me. I was told by my division chief that the comments from the Infantry School Leadership were that my report was a good lay down of information on one facet of chemical operations in Kuwait. I was then told to file the report in my office. I was given guidance to add some discussion time to my courses on NBC operations during the Gulf War with emphasis on Techniques, Tactics, and Procedures (TTPs), use of NBC defense equipment, and future challenges to our NBC defense doctrine, equipment, and training. I made the changes to my courses and added discussions on NBC defense lessons learned from the Gulf War.

The remainder of my testimony is the actual report I prepared with supporting documentation to show what took place on 7 & 8 August 1991. On 4 January 1994, I submitted the report through the Combined Arms and Leadership Division Chief to the Combined Arms and Tactics Director at Fort Benning, Georgia. Once again, the report contains detailed information on the chemical detection mission of the 54th Chemical Troop, 11th ACR and the 21st British Explosive Ordnance Disposal Battalion, Royal Engineers in Kuwait.

c. I am concerned that the information regarding the history of this action has not been documented.

END OF REPORT.

In closing, I would like to reemphasize that these are the facts of my unit's actions to detect and identify Iraqi toxic chemical warfare agents. I know that my unit in a joint chemical detection role with British forces did in fact detect and confirm the presence of toxic chemical warfare agents in Kuwait. I know that our NBC detection and protection equipment worked properly on 8 August 1991. I know that the soldiers under my command were the best trained on the FOX Nuclear, Biological, and Chemical Reconnaissance Vehicle and did their assigned jobs far and above the expected performance standards. Mr. Chairman, I appreciate the opportunity to appear before this committee today and share my personal experience during my tour of duty in the Persian Gulf. I sincerely hope these hearings shed some light on the mystery why Persian Gulf War veterans are sick. I know we all continue to share a common interest in the good health and welfare of our great Persian Gulf War veterans. Thank you.

4 January 1994

MEMORANDUM FOR DIRECTOR, CATD

SUBJECT: IRAQI CHEMICAL AGENTS--INFORMATION PAPER

1. Purpose. To present first hand knowledge of Iraqi chemical agents identified in Kuwait.

2. Discussion.

a. Nearly three years have passed since Operation Desert Shield/Storm. Recent headlines have aroused considerable interest in the possible exposure of coalition forces to Iraqi chemical agents. Much of this interest is the result of health problems by Gulf War Veterans that indicated exposure to chemical agents. Although no government officials have confirmed use, there is a high likelihood that some coalition forces experienced exposure to chemical agents.

b. On 7 August 1991, the 54th Chemical Troop of the 11th ACR received the tasking (TAB A) to support the 21st EOD Squadron, British Royal Engineers. The mission was to confirm the presence of a suspect liquid chemical agent. The Royal Engineers anticipated that the agent was an H-agent (Mustard-a highly volatile blister agent) discovered on 5 August 1991 while clearing unexploded ordnance at the Sabahiyah High School for Girls (Grid TN18832039). TAB

B is a detailed report by the 21st EOD Squadron. I was the Commander of the 54th Chemical Troop and would lead the mission.

c. To accomplish the tasking, the 54th Chemical Troop employed two FOX NBC Reconnaissance Vehicles. The FOX accurately detects 60 known chemical agents simultaneously using a highly sophisticated, laboratory quality mass spectrometer. Through the use of a collective protection system, the FOX also provides a high degree of crew protection in a field environment. The mission required two FOX vehicles to validate results.

d. 54th Chemical Troop Leadership went to the US Embassy in Kuwait to receive a complete mission brief by the Military Attaché. The Troop Leadership gave a back brief to the Military Attaché on the capabilities of the FOX and how the Troop would conduct the mission.

e. Since this was the first joint and combined live chemical detection mission involving US and British forces, it was essential that the operation be carefully planned to insure any differences in doctrine, TTPs, or other possible concerns were resolved. A leader's reconnaissance and detailed rehearsals occurred to ensure everyone knew their assigned duties and responsibilities.

f. At TAB C are photographs of the site during the 8 August 1991 mission. One FOX team moved to the suspected contamination area and began to conduct point surveys using the detection probe to a depth of approximately four centimeters. The mass spectrometer results showed the presence of micro levels of H-Agent in the soil. Simultaneously, a dismounted collection team, in full chemical over garments, moved to the container (estimated to be 800-1000 liter capacity) with Chemical agent Monitors(CAM) and other assorted chemical detection equipment. The collection team took off the storage container's seals and there was an emission of a vapor into the air under pressure that sounded similar to the opening of a soda container. We saw a light copper to amber color vapor exiting from the seal hole. The dismounted collection team employed chemical detection paper and the CAM: The detection paper changed color to reflect the color of H-Agent detection; the CAM registered eight bars, confirming H-Agent.

g. We inserted a medical syringe with catheter tube into the container to extract the liquid for detection paper, CAM, and FOX testing. We placed the sample into a Kidney shaped, metal medical dish. Immediately, the liquid began to evaporate into the atmosphere. By the time the ground team member moved to the rear of the FOX probe, there was not enough liquid available to get a credible reading. The first test was unsuccessful because of the volatility of the liquid. We performed a second test with success. The ground detection team extracted a larger sample of the liquid and placed it into the metal dish. They moved to the FOX probe and the system drew in the liquid for analysis. Within six (6) seconds, the mass spectrometer detected and identified the liquid as highly concentrated (6.4 bars) H-Agent. Further analysis indicated some

traces of Phosgene (CG), a non-persistent choking agent and Phosgene Oxime (CX), a non-persistent blister agent. The FOX team took another sample test to validate previous identification. The test results confirmed the presence of H-Agent and traces of Phosgene (CG) and Phosgene Oxime (CX). We initiated a third test utilizing the second FOX team to rule out any possibility of false readings from the first FOX. The second FOX began its test executing the same procedures as the first FOX. The second FOX team reported the same findings with the exception of identifying much higher levels of CX in the liquid. The ground collection team extracted more liquid and prepared it for transport out of the area for further testing and evaluation.

h. A British team member, while withdrawing the liquid from the container, had some of the liquid drops make contact with his left wrist. The soldier had an immediate reaction to the liquid contact. The soldier was in extreme pain and was going into shock. Immediately he went to the decontamination site. The decontamination team covered the soldier with Fillers of Earth (decontamination powder) and cut him out of his individual protective equipment. The decontamination team doused him with a mixture of Fillers Of Earth and Industrial Bleach. Within one minute, we observed that the soldier had a small blister forming on his left wrist the size of a stick-pin head. Five minutes later, the blister reached the size of a (US) half-dollar coin. The medics screened the casualty for residual liquid contamination and sent the casualty to the hospital for further treatment. Further decontamination of personnel and equipment continued until all were free of contamination.

I. In a controlled area, the FOX team leaders removed the tapes from the mass spectrometer by order of LTC Kilgore, Task Force Victory Chemical Officer. The tapes are the paper records of the exact chemical breakdown of the liquid by the Mass Spectrometer. The tapes listed the percentage of the Mustard and Phosgene agent concentrations and any other chemical compounds present in the liquid. These tapes would eventually go with the collected samples as supporting documentation to assist in further testing of the liquid. The tapes and samples were turned over to personnel wearing desert camouflage uniforms with no rank or distinguishing patches. It is unknown what happened to the tapes and samples. Although the Troop had an on order mission to assist in the removal of the container, the disposition of the container is unknown as the troop was never directed to execute that mission.

3. Conclusion.

a. Iraqi Blister and Phosgene agents where present in Kuwait. It is, however, confusing why the Iraqi Army would leave such a large container sitting in the open and exposed next to a school. It is possible that the fleeing Iraqi Army left it there and never had the time to retrieve it or forgot it because of the rapid advancement of Coalition ground forces' into Kuwait.

b. Coalition soldiers did experience exposure to Iraqi chemical agents. I can confirm that at least one Coalition soldier (British) did experience exposure to a liquid chemical agent.

c. I am concerned that the information regarding the history of this action has not been documented. END OF REPORT.

In closing, I would like to reemphasize that these are the facts and not speculation of what actions we took in the detection, confirmation, and identification of Iraqi toxic chemical warfare agents. I know that my unit in a joint chemical detection role with British forces did in fact detect and confirm the presence of toxic chemical warfare agents in Kuwait. I know that our NBC detection and protection equipment worked properly on 8 August 1991. I know that the soldiers under my command were the best trained on the FOX Nuclear, Biological, and Chemical Reconnaissance Vehicle and did their jobs far and above the standards place upon them. Mr. Chairman, I appreciate the opportunity to appear before this committee today and share my personal experience during my tour of duty in the Persian Gulf. I sincerely hope these hearings shed some light on the mystery why Persian Gulf War veterans are sick. I know we all continue to share a common interest in the good health and welfare of our great Persian Gulf War veterans.

Thank you.

Michael F. Johnson

MICHAEL F. JOHNSON
MAJOR, CHEMICAL CORPS
US ARMY

Tab A
(Tasking to Do the Mission)

DEPARTMENT OF THE ARMY
Headquarters, Task Force VICTORY (Fwd)
Camp Doha, Kuwait
APO 09889-0003

AETSBGC-V 7 August 1991

MEMORANDUM FOR Commander, 11th ACR, ATTN: RS3

Subject: Tasking Number 91-047

1. You are tasked to provide the following support: Two FOX NBC Reconnasiance Vehicles in support of Kuwaiti MOD and British EOD.

2. Personnel: Personnel to operate 2 FOX NBC Reconnaissance Vehicles.

3. Equipment required: 2 FOX Reconnasiance Vehicles.

4. Specific instructions:

a. Initially FOX Vehicles will be used to provide NBC reconnasiance/detection.

b. On order be prepared to provide two FOX NBC Reconnasiance Vehicles for escort/monitoring of EOD operations.

c. Standard NBC SOPs will be followed to ensure safety of FOX vehicle crews.

d. Direct coordination with Major Jon Watkinson, British Royal Engineers, Commander 21st EOD Group, Beteal Camp Messlack, grid 181376, 539-4505 (Comm) is authorized.

e. Report status to TF Victory POC LTC Killgore, 5056 (AT&T).

5. The attached report from the British Army is provided for your information.

Encl-as

JOSEPH W. MILLER
LTC, GS
ACofS, G-3

CF:
Chief of Staff, TF Victory (Fwd)

TAB A

Tab B
(The British Report on the Container)

RESTRICTED

MANAGEMENT IN CONFIDENCE

21 EOD SQN GP
OP PINSEEKER
BFPO 635

21:1542/20

Mentor Ext 0004

See Distribution

07 Aug 91

INITIAL REPORT
SUSPECTED CHEMICAL CONTAINER

BACKGROUND

1. Whilst attending the International EOD meeting at Kuwait MOD on 5 Aug 91 I was tasked to investigate a container which was thought to be leaking Mustard Gas. The task was detailed by Lt Col Saleh Al Ostath (Kuwait Army) and agreed by Mr Lucas of Royal Ordnance.

INITIAL FINDINGS

2. After some confusion in locating the suspect container I was shown to a metal storage tank with a capacity of approximately 2000 litres, which had been penetrated by a bullet of approximately 7.62 calibre creating an entry hole and exit hole. A brown gas/vapour was emerging from both holes. The storage tank was outside the perimeter walls of the Sabahiyah High School for Girls, at Grid TN 18832039 (Magellan). The school was not in use but an American civilian contractor was in the process of clearing Explosive Ordnance (EO) and rubbish.

ACTIONS TAKEN

3. All personnel were moved up wind to a distance of 100 metres. Further evacuation was not considered necessary as the school was situated in an open area and the vapour leakage was small.

4. Wearing full Individual Protection Equipment (IPE) I approached the container and tested the brown coloured vapour emerging from the bullet holes with Chemical Agent Monitor (CAM). It gave a reading of 8 Bars on H and no bars on G. I then tested the vapour with one colour detector paper which showed no effect. I then tested the vapour with 3 colour detector paper which showed a pink colour, indicating an H agent.

5. On a second visit to the container I fed a piece of D10 wire through the bullet hole and on extracting the wire wiped an oily substance on both types of detector paper (both of which may have exceeded there shelf life). The one colour detector paper turned brown and the 3 colour detector paper turned pink, the latter again a positive indication of an H agent. I effected a temporary seal of both holes with black masking tape.

6. On a third visit the holes were uncovered and the vapour was tested using the M18A2 chemical detector kit. The test was repeated 6 times. On four of the tests the colour indication turned blue indicating H agent. For the remaining 2 tests the colour indicator went yellow but some hours later turned blue. On a subsequent control test in an uncontaminated environment 3 phials showed no colour change. A further wire dip test was conducted using the three colour detector paper from the M18A2 kit. The paper turned pink/orange again indicating and H agent. Some of the chemicals within the M18A2 showed signs of being beyond their shelf life. The bullet holes were resealed with black masking tape.

7. On the fourth and final visit the black masking tape was removed and the holes were both sealed using an industrial silicone filler and plaster of paris bandages. The container was checked with CAM for leaks and none were found.

8. The container was guarded overnight by the civil police and a school security officer. The following morning (6 Aug 91) orange poles and white marker tape were positioned at 50 metres radius outside the school wall around the container. The container was rechecked for leaks with CAM, none were found. The school security officer was told that nobody should go near the container but otherwise clearance activity in the school could continue.

ADDITIONAL INFORMATION

9. The school security officer was employed at the school prior to the conflict and was certain that the container was not there prior to the invasion. He first noticed the container on 20 Mar 91 when he had returned to the school. He thought that the container was leaking on that date. It is understood that samples of the vapour were taken for laboratory analysis by the Kuwait Oil Company (KOC).

10. The positioning of the container suggested that it had been placed in a hasty manner using some heavy lifting equipment.

11. There were Iraqi defensive positions in the surrounding area but no obvious indications as to why such a container should be located where it was. The area was also contaminated with items of EO.

12. The only markings on the container were the arabic numbers "< V" (translated 27) marked with green paint on one end.

13. The vapour leak from the container dispersed from visual recognition over a distance of 20 - 25 cm. It equated to a heavily smoking cigar.

14. It is estimated that the container is approximately 30% - 50% full of liquid suspected to be H agent (800 - 1000 litres).

DETAILED INFORMATION

15. A 1:50,000 map showing the location of the container is a Annex A. The school is not marked on the map.

16. Various photographs of the container are at Annex B.

17. A drawing showing dimensions of the container is at Annex C.

18. The following timings were noted:

a. 050891 1435 hrs - Police escort to the school.

b. 1440 hrs - Viewed container. Set up ICP.

c. 1450 - 1505 hrs - First approach in IPE. CAM and paper test.

d. 1530 - 1555 hrs - Second approach in IPE. Wire dip and liquid on paper test. Temporary seal using black masking tape.

e. 1705 - 1730 hrs - Third approach with BD Engr in IPE. Test with M18A2 6 times. Wire dip and liquid test on M18A2 3 colour paper. Resealed with black masking tape.

f. 1830 - 1900 hrs - Fourth approach with BD Engr in IPE. Sealed holes with silicone sealant and plaster of paris. Tested for leaks. Polaroid photographs taken.

g. 060891.
1030 - 1130 hrs - Checked for leaks visually and using CAM. Measured dimensions. Took polaroid photographs.

CONCLUSION

19. There is no obvious explanation for this container being in its current location adjacent to a school and an Iraqi defensive position. It probably contains an H agent and may have been placed by the Iraqi Army during their occupation of Kuwait. The leak caused by a bullet hole was minor and only vapour has escaped, however the leak has probably been occuring for 3 - 5 months with no apparent casualties or ill effects.

20. The container is now sealed and represents no hazard provided no tampering occurs.

TAB B

RESTRICTED

MANAGEMENT IN CONFIDENCE

RECOMMENDATIONS

21. Kuwait MOD are advised to promulgate a description and drawing of the container with a view to locating any other similar containers.

22. A low key discrete guard of the school area is recommended to prevent tampering or theft of the container.

23. The samples of vapour reported to have been taken for laboratory analysis by KOC should be tested thoroughly to confirm the chemical substance.

24. In due course the container and its contents should be moved with care and close supervision to a suitable location where the contents can be safely destroyed. This is a specialist task and one which is within the capabilities of 21 EOD Sqn Group.

J. Watkinson

J P WATKINSON
Major
Officer Commanding

Annexes:

A. Location Map
B. Photographs
C. Drawing showing dimensions

Distribution:

External:

Action:

Kuwait MOD
Comd British Forces Kuwait

Information:

British Embassy - Attn DA/1st Secretary
American Embassy
MO1 MOD UK Army - for Maj Parsons
JHQ High Wycombe - for Engrs
Tech Int Army MOD DI60 - for Maj C King
HQ UKLF - for Engrs
US Forces Kuwait - DRAO
DNBCC
CDE Porton Down - for Mr P Hearn
33 Engr Regt (EOD) - for CO and Int Sgt
EODTIC

MANAGEMENT IN CONFIDENCE

TAB B

RESTRICTED

MANAGEMENT IN CONFIDENCE

Internal:

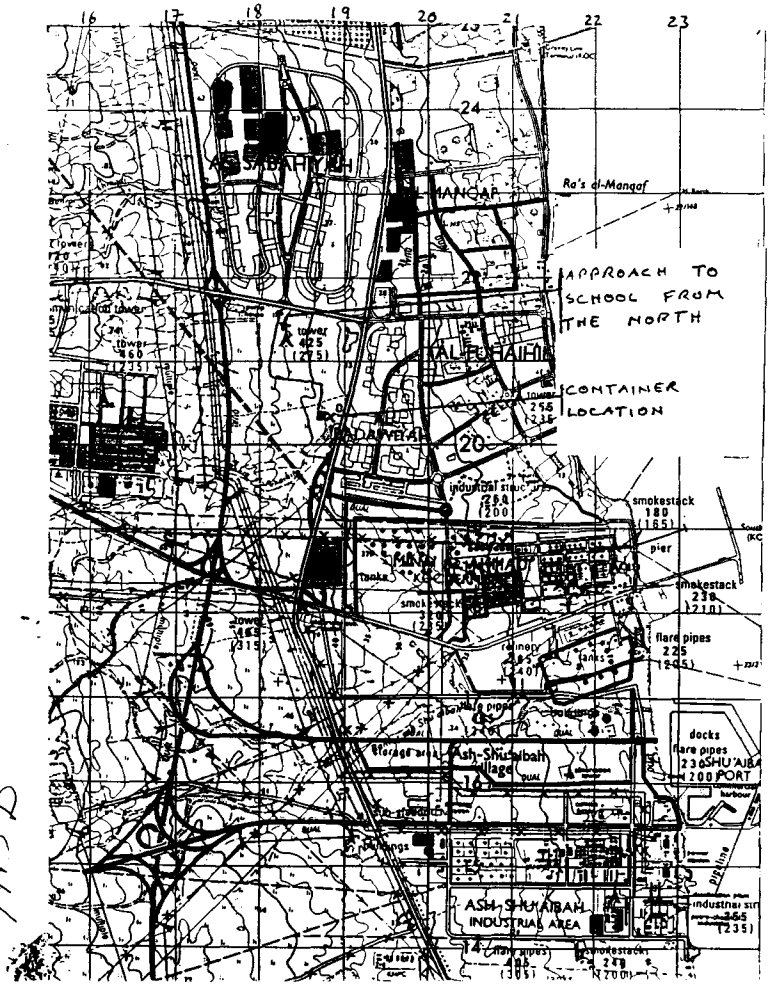
Information:

OC
Int Cpl
File

RESTRICTED

ANNEX A TO
21.1542/20
DATED 07AUG 91

LOCATION MAP



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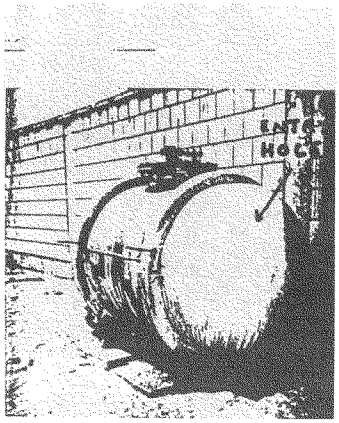
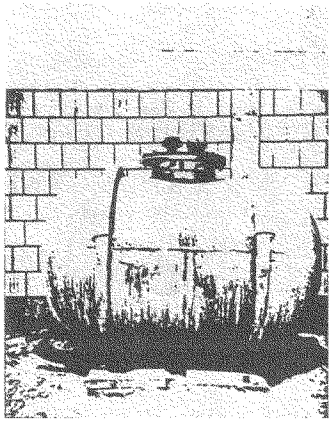
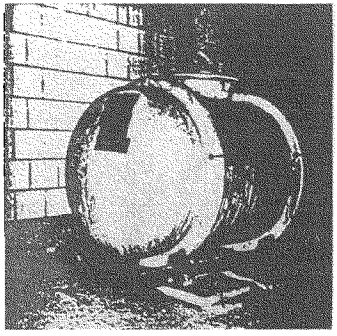
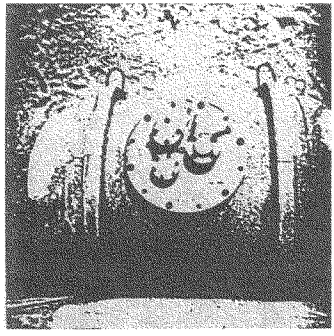
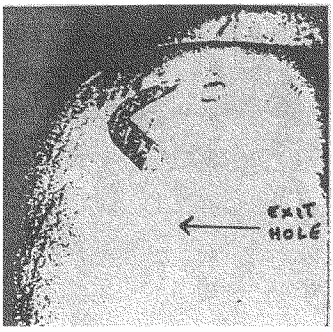
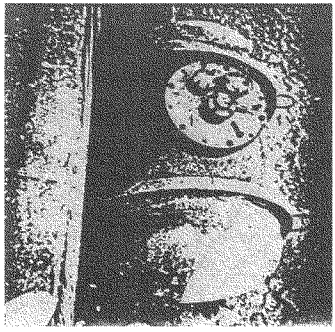

ENTR
HOLE







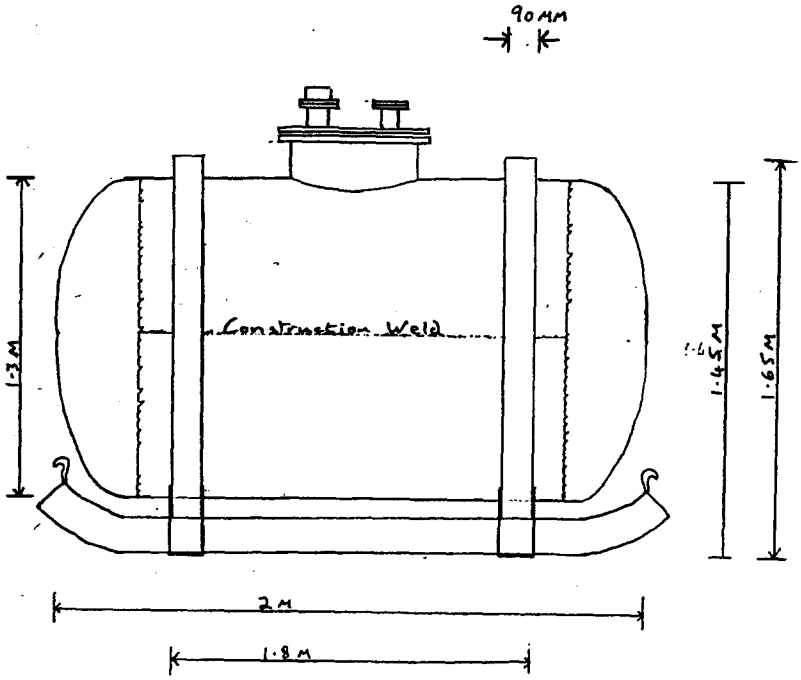

EXIT
HOLE



RESTRICTED
MANAGEMENT IN CONFIDENCE

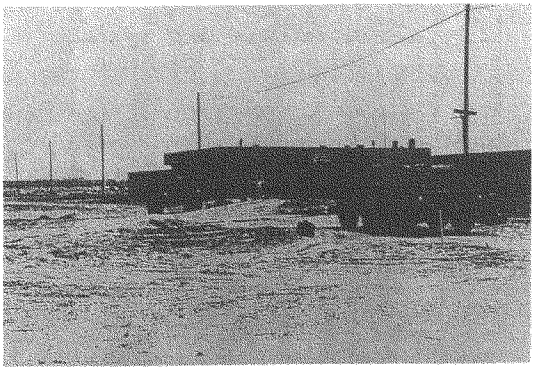
ANNEX C TO
21·1542/20
DATED 07AUG91

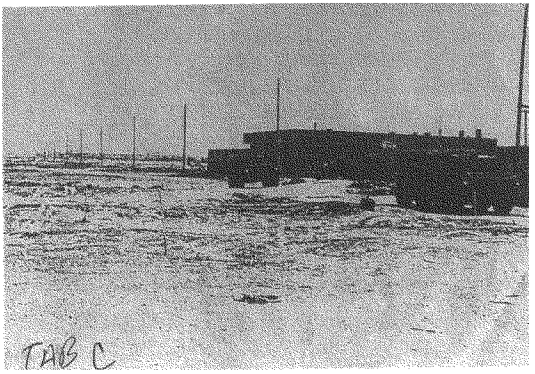
DRAWING SHOWING DIMENSIONS

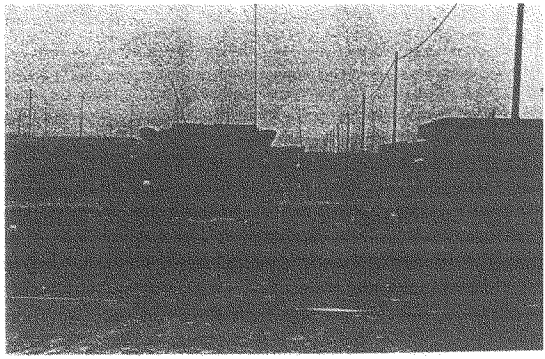


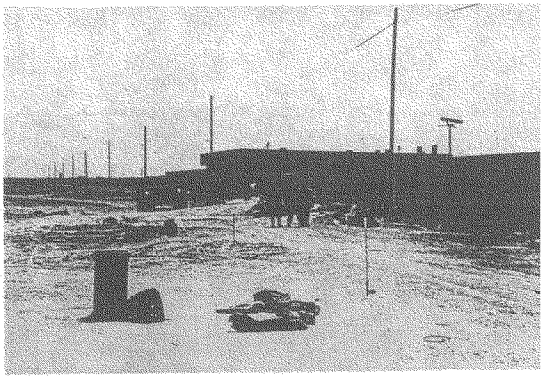
TAB B

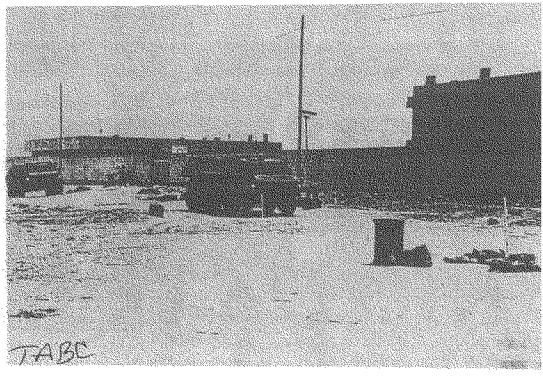
Tab C
(Copy of Pictures of the Site)







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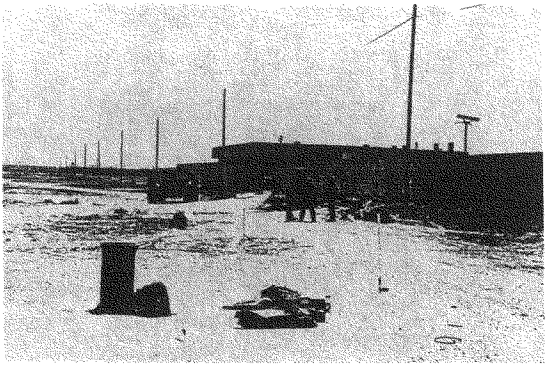

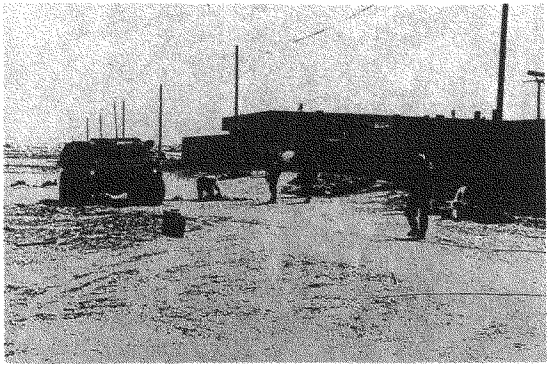


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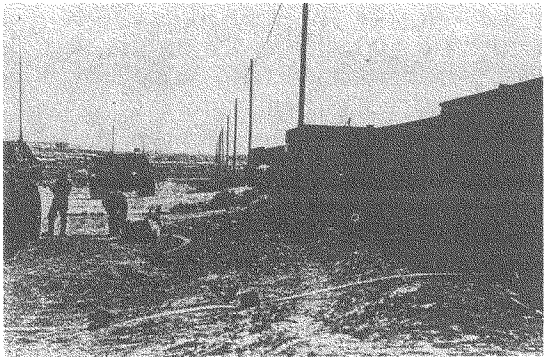

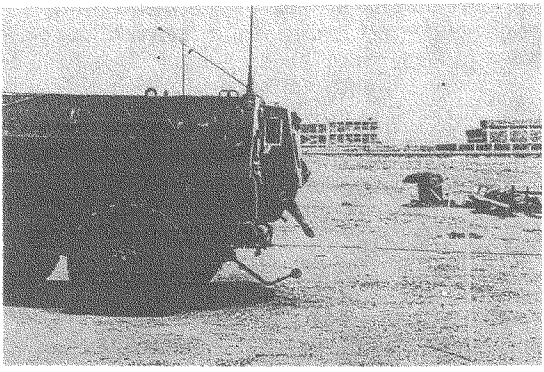

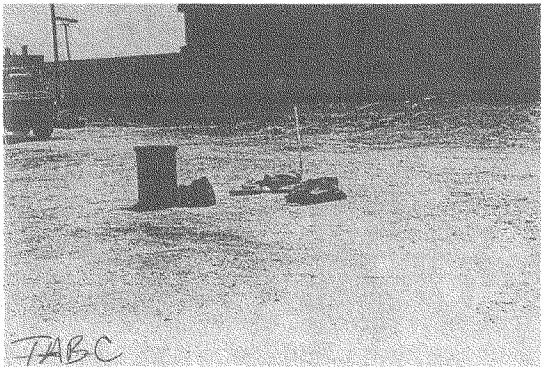
TABC

Mr. SHAYS. Sergeant Grass.

STATEMENT OF GUNNERY SERGEANT GEORGE J. GRASS, CHEMICAL/BIOLOGICAL INSTANT RESPONSE FORCE, U.S. MARINE CORPS

Sergeant GRASS. My name is Gunnery Sergeant Grass. I am currently a member of the Marine Corps Biological and Chemical Incident Response Forces based at Camp LeJeune, NC. While I was assigned to Southwest Asia, I was assigned as a FOX vehicle commander for Task Force Ripper, First Marine Division. I was further assigned the Third Tank Battalion, which was going to be a lead element of Task Force Ripper. My mission was to observe and confirm or deny the presence of nuclear, biological and chemicals used on the battlefield in such case. My first job was to—as I was processing through the breaches, was to check all the lanes on the first belt and second belt on the breach of the mine fields.

Going through the first mine field breach, we detected small traces of nerve agent. I reported that back as small detections, although there was not enough concentration in the air for me to be able to run a full spectrum on the mass spectrometer.

Once we had taken Al-Jaber Airfield, I was positioned just north of there, and my alarm went off on my FOX vehicle with a full concentration of Sulfur Mustard. I printed out that spectrum. We did a background check. We also had put in there samples of the oil fire vapors that were in the air, so we knew there was no way that could conflict with the Sulfur Mustard reading.

I tried to pass that up my chain of command, but they continually told Chief Warrant Officer Biedenbender, the NBC officer at 3d Tank Battalion, that it had to have been false readings from the AMTRACS and tanks that were around me. I told them, no, that comes up as fat, oil, wax, and several other possible false positives they were saying; and we still said that there was no way that could happen because we did our thorough checks. We did the background checks; we did everything we were supposed to do according to the way we were taught on how to run that mass spectrometer.

Once we got up to Kuwait City, and after our troops had taken the international airport and we were sitting—my job was to travel and verify—the Iraqi EPWs had given our intelligence personnel information saying that there were possible chemical weapons stored in the Third Armored Corps' ASP circling Kuwait City. My job was to go find those chemical weapons.

I must say that I spent 6 years as an ammunition technician. I have been through the Army Technical Escort School prior to going to the Persian Gulf. I was a noncommissioned officer in the offensive chemical weapons unit, and I know what chemical weapons look like, and I received, stored, issued, inventoried, filled, built, chemical weapons. I know what they look like. I know how to store them.

In this one particular area there were built-up berms. There were various different 55-gallon drums stored all over the place inside this area. As I was driving through this area, the alarm on the mass spectrometer went off with a full reading of Sulfur Mustard. We saw the weapons that were sitting there. They were 155 rounds

with bands around them. They also had skull and crossbone tapes with red and yellow tape around them. They were from the United States. A little bit further along in the same ammunitions storage area my mass spectrometer——

Mr. SHAYS. You say they were from the United States, the Iraqi weapons?

Sergeant GRASS. Yes, sir. Yes, sir.

Mr. SHAYS. They were United States?

Sergeant GRASS. Yes. Throughout the whole ammunitions storage area there were weapons there from the United States, Jordan, and Holland.

Next, a little ways away from there, my mass spectrometer alarm went off again, and it showed a full reading of HT Mustard. We backed up to the bunkers there, and they were rounds that were all boxed up in ammo boxes. Again, a little bit farther through this area here in a metal-looking container I had received another alarm that went off on the mass spectrometer, and this one was for the incapacitating agent Benzobromide.

I reported all this information back to Chief Warrant Officer Cottrell, who was the NBC officer of Task Force Ripper. When I got back to Task Force Ripper's main, myself, Chief Warrant Officer Cottrell, and other officers went into a tent. I briefed those on the readings that I had gotten back at Al-Jaber Airfield, and also the Sulfur Mustard, HT Mustard, Benzene Bromide that I had just received at the ammunition storage area outside Kuwait City. I explained to them about the atomic mass and atomic weight over 300. I explained to them other readings that were on the spectrometer tickets. They all agreed that an EOD team, Explosive Ordnance Disposal team, should go check this area out.

The next day I asked the ordnance EOD team. They had phoned up from Al-Jaber Airfield. They had stated they never came forward from Al-Jaber Airfield until that point right there. I asked, are those people out to this chemical weapons storage area. They donned their full protective equipment, went inside there, and they began to catalog the lot numbers, because they were more concerned about these lot numbers coming into—into Iraq after the sanctions were imposed.

Once they had finished checking the area—they were in there for about an hour or so—they came back out and decontaminated themselves. I took them back to the international airport where I had first received them, and that was the last time I saw them. I gave the mass spectrometer tickets to Chief Warrant Officer Cottrell and the rest of my chain of command. I have not seen these tickets since.

Sir, I would be willing to answer any questions that you may have, sir.

Mr. SHAYS. Thank you, Sergeant. We will be asking you some questions.

[The prepared statement of Sergeant Grass follows:]

Statement of

Gy/Sgt. George J. Grass

Chemical/Biological Instant Response Force
Camp LeJeune, North Carolina

before the

Subcommittee on Human Resources and
Intergovernmental Relations

December 10, 1996

I Gysgt George J Grass do make the following statement:

Upon my arrival in SouthWest Asia, I was assigned as the NBC Fox Recon Vehicle Commander (Serial#5604) for 1st Marine Division, Task Force Ripper.

CWO Cottrell was the NBC Officer for Task Force Ripper. Due to the mission and other circumstances, I was attached to 3d Tank Battalion which was the lead element of Ripper. The NBC Officer at 3d Tank Battalion was CWO Biedenbender.

My overall mission was to provide the Task Force with a Recon and Survey of the battlefield in case of any NBC attack and report that information through my chain of command which began with CWO Biedenbender and CWO Cottrell.

Aproximately 24-48 hours prior to the breaching operations, all of the Fox vehicles within1st Marine Division were sent to the Northern Division Support Center for a final operations and functions test. These tests included checking and verifying the Mobile Mass Spectrometer for accuracy. The civilian technicians from General Dynamics performed these checks and determined that all the Fox vehicles assigned to 1st Marine Division were fully functional and accurate to include mine.

During operations at both minefield breaches, I was tasked with checking all eight (8) lanes for any possible chemical contamination that may have been present. At the morning meeting at 3d Tank Battalion's Command Operation Center (COC) on 22 Feb 1991, the intelligence brief was as follows "Recon reports back that from grid coordinates QS756771 to QS754773 there have been observed to be numerous Viscella 69 mines with a high probability of chemicals". As my Fox vehicle drove through each lane we monitored for both liquid and vapor contamination. The probe used to "sniff" for any contamination detected small traces of **Nerve Agent** in the air. It is difficult to say whether these traces were from vapor or liquid contamination. The computer system notified us that the amount of chemical agent vapor in the air was not significant enough to produce any casualties. As a result, it was impossible for the Mass Spectrometer to run a complete check on the agent except by visually observing the agent and spectrum on the computer screen. These minute reading continued on the screen for the duration of each lane surveyed. Once my Fox vehicle departed the first minefield breach, those **Nerve Agent** readings went away. I do not remember the type of Nerve agent we detected. I told CWO Biedenbender and CWO Cottrell face to face what had been detected and the trace amounts of the agent and they both agreed that since we had no solid proof there was nothing we could do about it. Several Marines worked to complete the lanes while wearing only MOPP level 2 and no gas mask while we detected these readings. No further chemical agents were detected as we checked the lanes of the second minefield breach.

After the Task Force had arrived and taken Al-Jaber airfield, I was positioned somewhere on the northern side of the airfield with elements of 3d Tank Battalion monitoring for any chemical agent vapor contamination in the air. The following day the smoke from the burning oil fires rolled in and made daylight hours look completely black. The Mass Spectrometer was programmed with a sample of the oil fire vapors and it was labeled as unknown #1. Whenever the thick smoke was present, there was **always** a slight reading on the Mass Spectrometer screen. These slight readings were the same regardless of the concentration or location of the vehicle. Because these readings

became common place whenever the thick smoke rolled in, it was easily recognizable when compared to an actual chemical agent appearing on the monitor. As the Mass Spectrometer was monitoring for chemical agent vapor contamination with the usual readings from the oil fires, the alarm on the Mass Spectrometer sounded alerting us of a lethal vapor concentration of the chemical agent S-Mustard. The vapor concentration was present in the air for several minutes and allowed the Mass Spectrometer to do a complete analysis of the vapor present. A complete chemical spectrum was run and printed out for future evidence of the chemical contamination. Upon hearing the alarm and observing a lethal vapor concentration of the Blister agent S-Mustard in the air, I alerted the entire Task Force of our findings. After receiving the proper authority, my Fox vehicle conducted an area recon and survey to determine the limits of contamination. While performing the survey, the readings went away and the only readings appearing on the monitor were the typical readings from the oil fire vapors. The detection of the positive readings were reported through 3d Tank Battalions COC by CWO Biedenbender and myself to the1st Marine Division NBC Officer, CWO Bauer. Division stated that our readings were false and that the readings were produced by the burning oil fire vapors. We explained to him that we already knew what the oil fire vapors looked like on the monitor and the readings were clearly distinct with the words S-Mustard printed across the screen and on the tape printed out as evidence of the contamination the Marines were exposed to. Division then stated that the readings had to be false positive readings from the fuel/exhaust systems of the M60 tanks andAmtracs, etc. that were around my Fox vehicle. Again I explained to Division that the Mass Spectrometer already had a fuel vapor sample programmed into the system and comes up on the monitor as its chemical name and the words "Fat, oil, wax". Division still insisted that we had false readings and abruptly signed off the radio. CWO Biedenbender instructed me to keep the printed copy as proof of our detection in case we needed it at a later date.

After Task Force Ripper left Al-Jaber airfield heading toward Kuwait City, several chemical attacks were reported throughout the Task Force from positive readings taken by personnel using the Chemical Agent Monitor(CAM). My Fox Vehicle was called to survey every possible contaminated area and verify/check for any vapor or ground contamination present. All surveys performed by my Fox vehicle were negative when called to survey possible chemical agent attacks although the CAM had two-three bar positive readings. Element Commanders began to perform selective unmasking procedures by use of the M256A1 Chemical agent detection kit until my Fox vehicle verified the absence of chemical contamination in their area of operation. Once my Fox vehicle determined that there was no contamination present, the Marines removed their field protective mask.

The next time my Fox vehicle had verifiable positive chemical agent readings was from an Ammunition Storage Area located just outside of Kuwait City.

On 28 Feb 1991, I was now part of Task Force Ripper's main element and controlled by CWO Cottrell. During the intelligence briefing that morning, it was stated by the S-2 that the Iraqi's had established the 3d Armored Corps Ammunition Supply Point(ASP) just outside of Kuwait City and that sources (Iraqi prisoners) have stated there were chemical weapons stored somewhere within the Ammo Storage Area. I was informed that my task was to do a complete survey of the entire ASP and locate any chemical

weapons that may be stored there. CWO Cottrell directed me to call back nonchalantely as finding some "HONEY" instead of alerting the entire Task Force of my findings. My Fox vehicle began conducting the survey that afternoon. While monitoring for chemical agent vapors in an out of the way ammo storage area next to 1st Bn 5th Marines location, the alarm on the Mass Spectrometer sounded with a full and distinct spectrum across the monitor and a lethal vapor concentration of **S-Mustard**. We drove the Fox vehicle closer to the dug in ammo bunkers and fully visible were the skull and cross bones either on yellow tape with red lettering or some boxes had red skull and cross bones painted on the boxes, and a small painted sign next to the bunkers. On top of several of the boxes of ammunition were 155mm rounds with colored bands around them. The labeling on the boxes was from the United States. A full and complete spectrum was taken and printed out as proof of the detection. I notified CWO Cottrell of the "HONEY" and he instructed me to return to Ripper's main area but to be aware that some VIP's and the media were there. As we continued driving through the same ammo storage area the alarm sounded again. The chemical agent **HT-Mustard** in a lethal dose came across the monitor. Again, the skull and cross bones were present although the boxes were closed with markings from the United States and Holland. Again a full spectrum on the Mass Spectrometer was easily accomplished and printed out as proof of the detection. Before driving out of the ammo storage area, the alarm sounded once more showing a positive reading of **Benzene Bromide**. This reading was taken next to a large metal container with no distinct markings. The vapor concentration was in the air and a full spectrum was ran on the Mass Spectrometer and printed out as proof of the detection. All of the positive chemical agent readings were all within 100 yards of each other near grid coordinate QT766395. Although I did not have time to survey the entire area, all of the ammunition that I observed stored in the area was either from Holland, Jordan and/or the United States. No Marine unit had gone into that storage area before we entered it.

Completing the Army Technical Escort course seven months prior to deployment to SWA, being a former Ammunition Technician for 6 years and working as the NCOIC of the Marine Corps offensive chemical weapons unit, I observed several signs of possible chemical weapons storage. There were fire extinguishers colored in red, blue or green with each grouped in a specific area according to their color. Also this particular storage area was positioned far out of the way from the rest of the 3rd Armored Corps ASP. It was blocked off by a thick row of trees making it difficult to see from the main highway leading into Kuwait City. Also this particular storage area had several bung and open top 55 gallon drums that were painted all blue, red and blue, olive drab green, and white and green. Each set of drums were grouped together according to its color and whether the color of the drum was solid or striped. **No other area of the entire 3d Armored Corps ASP that my Fox vehicle checked was designed and set up like that area.** Task Force Ripper's intelligence section was notified in great detail of this area.

Upon arrival at Ripper's COC, myself, CWO Cottrell and other officers were taken into a command post tent. I explained to all of them about the **S-Mustard** detection at Al-Jaber airfield and of the **S-Mustard, HT-Mustard, and Benzene Bromide** detected at the chemical weapons storage area I had just left. I explained the comparison between both **S-Mustard** tickets and also pointed out that each had an atomic mass/weight over 300 which is comparable to a chemical compound and they all agreed that Division must

be notified. As I was standing there, one of the officers contacted Division. When he hung up the radio, it was determined that I would meet an EOD team at 0700 at Division HQ located at the Kuwait International Airport and escort them to the ammo storage area the next morning. I gave my superior officers all of the printed out Mass Spectrometer tickets taken from Al-Jaber airfield and the 3rd Armored Corps ASP. I never saw the tickets I had given them again. The EOD team had not come forward of Al-Jaber airfield at this point in the war and was concerned with the unexploded munitions located there.

When the EOD team finally arrived by helicopter, I escorted them to where the chemical weapons were detected. Upon arrival, the EOD team donned full protective equipment and entered the area. They worked in the area for aproximately one hour. Upon completion of their mission, they deconned themselves and verbally acknowledged the presence of chemical weapons in the storage area but stated that their main concern was to catalogue lot numbers to see if those lot numbers had come into the country after sanctions were imposed on Iraq. We escorted the EOD team back to the International Airport and never heard from them again. Task Force Ripper and my Fox vehicle departed Kuwait aproximately two days later.

Since returning from the Persian Gulf War, I have spoken to almost every Fox Vehicle commander from both 1st and 2nd Marine Division and every one of them has verbally acknowledged the positive identification of chemical agents in their area of operation.

Mr. SHAYS. I am going to refer to the father as "Mr. Hebert" and to the son as "Major."

Major Hebert, your testimony will be read by your dad; is that correct?

Major HEBERT. Yes.

Mr. LOYD HEBERT. My son would like to make the opening statement.

Mr. SHAYS. He is allowed and welcome to make any comments he wants. We are as patient as can be, so he doesn't need to rush. You don't need to rush, Major.

STATEMENT OF MAJOR RANDY LEE HEBERT, U.S. MARINE CORPS, ACCOMPANIED BY LOYD HEBERT AND KIM HEBERT

Mr. LOYD HEBERT. Mr. Chairman, my son has said: Mr. Chairman, members of the committee, ladies and gentlemen, my name is Randy Hebert. I appreciate the opportunity to present the truth today.

In December 1990, I was assigned to Second Combat Engineering Battalion, Second Marine Division, where I served as Assistant Operations Officer, Operations Officer, and Officer in Charge of breaching the division's left flank to create two emergency lanes to evacuate casualties, if needed.

On 23 February 1991, the eve prior to our ground attack, we moved into our attack position approximately 2½ to 3 miles from the border of Kuwait, near the area known as the elbow, Umm Gudair Oil Fields.

On G-day, 24 February 1991, we were to link up with a section of tanks. This never happened. In the confusion, I radioed to Battalion Three to let him know the situation. I decided to halt my men south of the berm dividing Saudi Arabia and Kuwait. I proceeded about 500 meters to the east by a HUMWV with my driver and radio man to a traffic control point.

As we approached, we received the hand and arm signal for chemical attack. We put on our masks and gloves. In doing so, I recall my right hand feeling cool and tingling. I was mad because we were just starting, and already receiving the signs for chemicals. I jumped from the vehicle and asked the MP in strong Marine Corps language who had told him to go to MOPP level 4. He pointed to another Marine, whom I asked the same question. He told me, "Someone on the radio." We drove back and radioed to my Marines to get to MOPP level 4.

When we arrived, some were, others were not. The driver and I jumped from the vehicle, giving the signals for chemicals. I approached the MP controlling traffic to ask why he wasn't in MOPP level 4. He told me the alarm was false. I was angry and removed my mask. I now feel that was a mistake. I radioed to the Battalion Three and told him, "We are rolling and we have not made contact with the tanks." He said, "OK." Within a minute of rolling, he called back, saying that "Your lane is dirty. Chemical mine has gone off. Go to MOPP 4." I called back and verified his statement. Then I told him "Roger that." We all went to MOPP 4. Lane Red One was the lane where the chemical mine detonated.

After about 30 minutes, we had finished firing line charges. We had several mines that needed to be cleared from the hedgerow.

We were still in MOPP 4, and I radioed to the Battalion Three asking where we would decontaminate. A lieutenant told me that we should check to see if chemicals were in the air. I again asked where we would decontaminate. I received the same response. I was mad and hung up. We stayed in MOPP 4 another 2½ to 3 hours. During this time much of the division moved quickly through the area, some in MOPP 4s, others not. Although we had finished our portion of the lane, we remained by Lane Red One, because the far right flank was having great difficulty due to the density of the mine field.

The battalion commander wanted us all to proceed to the next obstacle belt together. I remember a dead camel lying by the entrance to our lane. It did not have any insects feeding on it. After several hours in MOPP 4, I had my driver check the area for chemicals. After we determined that chemicals were no longer present, my driver selectively unmasked. Then after he displayed no symptoms, I had my other Marines unmask.

I forgot to mention that once we arrived at the breach site, I had communicated directly with the lieutenant working with me, asking if he felt funny, or if he was having problems breathing. He told me he didn't think so, but he asked why. I told him that I felt funny. I also recall two large explosions while we were breaching that I thought were artillery. However, they only left dust clouds after they hit. I now believe they may have been chemical rounds. We remained between the two mine fields the night of 24 February 1991, and the next day and night, 25 February 1991. On the 25th, I heard a large explosion in the area. The following day we moved to an area known as the Ice Cube Tray, where we built a POW camp. I later learned the area just north was the headquarters for the Iraqi chemical brigade. During our movement to this area, we heard several explosions. I am not sure what they were. A few days later, 28 February 1991, we moved to an area about 8 miles southwest of Kuwait City near a small town called Al Jahra. I later learned this area was an old garbage dump that had been covered.

Around the beginning of March, perhaps the 10th, I became very ill with flu-like symptoms. I remember many others were ill also. Around the 22d of February, I started taking Pyrostigmine Bromide pills, PB, for antinerve agent protection. I believe I took the pills for 11 to 14 days.

Once we returned to Saudi Arabia in April, early April, I began to have some difficulty with sleep. This continued upon my return home on 15 May 1991, until early July, at which time I was having difficulty reading and remembering what I had read. I was extremely aggressive, moody, and excitable. I had headaches, vomiting, and diarrhea. I was also diagnosed with moderate depression. I was given medications for several months, at which time the majority of the symptoms went away.

I continued to have headaches almost on a daily basis, and took as many as 8 to 10 aspirins a day until April 1995. Besides the headaches, I felt I was not able to breathe as well when I ran. In May 1994, I noticed a decrease in my upper body strength. In early July, I had a lump on my throat area the size of a walnut. I was not sick. I had a friend who was a medical doctor come to my

house, to my home, to examine me. He was not sure what caused the lump. It remained for 1½ to 2 weeks.

In October 1994, I experienced problems with my throat muscles, and coughed very frequently and uncontrollably. There were times when my throat muscles would constrict and I could not breathe for 10 to 15 seconds. In November of the same year, I noticed atrophy in my right arm and hand, and began having difficulty controlling my hand and arm. In January 1995, while being evaluated at the National Naval Medical Center, I developed another lump on the right side of my face just forward of my right ear. It also was the size of a walnut.

During the same 3-week period I had a very large rash from the middle of my nose to the middle of my forehead which was red, swollen, and extremely itchy. Also it had three white, watery pustules. When the rash subsided, I was left with a scar in between my eyebrows.

From January 1995, until October 1995, I was evaluated at several different hospitals. During some of these visits I saw, spoke to, and learned of other servicemen and women who served in the Gulf who were having problems. These problems included cancer, respiratory disease, muscle twitches, fatigue, memory loss, joint pains, ulcers, rashes, lumps under the skin, hearing problems, atrophy of one limb, atrophy of the brain, insomnia, depression, heart problems, tearing of the eyes, and others.

During this time I developed a rash on my buttocks, tearing of the eyes with burning, and occasional ringing in both ears. In October 1995, I was diagnosed with ALS, amyelotrophic lateral sclerosis, also known as Lou Gehrig's disease. I believe the medical problems I have discussed are due to low-level chemical exposure over an extended period.

I learned after the war that the chemical mine detonated in Lane Red One was confirmed for the nerve agent Sarin and also for the agent Lewisite Mustard Gas by FOX vehicle in the lane. I also learned that two Marines in an AMTRAC received chemical burns, and that the chemical mine confirmation was reported by the regimental commander of the Sixth Marines. It was also reported up the chain of command by the Second Marine Division Commander.

It has been brought to my attention that there have been at least seven other cases of ALS in service members who served in the Gulf. To me, this is more than chance or coincidence.

Besides myself, there have been numerous others with various experiences. For example, one, I have spoken to a Marine who believes a missile attack occurred in Al JuBail that was a chemical attack. He made the duty officer from the Second Division read the division log book to him. He has the statement recorded on audiotape. It says that Mustard Gas was detected.

Two, I have also spoken to a Marine who was evaluated with several other Marines from his squad upon their return from the war. They were told they were being studied for adverse effects from the desert sun. They were told this by someone whom he believes was a civilian doctor. They all were observed for 1 week. The following week the Marines went back to the hospital to find the results. They were told that they were never there. Also, there is not an indication in their records they were ever there.

Three, I have learned of a Marine Corps investigation that was directed at the general officer level to determine the possible exposure to chemical agents of Marine Sergeant Randy G. Wheeler. As a result of that investigation, I have learned of other chemical detections just to our northeast near Al Jahra Airfield in the First Marine Division's area, both on the 24th and 25th of February 1991. One of the opinions of the general officer reviewing the investigation was that Sergeant Wheeler may be suffering from exposure to chemicals or other contaminants, and his condition may be combat-related.

Finally, on 12 November 1996, the Commandant of the Marine Corps was speaking at Camp LeJeune. I had an opportunity to ask him if the Marine Corps had an official position on Gulf war syndrome illness. The Commandant told me that the Marine Corps does have a position, and they believe chemical weapons were used. He also said the Marine Corps is in the process of trying to contact Marines who may have been exposed.

In conclusion, I believe with 100 percent certainty that chemicals and possibly biological agents were used during the war. I base my belief on several facts: One, Iraq had the capability and resources to deploy chemical weapons and had done so in the past; two, the United States was primarily concerned with the enemy's use of chemical and biological weapons both prior to the start of the air war and the ground war; three, the primary targets during the air campaign were chemical munitions plants and storage areas; four, prior to the ground campaign, we were all told to expect chemical attacks; five, FOX vehicles, extremely sophisticated pieces of detection equipment, were tested by General Dynamics only days before the ground war; six, the FOX vehicles were operated by highly skilled, professionally trained individuals; seven, FOX vehicles confirmed chemical agents in several locations; eight, many service members became ill with flu-like symptoms shortly after the ground war. These symptoms are consistent with research findings of low-level chemical exposure; nine, other countries detected chemicals in the theater. The Czechoslovakians are considered the best in the world at chemical detection. They detected chemicals. Ten, individuals received blisters and burns consistent with chemical exposure; eleven, close to 130,000 men and women are now sick with many different ailments which are consistent with research on low-level chemical exposure; twelve, chemical alarms sounded throughout the theater of operation; thirteen, the Pentagon has changed its position on chemical detections; fourteen, there were dead animals and insects throughout the theater, consistent with chemical exposure; fifteen, colonels and generals in the Marine Corps, including the Commandant, believe chemical weapons were used; sixteen, I was extremely healthy and fit prior to the war. Over the last 5½ years, I have experienced most of the symptoms known as Gulf war syndrome.

This concludes my statement to the committee. I would be glad to answer any questions that you might have. Very respectfully, Major Randy L. Hebert.

Mr. SHAYS. Thank you, Major, for your very helpful testimony.

[The prepared statement of Major Hebert follows:]

STATEMENT OF MAJOR RANDY LEE HEBERT, USMC

Testimony for the Hearing on Persian Gulf War Veteran's Illnesses
Subcommittee on Human Resources and Intergovernmental Relations
Committee on Government Reform and Oversight
December 10, 1996

Mister Chairman, Members of the Committee, Ladies and Gentlemen, my name is Randy Hebert. ***I appreciate the opportunity to present the truth today.***

In December 1990 I was assigned to 2nd Combat Engineer Battalion, 2nd Marine Division where I served as Assistant Operations Officer, Operations Officer, and Officer in Charge of Breaching the Division's left flank to create two emergency lanes to evacuate casualties if needed.

On 23 February 1991, the eve prior to our ground attack, we moved into our attack position approximately two and one-half to three miles from the border of Kuwait, near the area known as the elbow (Umm Gudair Oil Fields). On G-day, 24 February 1991, we were to link up with a section of tanks, this never happened. In the confusion, I radioed to the Battalion Three to let him know the situation. I decided to halt my men south of the berm dividing Saudi Arabia and Kuwait. I proceeded about five hundred meters to the east via a HUMWV with my driver and radio man to a traffic control point.

As we approached, we received the hand and arm signal for chemical attack. We put on our masks and gloves. In doing so, I recall my right hand feeling cool and tingling. I was mad because we were just starting and already receiving the sign for chemicals. I jumped from the vehicle and asked the Marine MP in strong Marine Corps language who

had told him to go to MOPP Level Four. He pointed to another Marine whom I asked the same question. He told me, "Someone on the radio."

We drove back and radioed to my Marines to get to MOPP Level Four. When we arrived some were, others were not. The driver and I jumped from the vehicle giving the signal for chemicals. I approached the MP controlling traffic to ask why he wasn't in MOPP Level Four. He told me the alarm was false. I was angry and removed my mask. ***I now feel that was a mistake.*** I radioed to the Battalion Three and told him, "We are rolling and we have not made contact with the tanks." He said, "OK." Within a minute of rolling he called back saying that, "Your lane is dirty, chemical mine has gone off, go to MOPP Four." I called back and verified his statement. Then I told him, "Roger that." We all went to MOPP Four. Lane Red One was the lane where the chemical mine detonated.

After about 30 minutes, we had finished firing line charges. We had several mines that needed to be cleared from the hedge row. We were still in MOPP Four and I radioed to the Battalion Three asking where we would decontaminate. A Lieutenant told me that we should check to see if chemicals were in the air. I again asked where we would decontaminate. I received the same response. I was mad and hung up.

We stayed in MOPP Four another two and one-half to three hours. During this time much of the Division moved quickly through the area, some in MOPP Four, others not. Although we had finished our portion of the lane, we remained by Lane Red One because the far right flank was having great difficulty due to the density of the minefield. The Battalion Commander wanted us all to proceed to the next obstacle belt together. I

remember a dead camel lying by the entrance to our lane. It did not have any insects feeding on it.

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returned to Saudi Arabia in early April, I began to have some difficulty with sleep. This continued upon my return home on 15 May 1991 until early July, at which time I was having difficulty reading and remembering what I had read, I was extremely aggressive, moody, and excitable. I had headaches, vomiting, and diarrhea. I was also diagnosed with moderate depression. I was given medications for several months, at which time the majority of the symptoms went away.

I continued to have headaches almost on a daily basis and took as many as eight to ten aspirins a day until April 1995. Besides the headaches, I felt I was not able to breathe as well when I ran. In May of 1994 I noticed a decrease in my upper body strength. In early July, I had a lump on my throat area the size of a walnut. I was not sick. I had a friend, who is a medical doctor, come to my home to examine me. He was not sure what caused the lump. It remained for one and a half to two weeks.

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itchy. Also, it had three white watery postules. When the rash subsided, I was left with a scar in between my eye brows.

From January 1995 until October 1995 I was evaluated at several different hospitals. During some of these visits, I saw, spoke to, and learned of other service men and women who served in the Gulf who were having problems. These problems included cancer, respiratory disease, muscle twitches, fatigue, memory loss, joint pains, ulcers, rashes, lumps under the skin, hearing problems, atrophy of one limb (Monomelic Amythrophy - a rare disease in the United States), atrophy of the brain, insomnia, depression, heart problems, tearing of the eyes, and others.

During this time, I developed a rash on my buttock, tearing of the eyes with burning, and occasional ringing in both ears. In October 1995 I was diagnosed with ALS (Amyotrophic Lateral Sclerosis also known as Lou Gehrig's Disease). ***I believe the medical problems I have discussed are due to low level chemical exposure over an extended period.***

I learned after the war that the chemical mine detonated in Lane Red One was confirmed for the nerve agent Sarin and also the agent Lewisite Mustard Gas by a FOX vehicle in the lane. I also learned that two Marines in an Amtrack received chemical burns and that the chemical mine confirmation was reported by the Regimental Commander of the Sixth Marines. It was also reported up the chain of command by the Second Marine Division Commander. It has been brought to my attention that there have been at least seven other cases of ALS in service members who served in the Gulf. To me this is more than mere chance or coincidence.

Besides myself, there have been numerous others with various experiences. For example:

1. I have spoken to a Marine who believes a missile attack occurred in Al JuBail that was a chemical attack. He made the duty officer from the 2nd Division read the Division log book to him. He has the statement recorded on audio tape. It says that mustard gas was detected.
2. I have also spoken to a Marine who was evaluated with several other Marines from his squad upon their return from the war. They were told they were being studied for adverse effects from the desert sun. They were told this by someone whom he believes was a civilian doctor. They all were observed for one week. The following week the Marines went back to the hospital to find the results. They were told that they were never there. Also there is not an indication in their records they were ever there.
3. I have learned of a Marine Corps investigation that was directed at the General Officer Level to determine the possible exposure to chemical agents of Marine Sergeant Randy G. Wheeler. As a result of that investigation, I have learned of other chemical detections, just to our northeast, near Al Jaber Airfield; in the First Marine Division's Area, both on the 24th and 25th of February 1991. One of the opinions of the General Officer reviewing the investigation was that, "Sergeant Wheeler may be suffering from exposure to chemicals or other contaminants and his condition may be combat related."

Finally, on 12 November 1996 the Commandant of the Marine Corps was speaking at Camp LeJeune. I had an opportunity to ask him if the Marine Corps had an official position on Gulf War Syndrome/Illness. The Commandant told me that the Marine Corps does have a position and that they believe chemical weapons were used. He also said, the Marine Corps is in the process of trying to contact Marines who may have been exposed.

In conclusion, I believe with 100% certainty that chemicals and possibly biological agents were used during the war. I base my belief on several facts:

1. Iraq had the capability and resources to deploy chemical weapons and had done so in the past.
2. The United States was primarily concerned with the enemy's use of chemical and biological weapons both prior to the start of the air war and the ground war.
3. The primary targets during the air campaign were chemical munitions plants and storage areas.
4. Prior to the ground campaign we were all told to expect chemical attacks.
5. FOX vehicles, extremely sophisticated pieces of detection equipment, were tested by General Dynamics only days before the ground war.
6. The FOX vehicles were operated by highly skilled, professionally trained individuals.
7. FOX vehicles confirmed chemical agents in several locations.

8. Many service members became ill with flue like symptoms shortly after the ground war. These symptoms are consistent with research findings of low level chemical exposure.
9. Other countries detected chemicals in the theater. The Czechoslovakians are considered the best in the world at chemical detection. They detected chemicals.
10. Individuals received blisters and burns consistent with chemical exposure.
11. Close to 100,000 men and women are now sick with many different ailments which are consistent with research on low level chemical exposure.
12. Chemical alarms sounded throughout the Theater of Operation.
13. The Pentagon has changed its position on chemical detections.
14. There were dead animals and insects throughout the Theater, consistent with chemical exposure.
15. Colonels and Generals in the Marine Corps, including the Commandant, believe chemical weapons were used.
16. I was extremely healthy and fit prior to the war. Over the last five and one-half years, I have experienced most of the symptoms known as "Gulf War Syndrome."

This concludes my statement to the Committee. I would be glad to answer any questions that you might have.

Very Respectfully,

Randy L. Hebert

Mr. SHAYS. Before I call on Mr. Sanders to start the line of questioning, I would like to just accept for the record a definition of MOPP 4 for the testimony, for the record. I would invite anyone to describe what that was.

Sergeant GRASS. MOPP 4 stands for Mission-Oriented Protective Posture. It consists of a chemical protective overgarment, a charcoal impregnated suit for your tops, for your jacket, and your trousers. You also wear a pair of rubber booties over that, that are covering the combat boots. You wear a pair of rubber gloves covering your hands, and you wear a field protective mask.

Mr. SHAYS. It is my understanding that is the highest level that you would go to. You are in full protective gear; correct, sir?

Sergeant GRASS. Yes, sir; in a military environment, yes, sir.

Major JOHNSON. Sir, I also would like to add that in a MOPP posture, you have a range from level 0 to MOPP level 4, zero being the lowest of it, not wearing the uniform, and as you go up to each level, up to MOPP 4, you add a piece of that garment on. So when you hear us say "full MOPP," we are also meaning full MOPP 4 protective mask, gloves, booties, the actual overgarment, zipped up, with our other detection tapes on our uniforms.

Mr. SHAYS. For the record, both you, Major, and you, Gunnery Sergeant, were in FOX equipment. You were basically ahead of the charge; is that correct?

Major JOHNSON. With my detections, I was not actually inside the vehicle. I was 100 to 150 meters to the north-northeast of where the container was located, at a location called the Initial Command Post, that was set up by the British. So I was outside of the vehicles. However, I had radio communication with both vehicles and could talk, as I'm talking with you, to each member in that vehicle to find out exactly what was going on inside the vehicle, and what tasks, what findings they had discovered at any given point during that mission.

Mr. SHAYS. Just for the record, both of you in the FOX equipment in those units, how often were you in full protective gear?

Major JOHNSON. During my unit's detection, we were at the command post. We were not in any MOPP—increased MOPP posture, basically because the commander had identified a location that was upwind from where the actual container was, so that if any vapors were released into the atmosphere they would float downwind from us, away from our position. Inside our FOX vehicles, as a battle drill, as another precaution, if our overpressure system failed inside the system, my soldiers were already at a level called MOPP level 2 where they already had their overgarment on, zipped up. The only thing they did not have on was their protective mask and gloves, so if vapor was able to escape and make it inside the vehicle, they would have had enough time based on the other detection systems inside the vehicle to go to full MOPP 4 to protect themselves, as well as continue on with their mission.

Mr. SHAYS. Sergeant Grass, were you in the vehicle, and therefore not fully under protective gear, or were you in both conditions?

Sergeant GRASS. Sir, my FOX vehicle was positioned on the forward element. The units that were in front of me were tow vehicles because they had a better one-on-one contact with the tank fighting against the tow. It was also the Mark 19 vehicles that were in front

of me. I was positioned back just a little bit, back from those forward of the tanks. I had everybody's frequencies and call signs, so anywhere within Task Force Ripper, whether it be First Battalion Seventh Marines or First Fifth Marines, if there was a chemical attack or nuclear, biological and chemical attack, they just basically contacted me and I went straight to their area with my security.

To answer the other question, sir, we had the choice, just like the Major did, the overpressure system inside the FOX vehicle that prevented chemicals from coming in. In the case that I had to open up the top of the vehicle and return fire with the machine gun on top, then, yes, sir, we would also have been in MOPP level 2 inside that vehicle.

Mr. SHAYS. Basically, I really proceeded in asking a line of questioning, and I thought I was just going to establish something for the record, but I'm just going to continue for 2 more minutes here.

What I am just trying to understand, I consider this more housekeeping than really getting into the nuts and bolts of what we want to ask you, what I'm trying to visualize is that when you were out to test something, by the time the alarm goes off, is it not too late?

Sergeant GRASS. There is no purpose to get outside that FOX vehicle sir. It's fully enclosed and everything can be run from inside.

Mr. SHAYS. FOX vehicles preceded Major Hebert and his unit. And it is your testimony, Major Hebert, that FOX equipment that preceded your units were alerting you to chemical agents?

Major HEBERT [through Kim Hebert]. He was in the first wave with six Marines. And the FOX vehicle was with six Marines.

Mr. SHAYS. Thank you. Mr. Sanders will proceed with questions.

Mr. SANDERS. Thank you very much, Mr. Chairman. It goes without saying that all of us are very thankful for all of you being here today and giving us the information that you have. We appreciate it.

It seems to me that a common thread running through all of your testimony is that you had difficulty communicating, or lack of success, if you like, communicating your experience to your higher-ups.

Now, it seems fairly obvious that if one wants to understand the problems associated with the illnesses that our soldiers are experiencing, the more information that we have, the better we can deal with the problem. That is true for any problem.

It took 5 years before the Pentagon finally acknowledged that our soldiers were exposed to chemical agents. In your judgment, given your particular difficulties in being able to communicate your own experiences to the higher-ups, why do you think it took 5 years before the Pentagon finally acknowledged what you have told us today and what many other people have told us? And anyone in any order, please answer.

Major JOHNSON. Sir, on my part, I think it was maybe a lack of understanding of the seriousness behind what information was being presented 5 years ago. My intent was to provide my supervisors with information about all our actions in the desert with the hope of being able to go and teach our lessons learned from the Gulf, because at the time that I submitted my report, I was an instructor at the Infantry School at Fort Benning and I thought what

a great opportunity it would be to present that type of information, because in all the classes that I taught on NBC, I also began to hear a lot of common things coming back from officers who had participated in the Gulf war: confidence in the equipment, confidence in the soldiers who were actually utilizing that equipment.

It, to me, was the best atmosphere to give them reassurance that our equipment was the best at that time and still is today, and that we could continue on by educating everybody, in this case in the Infantry School, with the advanced course officers, young lieutenants and captains that were coming through. When the report went forward, it came back to me with great information: Go ahead and modify your classes to talk about those topics.

But I think as far as it going any farther than that, to me it would have been maybe, I just don't fully understand what is in my hands coming from the supervisors.

Mr. SANDERS. So, Major, you really don't have a good answer, I think, as to why it took 5 years?

Major JOHNSON. Right.

Mr. SANDERS. Would somebody else like to respond?

Major HEBERT [through Kim Hebert]. If he understands your question, you want to know why the Pentagon took 5 years?

His belief is the Pentagon knew from day one that chemicals were used in the theater.

And the reason that he says that, they have a reason to cover the truth. They have done so in the past since World War II veterans. Also with Agent Orange, Vietnam. The main reason, it boils down to money. They don't want to be held responsible for all the people who are now sick and for the ones that have already died.

Mr. SANDERS. Thank you very much, Major.

Gunnery Sergeant, did you want to give a thought on that?

Sergeant GRASS. Sir, my chain of command began with Chief Warrant Officer Cottrell who appeared in front of the committee, I believe it was—I saw him when I was with the 3d Marine Division on Okinawa in January 1993. At that moment right there, I immediately let my chain of command know that he was talking about his FOX vehicle.

So that is when the investigation that Major Hebert was mentioning about General Chripas's investigation on Randy Wheeler. Randy Wheeler was one of the security that was attached with me.

So when I appeared in front of the advisory committee in May, they asked me why it has taken me so long, from January 1993 till May of this year, to appear in front of a committee; and my answer to them was, I don't know why. Once the questioning was over and I had listened to the Department of Defense investigative military personnel, I had mentioned to them out in the hallway that I had information that could help them with their investigation. I gave them the names of Master Sergeant Bradford, who was the FOX vehicle commander for six Marines, that to this day has not been asked a question. I gave them the information about the FOX vehicle commander that was back at Jabayl that chased the SCUDs that had possible chemical contamination, and I gave them the FOX vehicle commanders for several other of the task forces within First and Second Marine Divisions, and they have not been contacted to this day. So my answer is, I am not sure.

Mr. SANDERS. I don't want to put you on the spot, you can decline to comment, but do you agree with Major Hebert that, in fact, perhaps the Pentagon did know from day one that chemical agents were used and, for whatever reason, chose not to make that public?

Sergeant GRASS. Sir, the FOX—I will answer that in my style of answer, sir. The FOX vehicles were checked by General Dynamics. They entrusted a lot of Marines, sailors, airmen and soldiers' lives with the FOX vehicles and the crews that ran them. If the vehicles were false and the crews were not trained properly, then that is one thing; but the crews were well trained, that is why they were chosen by whatever Department of Defense service they were from, because of their knowledge of nuclear, biological, and chemical weapons.

Personally, the chemical weapons storage area outside Kuwait City, as I stated in my opening statement, I know what a chemical weapons storage area looks like and I know what chemical weapons look like. That's my answer sir.

Mr. SANDERS. Major, do you want to revisit that question? What is your feeling about what Major Hebert said?

Major JOHNSON. Sir, I was not there during the air or ground war. However, where I was located, I thought at the time that they in fact had used chemical weapons or had employed them, and that was based purely on the fact that alarms were going off, detections were being made, and individuals who were actually responsible for manning those detection systems knew what they were doing. So I thought that they had——

Mr. SANDERS. Is it your impression that they did know?

Major JOHNSON. At that time it was my impression that they had employed chemical weapons.

Mr. SANDERS. My last question, with your permission, Mr. Chairman, it appears that one of the frustrating things that many of us and you and the country are dealing with is that more information seems to be eking out month after month. Is it your judgment that up to this point there has been full disclosure on the magnitude of possible chemical exposures, or do you think we are going to be hearing more in the coming weeks and months and perhaps years?

Major HEBERT [through Kim Hebert]. In his opinion, we'll be finding out a lot more information over the next several months. And there will be many more veterans that become ill because of the low-level chemical exposure. We have seen over the last 3 years—we have seen the number of veterans who are ill increase dramatically.

Mr. SANDERS. Thank you very much. Did either of you gentlemen want to comment on that briefly?

Major JOHNSON. Sir, I think that we will see in the months to come more information being presented that exposure to chemical agents, it is possible that it actually happened. I think more veterans will present more information on their personal experiences during that time period, both during and after the ground campaign.

Mr. SANDERS. Thank you, Major.

Gunnery Sergeant, did you want to comment?

Sergeant GRASS. Sir, I think that if the attitude of the committee, just like in a court of law, is that you're innocent until proven

guilty, that if the committee takes a positive approach with the thought that there possibly was exposure to chemical agents or there was exposure to chemical or biological agents instead of taking the approach that possibly that it's not, in going from the negative aspect and then taking this from the positive aspect and then checking all avenues of approach, then I think that others will start coming forward and admitting that some of these people were exposed to chemical agents over there.

Mr. SANDERS. Thank you very much. Thank you, Mr. Chairman.

Mr. SHAYS. With Mr. Fattah's permission, being a member of the committee, he is going to give Mr. Buyer a chance to ask a question.

Mr. BUYER. Thank you for yielding, and I will yield immediately back to you. I have to leave, and I apologize to my comrades for that. I think that Mr. Sanders is right on point, but the Department of Defense to my knowledge has not given the admission that chemical weapons were used during the war. They have given the admission with regard to Khamisiyah but we should not move out on the presumption that they are accepting this testimony as fact.

And that is what is very difficult and very challenging for us, Mr. Sanders, is that this testimony that we have just now received is no different from a lot of testimony that has been given to us on many different subcommittees, but the powers that be in the Pentagon are not accepting the word of these men. And that is very bothersome. So they have given the admission of Khamisiyah; they are not giving this as an admission of fact that chemical weapons were used in the theater. They are not even claiming that chemical mines were even used. They keep saying, well, there is no evidence, there is no evidence.

Yet we have soldiers that give oral testimony, have logs, have the FOX vehicles, and yet are still stonewalling, foot dragging, and that kind of thing. So Godspeed to you, keep it up, and your testimony, as a matter of fact your presence will keep this going in the National Security Committee. Thank you, Mr. Chairman.

Mr. SHAYS. I thank the gentleman. Mr. Fattah.

Mr. FATTAH. Thank you, Mr. Chairman.

First, I just want to try to put this in some context, at least for myself and perhaps for others.

The United States knew that during the Iran-Iraq war that chemical weapons had been used, and as the process at the beginning of Desert Shield moved forward, and Desert Storm, there was clearly throughout the ranks an understanding that if we were going to deploy troops, there was a possibility that there could be use of chemical and biological warfare weapons, and that is why there were some statements to make sure that we were well prepared.

So it is perhaps confusing to the public, given the knowledge of Iraq's use of these weapons in their conflict with Iran and statements that were made then by both President Bush, Secretary of Defense Cheney, the head of the Joint Chiefs of Staff, Colin Powell, Schwarzkopf and all involved, that we were very concerned about this whole issue as we proceeded forward, that the reluctance of the Department of Defense in the way that this information has

been processed up to date really is strongly contradictory to the concerns as illustrated by those facts from the beginning.

The Khamisiyah we have heard about, we have heard now from people who have been trained by the armed forces. Commander Johnson, is it?

Major JOHNSON. Major Johnson.

Mr. FATTAH. Major Johnson. You were trained as an expert in this area in terms of nuclear, biological and chemical agents, is that correct?

Major JOHNSON. Yes, sir, that's correct.

Mr. FATTAH. When you were in Kuwait, you indicated that you were assigned to confirm or deny in a particular instance whether or not there were chemical agents. After your work was completed, you said you gave tapes to people who were in desert uniforms?

Major JOHNSON. Yes, sir.

Mr. FATTAH. And they took those tapes and you cannot identify at this point who those people were. Were they Americans? Were they British troops?

Major JOHNSON. Sir, I thought that either they were American or British. During that operation, I had no contact, contact meaning verbal contact, with those individuals because I was more——

Mr. FATTAH. You were following orders?

Major JOHNSON. I was following orders and I was concerned about the men that I had in those vehicles. So the only thing that was on my mind was ensuring that they were continuing to do the mission right and that their safety was No. 1. And so I focused on that, and after completion of the mission I followed orders from the senior representative on the ground and U.S. representative under my chain of command, I responded to his orders.

Mr. FATTAH. Let me ask you a question, given your expertise. The FOX detection vehicles and the concern about positive or false readings. If it were the case that there was some question about whether or not a reading of detection was false or positive, would it not be your instructions always to act as if the reading was positive until it was verified to be false?

Major JOHNSON. Sir, that's why we continued—to answer your question, yes, sir. In order to ensure that we verified the presence or confirmed the presence of the agent, that is the reason why I had two vehicles present. They were on two different radio frequencies. I had the ability to communicate to both. I wanted to ensure, one, that the first FOX, if it was successful in detecting an agent, the other crew, the second crew that was in a down position, would not hear what was coming over the net; therefore, create some type of bias or some motivation on their part to say we have to find something as well. So I kept them on two different frequencies. We ran the test twice for future vehicles and they both registered with the same chemical compounds.

Mr. FATTAH. The CIA was brought in to do an examination. They issued a report saying that there was, as I remember the last hearing, Mr. Chairman, that they felt that there were no chemical agents in the field.

Sergeant Grass, you have said that your job, in layman's terms, was that you were supposed to make sure that as these mine fields were being cleared out, that there were no chemicals that were

being exploded as you cleared the mine field that would endanger troops that were going to be following you. Is that a fairly accurate description of what your mission was?

Sergeant GRASS. Sir, during the breaching operations, I sat and I watched the line charges from the combat engineers shoot across the mine fields. Once they had shot across and then the mine plow went across, my job was to drive down that lane, checking for either liquid or chemical contamination, and I checked all 8 lanes.

Mr. FATTAH. I think we are saying the same thing.

Now, what I am concerned about, and I know that in the midst of a war things are not as neat as we might suspect, but there seems to be from your testimony clear indications that the level of communications back and forth about whether or not there were chemicals was at best misleading at times and perhaps jeopardized soldiers as they proceeded forward, because as you indicate in your testimony, there were radio communications that indicated positive and then there was a lack of clarity; there were people who were moving into MOPP conditions, MOPP 4, and there were people who were not, and there seemed to be a lot of confusion.

One of the things that hopefully—this committee does not have jurisdiction over DOD—but obviously one of the things that we should be concerned about is, as we go forward, that that type of communications difficulty be worked out to the benefit of the soldiers involved until it is clear one way or the other of whether it is a false indication or a positive indication.

I want to move as quickly as possible, Mr. Chairman.

Mr. SHAYS. If I could just clarify one point, the full Committee on Government Reform and Oversight has oversight of DOD.

Mr. FATTAH. I was talking about the subcommittee.

Mr. SHAYS. And our chairman has given us the authorization, and that is why DOD has appeared before us.

Mr. FATTAH. Mr. Chairman, I was not suggesting that we were improper in our inquiry.

Mr. SHAYS. I know. I just don't want the DOD to get a comfort level that they may not be invited to continue to participate before this committee.

Mr. FATTAH. I thank you. I did want to, by way of that bridge ask—because one of the items under this subcommittee's particular jurisdiction, ongoing, is the VA—is to ask the Major whether or not DOD's official opinion that no exposures had occurred, their previous position, whether that had affected your ability to receive treatment from the VA.

Mrs. Kim HEBERT. My husband is still on active duty, sir.

Major HEBERT [through Kim Hebert]. So the VA has not come into play at all at this point.

Mr. FATTAH. Thank you very much.

Let me just say in conclusion then, Mr. Chairman, that one of the items that has become clear through some of the other testimony is that we have to be concerned that, notwithstanding these official pronouncements, that care from the VA be afforded to each and every veteran that presents themselves and has possibly been exposed to low-level contamination.

Finally, I just think that the Congress, even though this subcommittee has been very aggressive, that it is clear to me that the

public should demand and we actually be even more aggressive on this matter in the 105th Congress, and not just this subcommittee and not just hearing from people like the people here but higher-ups. I know that we want DOD to come forward, but I would also indicate that there were people in upper echelons of this government during this period of time, like Secretary Cheney and others, and Schwarzkopf and Colin Powell, who we should attempt to understand whether the Major is correct or not, and that is whether or not on day one there was information that could have aided in providing adequate care and knowledge about this, and I think that we should be as serious in that investigation as this Congress has been looking into other matters of interest to the Congress.

We have been very aggressive on some matters and I would like to see our chairman have this subcommittee's inquiry be expanded in a much more aggressive manner because I think this subcommittee has carried the weight, but there is more here that we should examine. Thank you.

Mr. SHAYS. I thank the gentleman.

We have a number of other questions that we are going to ask. I want to just establish a little bit of history here and also to state for the record that this subcommittee would not proceed if we did not feel we would have the full cooperation of the chairman of the full committee and full jurisdiction to have DOD, the CIA and VA, the Veterans Affairs Department, come before this committee. We are not going to allow for a minute the kind of problem that we have encountered for 5 years, and that is DOD does its thing, the CIA does its thing, the VA does its thing and they don't seem to talk and we are going to get and we have in the past, get all parties at the same table so we can compare testimony.

I just need to say this for the record again. All three are going to be invited. In fact, DOD is coming before this committee in January. The DOD, Mr. Joseph, was here previously. He will be invited back as we pointed out, and the CIA was here. Seared in my memory is the CIA saying they never once spoke to our own troops, to learn from our own troops vital information. They saw their job as going to other people outside our own government, and they said whatever they got from the DOD was the information they accepted. And just reading, frankly, the New York Times today, we have got to get beyond the point where we are just accepting certain information.

Your testimony is vital to this committee. I do not accept for a minute the comment that this is information that we have continually had. We are going in a very structured way to document. And every hearing we are going to have veterans come, because you all are voices in the wilderness that nobody has been listening to and you are the first people that should be listened to. And you are the experts. And when I read what Colin Powell and Mr. Schwarzkopf, since you brought up their names, talking about how alarms went off all the time, but in essence since no one dropped dead, we didn't think there was a problem. That is the short version of my take of their view. It just defies logic, because we know after World War I that we had some troops who died instantly from nerve gas. Mustard gas, rather. We knew that some came home and years later

they became ill and died. And we had to acknowledge it after the fact. They weren't cared for or treated.

But we knew after World War I, there was acute illness and then we knew there was low-level exposure that led to ultimately chronic illness, that led to death; and we learned that with nuclear, our whole entry into nuclear warfare and the soldiers that cleaned the planes when they dropped the bombs for testing, who became sick and died years later from exposure then but not an acute illness then. And we learned from Agent Orange. So, I mean, this is old stuff for us.

I just want to say to you, you all have taken some risk. You are all soldiers in our military. You are active soldiers in our military. But you believe in the code that you swore to and that code was that when you have information that your superiors need, you come forward. And you are very brave people. And I believe that your superior officers respect you for what you are doing. But you are giving a contrary view. This is why your testimony here is so vital. So vital.

Gunnery Sergeant Grass, I want to be clear. Let me just preface these comments by saying the only acknowledgment, true, is Khamisiyah. And the only reason I think we have that is one of your comrades, one of your brothers, stepped forward and basically had pictures of the plumes and had pictures of some of the weapons. And only then at 4 on a Friday afternoon before our Tuesday hearing did the Department of Defense have a press conference to acknowledge that our troops may have been exposed at Khamisiyah. Only then. And it was one of you, one of your people, one of your soldiers that basically forced the DOD to act. Thank goodness. And so we are going to get to the point where we are going to have the truth be known.

Now, what I need to be clear on is you are an expert; is that correct, Sergeant Grass? You are a trained person in detecting chemical weapons; is that right? To identify them and to detect them?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. For the record, it is my understanding that biological agents cannot be detected by the FOX equipment or any other equipment; is that correct or not?

Sergeant GRASS. The FOX vehicle can take a sample, but they have to give that sample to somebody else. There is biological identification equipment that is being tested such as in Utah and various places that, being a member of the chemical biological incident response force, I'm privy to that information right now. It's still under—they're still looking at biological detection, sir.

Mr. SHAYS. Now we had FOX equipment that would detect chemical agents. We also had other equipment that weren't part of the FOX units, is that correct, that would also detect chemical agents?

Sergeant GRASS. Yes, sir. You have the M–8 alarm, you have the M–256 kit, you have M–8 paper, you have the chemical agent monitor.

Mr. SHAYS. The most reliable, though, would be what's on your units? In other words, the soldiers who weren't part of the FOX unit had equipment that would detect chemical agents?

Sergeant GRASS. Yes, sir, with different varying detection capability, yes, sir.

Mr. SHAYS. We have soldiers who have said these alarms went off all the time. We even have the highest in command saying they went off all the time. What is your reaction to their comment that basically we discounted them? What is the logic behind discounting them as far as you understand it? Thousands of these alarms went off during the course of the war and afterwards.

Sergeant GRASS. My guess is that they were exposed to some low level of chemical exposure, sir.

Mr. SHAYS. Major Johnson? My point is when you hear your superior officers basically say they went off all the time and we discounted them, and discounted data that came from FOX equipment, from FOX units, which I would consider trained specialists, you are, what was your reaction?

Major JOHNSON. My reaction, sir, was that it was hard to believe that all the alarms went off, that the other detection equipment like the Gunnery Sergeant mentioned, M–8 paper, M–9 paper, gave false readings. Based on my knowledge of NBC operations, that I know that the equipment that we have is designed to detect chemical agents and that the soldiers that are in control of those detection pieces of equipment know what they're doing, and I believe that when they said detections happened, they happened.

Mr. SHAYS. I'm trying to put myself in your position. I was thinking that, if I was doing my job and I gave it to superior officers and they basically discounted it, I wonder why I'm even there. I mean, what is the point? What is the point of having the equipment if we are not going to listen to it? What is the point of having the FOX units if we are not going to pay attention to it? What was your reaction? Do you see it the same way I would think of it?

Major JOHNSON. Yes, sir. My reaction during our detections was that everyone there believed what we found. When I informed the senior leadership there that we had detected chemicals, when we moved the vehicles to a contamination-free area and I was instructed to remove the tapes, the senior leadership on the ground looked at it. They looked at me. They looked at my soldiers. And when you looked at those soldiers, in their eyes, they were confident and they knew that they had detected chemical agents. Everyone that day believed that that system, the FOX, worked, and we all left with that thought that it worked properly. There was no doubt in anybody's mind, when we left, that chemicals that I had mentioned earlier were actually found.

Mr. SHAYS. At what level did you have those detections?

Major JOHNSON. We had them at what I called microlevels, very low level readings that were in the soil initially when we moved into the area. One of our tasks before we move into an area to check it, we start our area surveys up to the point where we actually go to a point survey, where the vehicles are in a static position. They detected microlevels of mustard. Then when the actual container was open and liquid was withdrawn and it was applied to the mobile mass spectrometer, and the readings came out, they were very high level readings on a scale of 8 where we identified that there were 6.4 bars, meaning a highly volatile chemical warfare agent, a blister agent present with some traces of other chemical agents.

Mr. SHAYS. Did you take a sample that was ultimately given to the chemical and biological defense establishment of Great Britain?

Major JOHNSON. Sir, I did not—at that time I did not know—I did not submit anything to that agency you just mentioned. I did not even know that Porton Downs in the UK existed until they notified me to question me about my report, to dispute my findings in the report.

Mr. SHAYS. But Great Britain basically, their unit disputes that it was mustard gas. Their view was that it was basically fuel for the SCUD missiles?

Major JOHNSON. Yes, sir. Their comment back was that it was red fuming nitric acid, which is a rocket propellant or oxidizer.

Mr. SHAYS. What's your reaction to that?

Major JOHNSON. I don't believe it. Because during that day we had functioning FOX reconnaissance vehicles, calibrated mobile mass spectrometers, which is the nerve center for that FOX to detect chemical agents that was calibrated the day before by General Dynamics land systems, plus the soldiers are trained to do their precalibration of the system.

Mr. SHAYS. Would you be able to tell the difference between the SCUD fuel and this with that equipment?

Major JOHNSON. After investigations by Senator Riegle's staff and his professional staff aides, they submitted questions to the Institute of Science and Technology on the ability of a mobile mass spectrometer to detect or identify red fuming nitric acid. Based on their comments back, it was that it is virtually impossible to detect red fuming nitric acid because the mass spectrometer would be destroyed in the process. The membranes within would be destroyed. I didn't know that at that time, but when I was on the ground, I knew for a fact that our systems were working. There was no doubt in my mind that our equipment functioned properly and that we detected properly those chemical warfare agents.

Mr. SHAYS. So your testimony is that you would acknowledge that the chemical and biological defense establishment disputes your finding but you take issue with their finding and don't accept their finding?

Major JOHNSON. Yes, sir, and there are a couple of reasons why in addition to the mass spectrometer reports. The British laboratory identified that the soldier that was contaminated on the ground, his suit was removed from the area and transported back to the UK for analysis. As members from the office of chemical and biological matters contacted me to dispute my report, they stated to me that that suit was moved out of the area. And I said, well, that's impossible because I observed the suit being burned there onsite. Because the commander in charge at that time, the British commander, stated that anybody that went past what we called the contamination control line or the hot zone line, if you were in the hot zone line, once you came out of it, your equipment would be decontaminated and then you would have it centrally located, and an individual would move it to an area, a depression in the area for a controlled burn.

And I with my own eyes looked at the equipment, because not only did the British move equipment into that area to be destroyed, I had a soldier who was assisting the British decon team who actu-

ally had his suit removed and put into that burn site, and we observed the suit being burned. I also was informed that it was possible that followup investigations at that site had happened and it was possible or likely that they could have picked up some of their residue in that burn site. But I just don't believe that.

Mr. SANDERS. Mr. Chairman, if I could just briefly pick up on this point. Presumably the taxpayers of this country are spending many millions of dollars on this and other equipment which is designed to pick up chemical and biological agents, correct?

Major JOHNSON. Yes, sir.

Mr. SANDERS. And what we are hearing is that presumably every time there was a detection of an agent, it was discarded, because all of the machinery in every single instance was faulty?

Major JOHNSON. Sir, I would only say that on the day of our detection, every senior officer, senior person on the ground did not dispute our findings. They acknowledged.

Mr. SANDERS. On the ground.

Major JOHNSON. On the ground, that based on the evidence of a functioning mass spectrometer and the tapes that were produced from that and the accident with the British soldier, that, yes, in fact it was a chemical warfare agent.

Mr. SANDERS. But as the chairman has indicated, a higher-up knew when these disclosures and this information was discarded. Am I correct, Mr. Chairman, that by definition every single instance of an alarm going off or detection from the FOX vehicles at the top was suggested that there was faulty equipment?

What is the explanation being officially given as to how come all of this equipment which presumably cost us millions of dollars which was designed to protect your lives and your comrades' lives, what is the official line being given as to how come all of this equipment is faulty and have we thrown it all out or have we gone back to the manufacturers and demanded our money back, so to speak? What is the explanation of how come all this equipment was faulty? Does anyone have a thought on that?

Sergeant GRASS. Sir, speaking from my point of view, sir, the FOX vehicles—when I first arrived in Saudi Arabia, the Marines did not know what a FOX vehicle was. And neither did the commanders. So because of that, I took the vehicle around and I showed and demonstrated what the capabilities and the mission of the FOX was. As I was doing that, because it was such a strange looking vehicle to the Marines, I had tanks and machine gunners and even the cobras that were part of our air want to blow up my FOX vehicle.

So when I passed information at Jabar Air Field about the sulfa mustard reading up the chain of command, the Marines and the sailors in the immediate area donned their field protective masks and went into full MOPP level 4. I think because when we were passing it up the chain of command, for one thing they told me to run a mass spectrometer, which meant they didn't know what they were talking about because the equipment on the FOX vehicle is a mass spectrometer and they told me to run one. So they knew what the FOX vehicle was about because they had had a demonstration, but they weren't fully aware of what the capabilities of the FOX vehicles were at that time.

Mr. SHAYS. Let me if I could, Mr. Fattah, I know you have to leave, sir, and I'd like to make sure that you get to ask some questions again.

Mr. FATTAH. I wanted to follow up on Sergeant Grass's comment, and I was going to go back through it. But you mentioned that at some point you came along an ammunition bunker or warehouse and that there were what appeared to be drums containing chemical agents. Is that correct? Did you say that?

Sergeant GRASS. No, sir.

Mr. FATTAH. You stated you found drums that had a skull on the exterior?

Sergeant GRASS. Around Kuwait City was known as the Third Armored Corps ASP in an area that was far off the road. In order to get to this area, I had to go over a large hill, past this big group of trees into an area that was built-up berm. Next to that area was a First Battalion 5th Marines. They were set up about 100 yards away from this area. Also in this area there was a Winnebago type vehicle that was pretty fancy looking. It was dug into the ground. It was concreted with cinder blocks up around it. Within that same office, there was leather couches, crystal, pictures of Saddam Hussein all within this area right here.

It was obvious that this was some kind of a command area. About 100 yards, or 50 yards away from this right here was larger berms. Once we went inside this ammunition storage area, the metal drums that were in the area were there just as if an ammunition storage area here in the United States, you have different placarding to let you know the different style and what kind of ammunition is stored in there.

So there is a good probability that the all blue drum or the green fire extinguisher or the olive drab 55-gallon drum or whatever were probably empty. They were just there because there was no other way that they could use in order to placard the area to let somebody else know that was familiar with those placarding procedures of what kind of ammunition was in there.

Mr. FATTAH. So there was normal nonchemical ammunition being stored there?

Sergeant GRASS. Yes, sir.

Mr. FATTAH. That was American made.

Sergeant GRASS. In those 55-gallon drums. They were open and bung type drums that were painted.

Mr. FATTAH. I understand. You mentioned that they were American-made ammunitions?

Sergeant GRASS. Sir, within that area is where I had also, there was 1–5–5 rounds that were sitting on top of the boxes, that I had a full spectrum of sulfa mustard on there. They had taped off either red or yellow taping with skull and cross bones on it. They had little signs next to them with the little skull and cross bone next to it and the sulfa mustard 1–5–5 rounds were the same exact ammo box that we would use in the United States, the NSN, everything else like that. And we were getting a full spectrum of sulfa mustard.

That particular area right there was from the United States. Further along inside this chemical weapon area is where I detected the HT mustard, which is a derivative of the sulfa mustard and

that had boxes from the United States and Holland. All the ammunition within that chemical weapons storage area was from Holland, Jordan, and the United States.

Mr. FATTAH. The last thing I want to say, and I want to thank the chairman for yielding to me.

Mr. SHAYS. You have as much time as you want.

Mr. FATTAH. That it is obvious that one of the other issues here is that during the Iran-Iraq conflict, we supplied items, some of these ammunitions to Iraq, which is problematic to say the least.

Now, Major Johnson, you are an active duty officer in the service. I really want to take a minute and commend you, you and Sergeant Grass and the major for appearing because it is obvious, given the testimony, that it conflicts with everything that we have heard from official—from the CIA, from the Department of Defense, from people who are much higher up in the chain of command. It is my hope that from your testimony here today, it will elicit more candid responses from the Department of Defense and others as we go forward. I hope, and I know the chairman agrees, that this should not in any way impair any of your efforts as you move up in the Department of Defense. I know that you should not be concerned about that.

I want to commend you for coming forward. I do think that your testimony, all of it, raises a lot of issues for us to deal with as we go forward, not the least of which is this fact of American-made ammunition getting into the hands of people who we identify ourselves having a conflict with.

I want to thank the chairman for that opportunity. Thank you.

Mr. SHAYS. I thank the gentleman. When I was elected in 1987, one of the first briefings that I had was a briefing about chemical and nuclear potential in the Middle East. The bottom line to my briefing was that there wasn't hardly anyone in Congress who did not know that both, obviously the Iraqis and Iranians, had chemicals and that some other countries did as well. We knew that before the war proceeded, we obviously knew that there were chemical weapons in many places. We knew Iran and Iraq had obviously both used them.

I will say parenthetically that I got on bended knee. I remember when the Israelis bombed the nuclear plant in Iraq. I was shocked at the time, I was a State legislator, until I had my first briefing, and I mentally got down on my hands and knees in gratitude for the Israelis for bombing that plant.

Having said that, sir, I was not intending, Gunnery Sergeant Grass, to get into this issue, but because you have mentioned it, it may be a factor in this whole reason of why we are not hearing things as quickly as we want. When you say that there was U.S. made, we are not talking about something that would project a missile, or a shell; we are talking about actual chemical agents that were U.S. made.

Sergeant GRASS. Yes, sir, that's correct.

Mr. SHAYS. Was there any concern on the part of your superiors that that was the case? I mean, was this basically taken from you—is it your judgment—I don't want to put words in your mouth. Tell me a little bit more about the reaction of your superiors when you knew and they knew that some of the weapons were actually

U.S. made and some of the chemical agents were U.S. made in your judgment.

Sergeant GRASS. Sir, before I took off to that area, Chief Warrant Officer Cottrell had told me that, if I found chemicals out there, to report back as finding some honey. That way it wasn't going to alert the entire task force unnecessarily.

Mr. SHAYS. What does that mean?

Sergeant GRASS. That meant because the proper procedure is when you detect a chemical, you use radio procedures as flash, flash, flash.

Mr. SHAYS. Let me just ask you, we are talking about in a sense dormant chemicals versus chemicals that have been put into use to stop the enemy. What you uncovered here was chemical storage, correct?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. That wasn't potentially a threat to anyone in that condition?

Sergeant GRASS. At the time, yes, sir. Although the First Battalion 5th Marines was right outside that area.

Mr. SHAYS. But they were not in the hands of the Iraqis, these chemicals, these shells and so on? These were under our control by the time you saw them?

Sergeant GRASS. Yes, sir, that's correct.

Mr. SHAYS. So you went there, and what were your orders?

Sergeant GRASS. That once—if I did find any chemical weapons around there, I was to call back and let Chief Warrant Officer Cottrell know that we had found some honey.

Mr. SHAYS. You called it honey?

Sergeant GRASS. Yes, sir. We had mentioned that we had some honey. After I had got the three different chemicals, the sulfa mustard, the HT mustard and the benzobromide, I went back to Chief Warrant Officer Cottrell. Before I left, I wrote down information in my little book here on the different drums and the fire extinguishers, and I got a visual picture on the way that this chemical weapons storage area was made, being a former ammunition technician.

When I got back and I had gotten out of the FOX vehicle, Chief Warrant Officer Cottrell and the commanding officer of Task Force Ripper and several other officers including the intel officers went inside there. I gave them great detail on what we saw out there, including the ammunition from Jordan, Holland and the United States.

Mr. SHAYS. Before continuing that part, when you went to the site, you got out of your FOX vehicle to make visual verification, or were you in the FOX vehicle the whole time?

Sergeant GRASS. We didn't get out of the FOX vehicle for any reason, sir.

Mr. SHAYS. Maybe I don't need for you to explain this, but the disadvantage of being asked by civilians is we don't know certain things, and the advantage is we don't know certain things; and the bottom line is we learn through this process.

So I am asking ignorant questions to you, but it's helpful to us in this committee in ultimately how we report our findings. What I'm not clear about is, if it were in a dormant state, why wouldn't you get out of the FOX vehicle?

Sergeant GRASS. There were thousands of ammo bunkers in the Third Armored Corps ASP or ammunition storage and supply area, and we drove, monitoring for any vapor contamination because there were just so many. Unless it was a suspicious liquid on the ground, that's when I checked that, suspicious liquid for liquid contamination.

Because of the ability of the mass spectrometer, there's no reason why one of the crew members of the FOX vehicle has to get outside of the FOX in order to take any kind of reading.

Mr. SHAYS. And it's your training not to get out, correct? I mean, you're told not to for various reasons.

Sergeant GRASS. Absolutely, sir. If my mass spectrometer is telling me there's a chemical out in the air, them I'm definitely not going to get out of the vehicle.

Mr. SHAYS. What I'm trying to nail down is, it is out in the air, but it's dormant, it's in containers? Or is some of it out?

Sergeant GRASS. It could have possibly been a leaking weapon, sir.

Mr. SHAYS. For all you know, we could have had our soldiers who could have gone into that position after you left without any of the knowledge that you had, correct?

Sergeant GRASS. That is correct, sir. Even back at Jabar Air Field, the Third Tank Battalion was surrounding me as I got that sulfa mustard reading, and I know that after we had taken Jabar Air Field and continued onward toward Kuwait City that other elements of the First or Second Marine Division went through Jabar Air Field.

Mr. SHAYS. So your expertise tells you to stay in the FOX vehicle?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. You leave, you get out of the FOX vehicle when you are back at your destination, but you have no way to verify whether that was cordoned off and that our soldiers were warned not to go in that area.

Sergeant GRASS. Before I went back to Task Force Ripper's main to see Chief Warrant Officer Cottrell, I went over to First Battalion Fifth Marines, talked to the NBC officer, Chief Warrant Officer Fletcher, and the commanding officer of First Battalion Fifth Marines and told them that I just found chemical weapons over there. I told them to stay out of that area. Because basically nobody had gone into that area—we were the first ones to go into the area. The Winnebago that was dug into the ground was like a tourist area. So there's a good possibility.

Mr. SHAYS. But you cannot confirm whether or not your warning was heeded? You did your job, Sergeant, but you don't know how it was treated by anyone else.

Sergeant GRASS. I'm sure that the commanding officer of 1–5 had passed it down his chain of command, and I'm sure that they stayed out of that chemical weapons storage area.

Mr. SHAYS. One of the things that I'm not too impressed with is the chain of command. When I'm hearing that, I'm losing faith, with all due respect. You did your job. But who knows what he said, who knows what was said to the next person in line.

You got back, you got out of the FOX vehicle, and?

Sergeant GRASS. Myself and Chief Warrant Officer Cottrell and the commanding officer of Task Force Ripper and executive officer and several other officers went into a tent. Inside that tent I had the three mass spectrometer printout tickets from the chemical weapons storage area I had just left.

I also had the printout from back at Jabar Air Field from the sulfa mustard back there. I showed them the similarities between both sulfa mustard tickets. I also explained to them in great detail about the chemical weapons storage area, and they determined that the division which was located at the Kuwait International Airport must be notified, First Marine Division.

So one of the officers had called over there and they made it so that I was going to escort an EOD, an explosive ordnance disposal team, to that chemical weapons storage area the next day. So at that point right there the chain of command was acknowledging that there was a possible chemical weapons storage over there and that the readings from the storage area and Jabar Air Field were positive, and they wanted to find out exactly what was going on.

Mr. SHAYS. Major Hebert, is it your testimony—I'm forgetting now whose testimony—a concern about shells containing chemical agents and mines containing chemical agents. That was your testimony?

Major HEBERT [through Kim Hebert]. Yes, sir.

Mr. SHAYS. What again was the reason why you believed that one or two of the mines had actual chemical agents? What made you believe that? Was it what you were told? Was it something, an alarm system that you had? Tell me again how you felt there was a chemical agent.

Major HEBERT [through Kim Hebert]. He was told by his Battalion 3 that a chemical mine had gone off, and he learned later that the FOX vehicle confirmed positive nerve agents, sarin, and also neurocyte mustard.

Mr. SHAYS. If I could have you stop here a second. Major Johnson and Sergeant Grass, would you respond to what we were just told by the Major? Tell me your reaction to that.

Sergeant GRASS. The FOX vehicle commander for six Marines is Master Sergeant Bradford, located at 2d Marine Division at NBC at Camp Lejeune. He was never called in order to give his testimony on this, although I gave that information to the Advisory Committee in May.

Mr. SHAYS. The Advisory Committee being?

Sergeant GRASS. The Presidential Advisory Committee on the Persian Gulf. As I stated, Master Sergeant Bradford has not been contacted.

Mr. SHAYS. He has been contacted now? You said he has now been contacted?

Sergeant GRASS. As of Friday, he has not been contacted.

Mr. SHAYS. He has not yet been contacted?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. Forget the Advisory Commission to start with. What I am having a hard time reconciling is why a few months later, certainly within a year, all the people involved would not have been interviewed. That is what I am having a hard time understanding.

How many times have you been interviewed by your superior officers without you proactively asking to be?

Sergeant GRASS. I have always let my chain of command know at every unit I have been with. They know——

Mr. SHAYS. So when you go to another unit, you say the same story?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. That is my definition of someone crying in the wilderness. No one has proactively sat down, talked with you, questioned you, compared your records and so on?

Sergeant GRASS. No, sir, they have not.

Mr. SHAYS. Major Johnson, what is your reaction?

Major JOHNSON. Sir, I have never been contacted by anyone in the chain of command regarding my report of my findings, but when I presented my report and stood by it, apparently that was 3 years after.

Mr. SHAYS. You say you presented it to——

Major JOHNSON. Presented it to my supervisors to modify some instruction. It seemed to not be an issue to anyone. No one really gave it much weight. They just said, go ahead and go do great and wonderful things with teaching. But when it got into the hands or into the realm of Members up here in Washington who were interested in it, then the interest increased. Then the matter of disputing my findings jumped to what I call an all-time high.

Three years have went by. I left the desert, the Persian Gulf, with the fact in my mind that we were successful in our findings. I questioned the chain of command or asked the chain of command that I was assigned to if they had heard anything. Nothing ever came of it. So I left there thinking that we had done the right thing. It did not become an issue until 3 years after the fact, after it was found out that my report was of interest to someone outside of the Department of the Army, Department of Defense.

Mr. SHAYS. I am haunted by the CIA telling me in a matter of fact way that they never communicated with any of our officers. It would seem to me our own people would get information from our own people before we would go somewhere else. They may be able to say that is not their jurisdiction. It, to me, was a warning sign to me that, and this is just extraordinarily pervasive. I want you to respond to what Major Hebert said, talking about the mines, talking about the shells—excuse me, the shells, Major Hebert, you were saying you saw the shells explode and a plume of smoke, but you didn't see what would be viewed as an explosion.

Major HEBERT [through Kim Hebert]. Yes, sir. That is correct.

Mr. SHAYS. So you actually, you saw this, this is not some report, this is something you witnessed?

Major HEBERT [through Kim Hebert]. During the actual breaching of the first mine field, he saw and heard the first explosion and the second one he only heard the explosion.

Mr. SHAYS. But the first one you basically saw it more as a plume of smoke than what you would ordinarily view as a weapon designed to destroy?

Major HEBERT [through Kim Hebert]. Yes, sir.

Mr. SHAYS. I have no knowledge of how you clear a mine field. Is the process basically blowing up the mines, you just try to blow up the mines along the way, or do you physically remove them?

Major HEBERT [through Kim Hebert]. He has a device called a line charge that is fired across the mine field. And it is 1,750 pounds of explosives.

Mr. SHAYS. So if in fact some of the mines were chemical instead of an explosive, you in effect would be basically blowing up the mines and the mines, unknown to you, would actually be causing the very harm they were intended to cause?

Major HEBERT [through Kim Hebert]. If they were chemical mines, sir, yes.

Mr. SHAYS. Now, we are almost done with this panel. Mr. Sanders is going to have some questions. I am going to come back for a quick second. But, Mr. Hebert, I am going to give you an opportunity to make just a short statement at the end and so you might want to think about what you want to say. Mrs. Hebert, as well, at the end I am going to give you an opportunity to make a statement instead of just being a scribe under order. Both of you will be able to make a comment at the end.

Major HEBERT [through Kim Hebert]. He wants you to know that he was with the 2d Marine Division. The gunnery was with 1st Marine Division. They were operating within 2½ to 3 miles within each other. And on the 25th of February, when they were having positive confirmations of agents in the area, they were 2d Combat Engineer Battalion, we were not, they were not in MOPP level 4 for the entire day. And that was February 25th.

Mr. SHAYS. Thank you for that information.

Major, did you want to make a comment before I give the floor to Mr. Sanders?

Major JOHNSON. No, sir.

Mr. SHAYS. Mr. Sanders.

Mr. SANDERS. Thank you, Mr. Chairman.

As Mr. Fattah mentioned a little while ago, it was no secret that when you went over to the Persian Gulf there was concern about the possibility of the use of chemical weapons. Everybody knew that and presumably we were prepared to respond to that danger. Let me read you a quote from the front page of the New York Times, December 3d. General Powell, the chairman of the Joint Chiefs of Staff at the time in 1991, said in an interview that while chemical detection alarms had sounded repeatedly during the war, American commanders in the Gulf had been unable to confirm the detections and had believed them to be false alarms.

Another quote, December 5, New York Times, the chairman of the Joint Chiefs of Staff during the war, General Powell, also now retired, said in an interview on Monday that chemical alarms sounded repeatedly during the war but that American commanders in the Gulf were unable to confirm them and considered them false alarms.

Now, my question is this, if the military gave you rifles and the rifles did not fire or misfired, presumably people would be concerned and there would be a change of equipment, there would be a study. There would be a scandal. There would be an attempt to understand what was going on. Sergeant Grass, is the FOX vehicle

still being used or, based on the experiences of the Persian Gulf war, has it been discarded? Have we sued the manufacturer for producing equipment which is just a faulty piece of equipment? Is it now recognized that the piece of equipment that you were utilizing is a piece of garbage, or, in fact, might be considered something else?

Sergeant GRASS. Sir, as I stated earlier, I am a member of the Marine Corps Biological Incidents Response Force. We have two FOX vehicles assigned to us.

Mr. SANDERS. Still using them?

Sergeant GRASS. Yes, sir.

Mr. SANDERS. Well, if every time your piece of equipment, the vehicle, the FOX vehicle detected something and if we also had other pieces of equipment that were giving us alarms during the war, and if the generals perceived that in every single instance these were false positives, should we not have done something with that equipment? Shouldn't we have said this is useless equipment? Or else that maybe the equipment was not false positive and that maybe we had a problem?

Sergeant GRASS. Sir, there has also been modifications to the FOX vehicle that upgrades it with, I believe, a Rascal. I am sure the Major might be able to answer that.

Mr. SANDERS. One of two things, either you have a faulty piece of equipment and after the war we want to find out why it is faulty or else we have a piece of equipment which was functioning correctly and we want to find out why that information was not transmitted to the public and to our soldiers.

Major, did you want to——

Major JOHNSON. Sir, from my last encounter with the FOX vehicle and the personnel that are trained with it, we are still in fact using that system. We are still training soldiers at the U.S. Army Chemical——

Mr. SANDERS. You are using a piece of equipment that ostensibly during the war its evidence and its information was not taken seriously.

Major JOHNSON. Yes, sir. There have been several modifications to the vehicle. I cannot confirm if it is the result of activities in the Persian Gulf or during the Persian Gulf. I can assume all day long, but I know that one of the things that was mentioned to me was that my report in the dispute step were presented against it and they did in fact state in a document that the developer has gone back to relook, relook the system. And that was the end of that. But we are still in fact using it, sir.

Mr. SANDERS. Mr. Chairman, one of the issues that I hope we will pursue is just that issue. Either you had faulty equipment and clearly we should not be paying to continue to use that equipment or else the equipment was working properly and there is something wrong when the information that that equipment gave us was not transmitted properly to the public and to our soldiers.

The second question that I would ask Major Hebert if I might. You are hurting now physically, and that is clear. And we very much appreciate your bravery and willingness to come here today. Do you know of people with whom you associated, people in your

area during the war who are suffering illnesses that might be attributed to the conflict?

Major HEBERT [through Kim Hebert]. Yes, sir, he knows a few in our area.

Mr. SANDERS. Similar problems to yours or just other kinds of——

Major HEBERT [through Kim Hebert]. All different problems, mainly rashes, joint pains, those type of problems.

Mr. SANDERS. Did either of the other two gentlemen want to comment on that?

Sergeant GRASS. Yes, sir. In my case, as I stated before, my security, because we are such a strange looking vehicle to the Marine forces, they gave us tow vehicles which are on the back of a Humvee. Several of my security, including former Sergeant Randy Wheeler, are showing some of the same symptoms that Major Hebert is. Other personnel within Task Force Ripper from 3d Tanks are also suffering from some of the same symptoms. Some of the other FOX vehicles——

Mr. SANDERS. Same symptoms that Major Hebert is suffering from?

Sergeant GRASS. Yes, sir. Other elements within Task Force Ripper are also suffering from some of the same symptoms. They have either been discharged from the Marine Corps or are still remaining on active duty and trying their best to get medical assistance, especially the ones that have been discharged from the Marine Corps are trying to get medical assistance and just getting the runaround from the VA, just like Randy Wheeler is. And there's others within 2d Marine Division that are under the same kind of medical care and same illnesses.

Major JOHNSON. Sir, this is a tough area for me because prior to going, deploying to the Gulf, I was in perfect health. After returning from the Gulf, I have begun to question my health and I started documenting it back in 1993. There are several things that I am concerned about. Changes, for example, in my blood pressure, having to fight constantly to control the blood pressure. Headaches, burning eyes, joint pain, having a scope, an arthroscope procedure down in my left knee to remove a growth that has been left to the doctors as a mystery as to why it was there; have not had any knee injuries since high school football and this growth is there. Chest pains off and on. I just was released out of the hospital on the 26th of September, after being diagnosed with gastrointestinal bleeding, or basically I had three bleeding ulcers that were repaired.

Every day it is a constant fight with me to say to myself, is it a result from the Gulf? It is hard for me to say because I keep saying to myself, well, maybe I wasn't there long enough but what is long enough? One day, 180 days or what? I don't know. But since that time, I have experienced changes in my health. I don't know if it is due to the fact of the normal process of aging in the body or if it is an advanced aging process going on in the body but each day gives me a concern that comes back to activity in the Persian Gulf.

Major HEBERT [through Kim Hebert]. In Randy's testimony, in his testimony he mentioned several different elements, most of which he has observed from members of all branches of the service.

Also from one of the Marines that were operating with Gunnery Sergeant Grass, he is an ordinance officer, he was with Gunnery Sergeant Grass. Several members—seven members of his unit were sent to Portsmouth Naval Hospital to be observed after the war. Only two of them are now living.

Mr. SANDERS. Does the term "aflatoxin" mean anything to anybody?

Major HEBERT [through Kim Hebert]. Yes, sir.

Major JOHNSON. Yes, sir.

Mr. SANDERS. Anybody want to comment on what we have heard about that.

Major JOHNSON. Sir, from what little I know about aflatoxin, it is a carcinogen. It is a biological agent. Some individuals refer to it as black cancer. It is a process where once you are exposed, it could take months, it could take maybe a year or so before the effects from it really begins to take a toll on the body. There has not been much discussion from my understanding about aflatoxin, just that it is a biological agent and that it was possible several months ago that the Iraqis had that capability in their biological arsenal.

Mr. SANDERS. Any other thoughts on that?

Major HEBERT [through Kim Hebert]. Randy has the same comment as Major Johnson. And he heard about that 3 days ago.

Mr. SANDERS. Thank you all very, very much.

Mr. SHAYS. We are almost done here. I thank you all for your patience.

Did any of you or all of you undergo the DOD health exam for Gulf war veterans, the comprehensive clinical evaluation program called the CCEP?

Major JOHNSON. No, sir, I have not.

Sergeant GRASS. I was afforded the opportunity, if it is the same thing that you are talking about, sir, in 1993, when I was at Okinawa.

Mr. SHAYS. You chose not to take the opportunity?

Sergeant GRASS. Yes, sir.

Mr. SHAYS. OK.

Major HEBERT [through Kim Hebert]. Yes.

Mr. SHAYS. When was that?

Major HEBERT [through Kim Hebert]. December 1995.

Mr. SHAYS. I am going to ask this question and you will have to have your own good judgment on how you answer it; you are all soldiers and you don't necessarily volunteer information. You make yourself available and we have to have the good sense to ask the right questions. My fear is that we have not asked the right question. If there is something you felt we should have asked, I would like you to ask yourself that question. Sergeant Grass, was there a question we should have asked you? If there was and you don't want to tell me what that question was, I will live with that. I just need to know. Were there some questions we should have asked that we didn't.

Sergeant GRASS. One of the questions you didn't ask me was whether any other chemical alarms within Task Force Ripper's area of operation that I was not called upon to verify or check. The answer to that question is, yes, there were other areas within Task Force Ripper that had possible chemical exposure. It is just that I

believe at the time they just chose not to call the FOX vehicle because of whatever reason they chose.

Mr. SHAYS. Your response to that excellent question was that there were other potential exposures and your FOX equipment was not called to verify?

Sergeant GRASS. That is correct. Also the detector tickets were given to my chain of command beginning with Chief Warrant Officer Cottrell, and I never saw those detector tickets again.

Mr. SHAYS. We are going to try to track that down. I need to be clear, you touched a point, there is a printout and a tape. They are two different things. The equipment gives a printout. It also gives you a tape. Are those two different items?

Sergeant GRASS. It is on the same ticket.

Mr. SHAYS. OK. Thank you. Major Johnson, is there a question we should have asked or questions we should have asked that you would like to ask yourself?

Major JOHNSON. Sir, I agree with the Gunnery Sergeant. There is a question, chain of custody, of samples once they move from an area, the audit trail of where those agents go to. Immediate response, bringing information back down so individuals, team members, other soldiers know exactly what the bottom line was or is, on what they found. Not to wait years later to say, here is what the deal is about your equipment, which makes you wonder in your mind, makes you begin to speculate when you deal with people that I have dealt with in the Office of Chemical and Biological Matters on my competence in the ability to use that equipment, because I, for 3 years at the time of the report, knew in my heart and my mind that the equipment worked. Soldiers worked well, did well. And then to come back later and tell you, you didn't know what you were doing, it is hard for me to really grab that because I know that at that time, with functioning equipment and properly trained soldiers, those soldiers did their job. I think that that is, to me that is a letdown.

I think that leads into the confidence in our equipment. It works. If it does not work, we have to be able to present information immediately to say that it does not work and find a way to improve it so that we protect our soldiers. We do the mission. We protect the force. That was important to me, if there was a question, its custody and confidence in the equipment.

Mr. SHAYS. Thank you. I am going to invite each of you to just make a closing statement, if you did by your question—Mr. Hebert, what question, is there a question that we should have asked you or questions?

Major HEBERT [through Kim Hebert]. Do you feel that the United States exported chemical precursors——

Mr. LOYD HEBERT. Precursors, the word was "precursors."

Major HEBERT [continuing through Kim Hebert]. To Iraq prior to the war? The answer to that question based on the hearing back in May and October 1994, is yes, there were.

Mr. SHAYS. An American soldier who fought in the Persian Gulf, you would have wanted me—and who is now suffering, you would have wanted me to ask the question, did I think that the—did you think the United States exported chemicals to the Persian Gulf and your answer is——

Mr. LOYD HEBERT. Chemical precursors.

Major HEBERT [through Kim Hebert]. To make the chemical weapon.

Mr. SHAYS. The components to make the chemical weapons. And your response to that question would be?

Major HEBERT [through Kim Hebert]. Yes, they did, based on the hearing that you held back in May and October 1994.

Mr. SHAYS. That was the Riegle committee in the Senate.

I am going to invite each of you, and that includes your father and your dear wife, but Major Johnson, is there any last point you want to make before we end this panel?

Major JOHNSON. The only point I would make, in conclusion, is that the facts that I presented on today regarding the 7th and the 8th, I believe strongly by those facts, that those activities occurred during that day. I stand behind what I said. Even though there have been disputes, I still stand to say that our equipment was functioning. We properly detected chemical warfare agents, which to me confirmed that they were present in the region or in the theater of operation, in this case Kuwait, and that I observed firsthand a coalition soldier, a British soldier come in contact with it on the 8th of August, which in my mind confirms for me that a soldier was exposed to a toxic chemical warfare agent.

Mr. SHAYS. Thank you. Sergeant Grass.

Sergeant GRASS. Sir, I just want to say that there are many Marine Corps NBC defense specialists that detected chemicals in their area of operation, not just myself with my FOX vehicle. The other FOX vehicle commanders, not just they detected chemicals but some of the Marines that were within 1st and 2d Marine Divisions also detected chemicals. Chemical exposure is obviously not just within Task Force Ripper's area or 6th Marine Regiment's area. It is also within other elements of the 1st and 2d Marine Divisions.

I know some of these individuals have information, although there is really no solid proof as a piece of paper, as a printout from the mass spectrometer or a coffee can full of liquid chemical agents or something to that sort to prove it. But I think the proof goes with the number of personnel that have died or the personnel that have—that are seriously ill from the effects of the Gulf war. Myself, I have got little rashes on my ankle and other parts of my body. My wife has been diagnosed with multiple sclerosis within the last couple months, and there are just numerous other cases of illnesses that people have from something that went on over there, whether that was the exposure of chemical weapons or the biological weapons or both. And I just want to thank the committee for taking this time in pursuing this in a positive manner. Thank you, sir.

Mr. SHAYS. You have done your son honor by joining him in this very important, his very important testimony. We really appreciate you sharing this experience with your son. I would be happy to hear from you.

Mr. LOYD HEBERT. I appreciate the—on behalf of my wife Shirdale and I, we appreciate the opportunity to be here with Randy and Kim. It is—to me it is quite obvious the facts speak for themselves. We have soldiers, men and women who fought in Desert Storm/Desert Shield with all kinds of ailments. And it appears that nothing or very little is being done to help them. It is

time to stop this search for someone to necessarily put the blame and focus our efforts on what we need to do to help these young men and women who so bravely fought for us.

We have in the past brought our resources together to build the atom bomb, to do all kinds of things. Certainly we can cooperate together and bring our resources together to focus on ways of helping them, not only them but the people of the United States. We are all exposed to Desert Storm. We are all exposed. Our experience with our son Randy is one in which he came home appearing healthy and only in the last several years has it been that his symptoms have progressed very rapidly. Exposures to chemicals and other agents in our atmosphere, on our grounds, the chemicals that we are putting within our environment, these have caused—to my opinion have caused his situation, his symptoms to move more rapidly.

We need to get the experts. We do not need those people who do not have the facts making the decisions at this point in time. We need people with the facts coming together to discuss them in an open way without any questions about who is right, who is wrong, but to protect our boys and our women and ourselves. Thank you.

Mr. SHAYS. Thank you, sir.

Mrs. Hebert, would you like to make a comment? Then I will ask your husband to make a comment. Thank you for appearing with him and thank you for helping to make it easier for us to communicate with each other. Mrs. Hebert.

Mrs. HEBERT. I just want to thank you for the opportunity to appear before you. I am speaking for all spouses all over the country of our frustrations, watching our husbands go to war, fight for their country, willing to die for their country and still today if my husband was healthy and was—if it was laid before him that he would come home in this condition, I can guarantee my husband would still go to war. Knowing this, of how brave my husband is and that he fought for his country and so many other military wives are standing behind their husbands going through the same situation that I am with children, we are just stressed out. We are just crying out for the government to do something for these brave men.

I hope today that some good will come out of this hearing and I hope that all the men that are suffering from illnesses, even if it is rashes or to the extreme such as my husband, for the government to please do not forget these men and do something and take action immediately. Thank you.

Mr. SHAYS. Major Hebert, you have done your country proud in service then and your service now, as both Major Johnson and Sergeant Grass. I would like you to end this part of the panel with any comment you would like to make.

Major HEBERT [through Kim Hebert]. Myself, Major Johnson and Gunnery Sergeant Grass all took an oath when we came into the military to support the Constitution of the United States against all enemies, both foreign and domestic, and some of our enemies are within our own government, unfortunately.

Thank you for your efforts to continue to find the source, the truth also. The best source of military intelligence is the individual Marine, Air Force, soldier, airmen and Navy personnel that were on the ground. And these men right here were on the ground and

they know the truth also. It would be beneficial if the committee would pursue higher level officers in the Marine Corps for their opinion because only less than 1 month ago his commandant said he believes chemical weapons were used. And if he feels they were used, he is supporting the statement of the FOX vehicle commanders, in Randy's opinion. Thank you very much.

Mr. SHAYS. God bless you. We are going to have a 5-minute recess.

[Brief recess.]

Mr. SHAYS. The hearing is called to order and we call our last panel.

Our last panel is Patrick Eddington, former CIA analyst. Mr. Eddington, if you would stay standing, I will swear you, sir.

[Witness sworn.]

Mr. SHAYS. You may be seated.

We will note for the record that the witness has responded in the affirmative. We welcome your testimony and thank you for your patience. Our first panel was a little longer than we may have expected, but it is great to have you here and thank you very much.

STATEMENT OF PATRICK EDDINGTON, FORMER CIA ANALYST

Mr. EDDINGTON. Thank you, Mr. Chairman. Obviously it was compelling testimony. I think we would all agree.

I have a brief oral statement.

Mr. Chairman, Acting Ranking Member Sanders, members of the committee, I appreciate the opportunity to appear before you today to discuss an issue that affects both the national security of our Nation and the health of tens of thousands of Desert Storm veterans: Chemical agent exposure during the Persian Gulf war.

For the record, my written statement details the attempts of myself and my wife to raise this issue within the Central Intelligence Agency over an approximately 1-year period. I do not feel the need at this time to go into any additional detail on that statement. I will obviously be happy to answer any questions regarding the statement.

Additionally, today I am prepared to discuss any issues related to potential chemical agent exposures during Operation Desert Storm. However, in addition to my written statement, I have one further disclosure and comment that I would like to offer.

Recently a medically retired U.S. Army nuclear biological and chemical noncommissioned officer contacted me regarding his possible exposure to chemical agents. Like many Gulf war veterans this soldier claimed to have long showing chemical agent alarms going off and unit personnel being exposed to chemical nerve agents from leaking chemical munitions. The difference in this case was that neither the soldier nor his unit were deployed to the Persian Gulf. Sergeant First Class Michael Morrissey had been an NBC NCO assigned to the 330th Ordnance Company of the 59th Ordnance Brigade.

Mr. SHAYS. I am getting a feedback. I don't know if it is the mikes that we have that are on that need to be turned off so just your mike is on.

Mr. EDDINGTON. Sergeant First Class Michael Morrissey had been an NBC NCO assigned to the 330th Ordnance Company of

the 59th Ordnance Brigade, located near Clausen, Germany. Between July and October 1990, Morrissey's unit was involved in Operation Steel Box, the removal of more than 170,000 aging chemical weapons, nerve agent munitions from the American chemical weapons depot in Germany. On November 23, 1996, my wife and I flew to Seattle to hear Sergeant Morrissey's story. "I would have done this earlier," he told us, "but I am just now recovering from my bone marrow transplant at the Seattle VA hospital." Morrissey had developed CML leukemia in May 1995. That particular form of leukemia is caused, according to Sergeant Morrissey, by exposure to ionizing radiation or toxic chemicals such as nerve agents. Sergeant Morrissey kept all the unit logs from the Operation Steel Box period even though the officer in charge had ordered him to destroy them.

Morrissey informed me that his unit had to report any chemical incidents, accidents or leaks up the chain of command. According to Sergeant Morrissey, this form of reporting requirement was congressionally mandated. Morrissey indicated that all the reports sent up the chain stated that there had been no chemical incidents. Morrissey stated that the reports were deliberately falsified. In my presence, Morrissey pulled out a log entry for July 10, 1990 showing that an M–8 alarm had gone off at one of the chemical storage bunkers. There were no other contaminants in the area and the device was fully functional and working normally.

Additional detection equipment was dispatched to the bunker and, according to the log extract, the air sample readings appeared to indicate a slight trace of nerve agent in the air. Quote, I was told to "overlook" such incidents, Morrissey noted.

The 10 weeks of logs that Morrissey retained appear to have several such incidents to include some personnel who displayed pinpoint pupils and other telltale signs of nerve agent exposure.

Within a year of leaving the unit, Morrissey began to experience periodic paralysis in his extremities. He also began having memory problems. Quote, I used to be able to quote you chapter and verse from any NBC manual. Now I sometimes can't remember what I did yesterday or even 5 minutes ago.

What upset Morrissey the most was that his chain of command clearly understood the potential risks. They have said they didn't know about possible effects of low-level chemical exposure, he said, referring to the Department of Defense. If that is true, why did everyone in my unit have to sign this? Morrissey handed me a document previously classified secret and entitled General Information: Nerve Agent Intoxication and Treatment. Two paragraphs immediately caught my attention. Signs and symptoms of chronic, low dose exposure, memory loss, decreased alertness, decreased problem solving ability and language problems are suspected but have not been proven by scientific study. Teratogenicity, ability to cause birth defects, although some organophosphate pesticides have been shown to be teratogenic in animals——

Mr. SHAYS. I just need to get a perspective. This is not your testimony yet. What is this——

Mr. EDDINGTON. If I can continue, you will see where I am going with this.

Mr. SHAYS. I like to put things in boxes. I need to know where I was and where I am headed. What is, what are you sharing with us now? What is the motivation of what you are sharing with us now?

Mr. EDDINGTON. The information that this NBC NCO provided to me I believe has a direct bearing on the health issues that are affecting the——

Mr. SHAYS. It does, but you are here as a former CIA agent. You are not yet into your own official testimony; is that correct?

Mr. EDDINGTON. I have submitted my written statement for the record. I wanted to ensure that this information from this particular soldier——

Mr. SHAYS. I know. You are the only witness. I will stay here as long as it takes. If you have any concern about your not being able to share something, don't be concerned with that.

Mr. EDDINGTON. That is not my concern at all.

Mr. SHAYS. I want to come back to it. I want to make sure—we have a specific reason for having you here. I want to make sure that you specifically address your expertise as a CIA agent and what your concern is. Then we will come back in more detail with this. I was not with you in the beginning so I am not with you now.

Mr. EDDINGTON. I believe when I complete the next page, we will have a very clear understanding. As I indicated, this document indicated there were problems with regards to organophosphate pesticides showing birth defect possibilities in animals. This Department of Defense document states that these effects have not been shown in carefully controlled experiments using nerve agents.

The last sentence of this paragraph was misleading. To the best of my knowledge, the Department of Defense has never conducted carefully controlled experiments with nerve agents to determine their possible implications for birth defects. Despite this, DOD suspected that chronic low level nerve agent exposure could produce serious chronic health problems in exposed personnel, a year before the coalition bombing campaign would result in the release of tons of such toxic agents over American forces in Saudi Arabia.

Every member of Morrissey's unit was required to sign an identical document. The fact that DOD classified this information sheet and the medical records of the entire 330th Ordnance Company secret is irrefutable evidence that DOD knew it was placing these men at risk and it did not want the outside world to know about it.

Mr. Chairman, Sergeant Morrissey's revelations obliterate DOD's claims that it had no concerns regarding the potential effects of low level chemical agent exposures to American personnel working in close proximity to chemical agents. Clearly this information bears directly on the issue of the health effects from similar exposures among Gulf war veterans. Gulf war veterans have testified before this and other committees regarding chemical agents detections in close proximity to Iraqi chemical munitions.

In addition, United States inspectors have destroyed thousands of such leaking rounds in Iraq since 1991. Sergeant Morrissey's revelations have broader implications. The spectre of leaking chemical munitions at an American arsenal raises questions about potential chemical agent exposures among German civilians living

near the depot as well as potential exposures among our own citizens living near similar depots here in the continental United States. I urgently recommend that the Congress require the Department of Defense to immediately release all relevant unit logs and similar records maintained by every chemical weapons depot operated by the U.S. Government to determine whether additional chemical agent releases or detections may have occurred at these facilities. Anything else would be a disservice not only to our veterans but to the public as large. That concludes my oral statement. I will be happy to answer any questions about that statement.

Mr. SHAYS. You are here for a specific reason. What is your testimony before this committee?

Mr. EDDINGTON. My testimony before this committee is that we have a very serious problem with regard to low level exposures among American forces, in addition to the entire issue of the Central Intelligence Agency and the Department of Defense failing to make information available to the American public with regard to this.

That information is contained in detail in my written statement for the record.

Mr. SHAYS. The purpose of your having a written testimony is to help guide this committee. We want that testimony in some way presented, whether you give it in full or in part, because we want for the record your testimony which relates to your involvement as a CIA employee analyst and what your concern is about the CIA. We will be happy to touch on a whole host of efforts, but we have a specific need to have that testimony. You have not yet shared that.

Why don't you give us your testimony; that is the reason why I swore you in and the reason why you are here today. Then we will cover anything else you would like to.

Mr. EDDINGTON. If the Chair would like to indulge me, I would be happy to read my entire statement.

Mr. SHAYS. I would like you to summarize it.

Mr. EDDINGTON. In that case, I will briefly summarize it.

Mr. SHAYS. It doesn't have to be briefly. You can summarize it.

Mr. EDDINGTON. When I began the process of trying to raise this issue within the Central Intelligence Agency in July 1994——

Mr. SHAYS. For the record, "this issue" being what?

Mr. EDDINGTON. Gulf war syndrome and the entire issue of potential biological and chemical agent exposures among U.S. forces.

When I began this project in July 1994, it ultimately culminated in my leaving the Central Intelligence Agency in protest over their policy for refusing to deal honestly and openly with information that bore directly upon the health consequences of these veterans during their service.

Mr. SHAYS. How many years did you work in the CIA?

Mr. EDDINGTON. Almost 9.

Mr. SHAYS. You were employed for 9 years. Was your work involved in this area that you ultimately presided over?

Mr. EDDINGTON. I worked as a military analyst for almost 9 years at the CIA's National Photographic Interpretation Center. For the benefit of those who are not familiar with it, that particu-

lar organization was responsible for finding the Soviet missiles in Cuba in 1962.

From February 1994 until—pardon me, from May 1994 until February 1996, I worked in the CIA's Director of Intelligence, the Office of Scientific and Weapons Research, in an all-source analytical shop that was responsible for providing targeting support to military planners at the Pentagon.

It was during that particular period of time, as a result of my wife's own tenure on the Senate Committee on Banking, that I became aware of this entire issue of potential exposures among American forces during the Gulf war.

Mr. SHAYS. Your wife was employed with the CIA?

Mr. EDDINGTON. That is correct. She was an analyst with the Central Intelligence Agency.

Mr. SHAYS. Over what period of time?

Mr. EDDINGTON. Just over 8 years.

Mr. SHAYS. You met there, or were you married before?

Mr. EDDINGTON. That's correct, we met there.

In the course of attempting to raise this issue, beginning in July 1994, we ran into a series of roadblocks, a great deal of resistance to our ideas. In order to even get the Central Intelligence Agency to pay attention to what I had to say on this subject, I was forced to write a letter to the editor of the Washington Times in December 1994.

After that letter was published, my superiors reluctantly agreed to hear what I had to say on the subject. Between January and March 1995, I conducted a series of briefings within the Central Intelligence Agency at increasing levels of managerial responsibility, trying to get them to deal with this issue of chemical agent exposures, and to get them to deal with the Department of Defense's lack of integrity in addressing this entire issue.

My wife attended several of those briefings. The reaction was relatively uniform. It was one of hostility. It was one of, at times, contempt. It was a very difficult process. Essentially we got nowhere, because we were giving them a message they simply did not want to hear. That has continued to this day.

Mr. SHAYS. What was your responsibility at the CIA that relates to the whole issue of the Gulf war illnesses?

Mr. EDDINGTON. During 1990 and 1991, I was part of a team at the National Photographic Interpretation Center who was responsible for monitoring Saddam Hussein's invasion of Kuwait, the subsequent buildup, and the war itself. A few years after that, I was responsible for working on Iraqi military forces, Iran military forces, Persian Gulf military forces; and when I worked at OSWR in the Director of Intelligence at CIA headquarters, I also had responsibilities dealing with contingency scenarios for attacks on Iraq and other Persian Gulf countries, so I have had a very long history of involvement in Persian Gulf security issues.

As far as my direct involvement, the investigation that I initiated I did on my own. I initiated that myself, because the Central Intelligence Agency was not even looking at this issue until we brought it to their attention.

Mr. SHAYS. OK. How do you know what they were looking at and not looking at? I am unclear as to what would give you that scope of information on that.

Mr. EDDINGTON. Because when my wife worked on Senator Riegel's staff beginning in February 1994, she went over to CIA headquarters and made direct inquiries as to whether or not the Central Intelligence Agency and the specific components responsible for looking into these issues were in fact conducting an inquiry. They were not. I made my own separate inquiries through my own channels and found out exactly the same thing.

Mr. SHAYS. Under law, what would have been the responsibility of the CIA as it relates to the Gulf war and our involvement as it relates to chemical information? What is their responsibility, as you understand it?

Mr. EDDINGTON. Under the National Security Act of 1947, it is my understanding that the Central Intelligence Agency is to provide independent, unbiased advice to the President, the National Security Council, Congress, all policymaking organizations, regarding potential threats to the United States and national security. The attitude that I took going into it was if Saddam Hussein had used chemical or biological agents against our forces and that had not been properly reported or dealt with during the war and after the war, the CIA had a responsibility to raise those particular issues and assure that they were addressed.

Mr. SHAYS. So this was not your direct area of expertise. Is it your testimony before the committee that the CIA did not do any work, or the work they did was faulty?

Mr. EDDINGTON. There is absolutely no question that the Central Intelligence Agency made a concerted effort to exclude entire classes of information from its inquiry, and you have alluded to some of those. When Ms. Copeland testified before this committee in September, she admitted to you that the Central Intelligence Agency had not talked to a single veteran. That was one of the issues I raised from day one, because the Central Intelligence Agency has had, throughout its entire existence, a specific component that is designed to do nothing but contact American citizens about their experiences overseas and their travels overseas.

So for the Central Intelligence Agency to refuse to talk to American veterans about this issue is a complete departure from standard operating procedure.

Mr. SHAYS. Would it be a complete departure as it relates to talking to the military? My view is obviously they should talk to any source that could give them information. The best source is obviously the people who were there, our own military. But I was left with the impression in that hearing that it is not that—that basically they rely on DOD testimony and do not individually interview people in DOD. Is that their practice, or just the practice in this case?

Mr. EDDINGTON. In my view it was simply their practice in this case. And just a quick point on that. The CIA has consistently used DOD reporting and reporting from DOD sources in the course of putting together its estimates.

To me it seemed a politicization of intelligence to use that particular information coming from DOD in 1991, 1992, 1993, indicat-

ing that no chemical agents had been detected, and then when you get information 2 years later that, yes, they were detected on a widespread scale, now you are not going to talk to people who worked for DOD, many of whom, like the witnesses we saw just a few moments ago, are still working for DOD. They have refused to talk to any of those folks.

Mr. SANDERS. Mr. Eddington, all day long the issue we have been focusing on, an issue of great concern, is the possibility of chemical agents, that our soldiers and other soldiers were exposed to chemical agents during the Persian Gulf war. Generally speaking, the speculation is that we exploded some munitions depots, at Khamisiyah. There is some speculation that we may have bombed chemical factories in several locations and that the wind may have carried them over to our soldiers.

Am I correct in assuming that you are adding a new dimension to this; that it is your belief, in fact, that Saddam Hussein, in an offensive manner, actually used chemical weapons against our troops?

Mr. EDDINGTON. Congressman Sanders, that is correct. It is not simply my view. This committee was provided a report by Dr. Jonathan Tucker of the Center of Nonproliferation Studies at the Monterey Institute in California on January 29, 1996, in which he also makes the argument that the Iraqis employed these agents at least once against the Saudi port of Jubail on the 19th of January 1991, and I endorse that.

Mr. SANDERS. That is an element, though, that as we are trying to understand what may have happened, there is—and reluctantly the Pentagon has agreed that our soldiers were exposed to chemical weapons. They do not accept your thesis, though; is that correct?

Mr. EDDINGTON. No. They continue to maintain that no attacks occurred. That is correct.

Mr. SHAYS. If you want to continue with your testimony.

Mr. EDDINGTON. Very briefly, we attempted to raise this issue between January and March 1995. As I indicated, we were unsuccessful. At the request of the former Senate Committee on Banking investigator James Tuite, I gave a classified briefing to Select Intelligence Committee staff on the 21st of March 1995. I turned over roughly 100 documents to the Senate Intelligence Committee staff at that time. Those documents included specific references to attacks against American forces, and I outlined my evidence very, very briefly. The Secretary of Defense and chairman of the Joint Chiefs had told the Banking Committee in writing that no such information existed. I produced 100 documents that basically said otherwise. Unfortunately——

Mr. SHAYS. Is this the Banking or the Intelligence Committee?

Mr. EDDINGTON. I gave a classified briefing—an approximately 10- to 15-minute classified briefing to the Senate Intelligence Committee on the 21st of March 1995, in which I provided them with approximately 100 classified documents, almost all of which, by the way, originated with the Department of Defense, and I made just a very simple point: The Department of Defense claimed that this type of information on attacks and potential chemical agent expo-

sures, and even the presence of chemical munitions in Kuwait, did not exist. In my view, those documents proved exactly the opposite.

Unfortunately, the Senate Intelligence Committee never followed up on that. After that, the last opportunity we had to try to raise this within the executive branch was when Dr. Tucker was on the Presidential Advisory Committee. Dr. Tucker came to basically the same conclusions we did, but he ultimately left the Advisory Committee.

After that, we were simply marking time at the CIA. When I felt I had exhausted all of my avenues for trying to raise this issue within channels, I made the decision that it was time for me to leave the CIA.

[The prepared statement of Mr. Eddington follows:]

PREPARED STATEMENT OF PATRICK G. EDDINGTON
BEFORE THE SUBCOMMITTEE ON HUMAN RESOURCES
AND INTERGOVERNMENTAL RELATIONS
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT
U.S. HOUSE OF REPRESENTATIVES

TUESDAY, DECEMBER 10, 1996

"CHEMICAL WEAPONS EXPOSURE TO U.S. TROOPS IN THE GULF WAR"

Mr. Chairman, Ranking Member Towns, distinguished members of the subcommittee. I appreciate the opportunity to appear before you today to discuss an issue that affects both the national security of our nation and the health of tens of thousands of Desert Storm veterans: chemical agent exposures during the Persian Gulf War. Let me briefly describe how I became involved in this issue.

I first learned of chemical agent exposures among American forces through my wife Robin in February, 1994. Robin had just begun a fellowship with the Senate Banking Committee, which had been conducting an investigation into the issue since the summer of 1993. Robin provided me with a copy of the committee's first report--issued in September, 1993--which contained limited but compelling eyewitness testimony from veterans describing incidents of chemical agent exposures or chemical agent attacks. Reading that report brought back memories of a limited number of other, then-classified reports detailing similar incidents that I had seen during Desert Storm. At the time those classified accounts were issued, my colleagues and I at the National Photographic Interpretation Center (NPIC) were repeatedly told by our management that according to CENTCOM, all such reports of chemical attacks or agent detections were false. The information uncovered by the Senate Banking Committee investigation clearly showed that in fact DoD and CENTCOM had misled the American people about chemical agent detections--repeatedly-- both during and after war.

Once I realized the magnitude of DoD's deception, I made two decisions. The first was to reconstruct all the available information on the subject from every possible source, classified or unclassified. This was necessary in order to get as complete a picture as possible of the number and types of chemical or biological incidents that had occurred during or after the war. The second decision was to attempt to get the Central Intelligence Agency to reexamine its post-war conclusions that no chemical incidents or detections had occurred during or after the war. Those conclusions were based almost exclusively on official DoD assurances that no such incidents had occurred. I believed that the Senate Banking Committee investigation had made DoD's claims in the matter at best dubious, and at worst, outright fabrications. If CIA had based major post-war estimates on false, policy-driven information supplied by DoD, those estimates and their conclusions would

have misled the Congress and the American public as to what actually transpired during the war.

Having worked the Iraqi military problem during and after the war, I had access to most of the reporting from the Desert Shield/Desert Storm period, and was thus able to reassemble and analyze most of the data by late May, 1994. I raised the issue with my first line supervisor, Mr. Dana S., on July 21, 1994. In an electronic mail message to Mr. S., I utilized a combination of classified and unclassified data outlining my case. In essence, I made the following points:

1. The May, 1993 CIA post-war estimate that Iraq had not used chemical agents and that it had removed chemical munitions from the theater was based largely on official DoD assurances to that effect. The Senate Banking Committee investigation, eyewitness testimony from veterans, and a large body of classified data indicated exactly the opposite; that Iraq did, on a least a limited number of occasions, use or attempt to use chemical agents; that multiple chemical agent detections were recorded during and after the war; and that U.S. forces encountered Iraqi chemical munitions both in Kuwait and in Coalition-occupied areas of southern Iraq.

2. I recommended that the Agency dispatch a chemical sampling team to several specific sites in Kuwait to collect soil samples for chemical agent analysis in a laboratory.

Additionally, I provided two copies of the May 25, 1994 Senate Banking Committee report to Mr. S., and asked him to shop the reports around the appropriate Directorate of Intelligence (DI) offices for comment. I emphasized the gravity of the situation to Mr. S. as well as my view that DoD's lack of integrity on the issue of chemical agent detections had serious implications for the health and welfare of the affected Desert Storm veterans. Mr. S. promised to shop the reports around. However, he also cautioned me that this matter was not part of my "official duties" and that I should not let my involvement in the issue interfere with my formal responsibilities as a military targeting support analyst. I agreed to his request to restrict my on-the-job investigative activities pending an Agency review of the Senate report.

Regrettably, Mr. S. did not take either my allegations or the Senate Banking Committee's findings seriously. My wife Robin returned to the Agency from her committee fellowship in early November, 1994. Shortly after arriving in her new assignment as a chemical and biological warfare imagery analyst, Robin learned that Mr. S. had provided the copies of the Senate reports to Mr. Stan H., who was the chief of NPIC's Proliferation and Defense Industries Division. Robin learned that one of Mr. H.'s imagery analyst, Mr. Troy K., had been assigned the task of "debunking" the Senate report -- a patently absurd notion since the report itself was based on eyewitness accounts of chemical incidents, not imagery-derived information.

Frustrated over Mr. S.'s failure to treat this critical issue seriously, in December 1994, I sent a letter to the editor of *The Washington Times*. In that letter, which was published on December 7, 1994, I sharply criticized DoD's handling of the issue and called for further Congressional inquiries into the matter. I did not identify myself as an Agency employee nor did I disclose any classified information in the letter. While the publication of the letter angered both NPIC and DI management, it did force them to address my allegations.

Between early January and mid-March 1995, I delivered a series of briefings to various mid-level and senior CIA and National Intelligence Community managers and analysts in which I outlined the case for chemical agent detections and exposures among American forces during the Persian Gulf War. Among those I briefed were Major General John Landry, National Intelligence Officer for General Purpose Forces and former VII Corps chief of staff during Desert Storm; Christopher Holmes, Director of the Office of Weapons, Technology, and Proliferation (OWTP); and Gordon Oehler, Director of the Nonproliferation Center. During each briefing, I emphasized several key points:

1. Chemical agents had clearly been detected -- repeatedly -- by U.S., U.K., French, and Czech forces during and after the war;

2. There were credible reports of a sublethal chemical and/or biological agent attack against Coalition units at the Saudi port of Jubayl in the early morning hours of January 19th, 1991. Additionally, eyewitness accounts of several Iraqi SCUD attacks on American units in Saudi Arabia described symptoms consistent with low-dose chemical or biological agent exposure during or immediately after these attacks;

3. The were also credible reports of chemical agent injuries among both American soldiers and Marines during and after the war;

4. DoD deliberately misled the Senate Banking Committee regarding the very existence of information concerning all of the above mentioned issues; and

5. DoD had retaliated against current and former military personnel who had cooperated with the Senate investigation.

On each occasion that I individually, or together with my wife, delivered a presentation, our allegations and conclusions - particularly those dealing with potential misconduct by senior DoD officials - were met with scorn, hostility, and deliberate avoidance. Indeed, the senior CIA official in charge of directing the Agency's

"investigation" into our allegations, Mr. Christopher M. Holmes, authored a memo on April 21, 1995, which reads in part:

> "The CIA does not plan a comprehensive review of DoD information such as troop testimony, medical records, or operational logs..."

This statement was a radical departure from previous CIA policy regarding the use of DoD-derived information in intelligence assessments. I have provided committee staff with a copy of this memo, and I ask that it be included in the record with my statement.

As I noted previously, the May 1993 CIA post-war estimate that Iraq had not used chemical agents and that it had removed chemical munitions from the theater was based largely on official DoD assurances to that effect. My wife and I had presented evidence - from U.S. military personnel who were in the theater at the time - to senior CIA officials which flatly contradicted the official DoD position on this issue. Instead of abiding by its statutory responsibilities to provide the President and the Congress with independent, unbiased estimates on known or potential threats to the national security of the United States, CIA evaded its responsibilities on this issue by sharply circumscribing both the scope of its inquiry and the types of information that would be used in its analysis. In the intelligence business, we call this "politicization of intelligence".

Contrary to the recent statements by CIA Executive Director Nora Slatkin and CIA's Public Affairs office, our allegations against DoD and CIA do not represent a simple "difference of opinion." The CIA has, as a matter of official policy, deliberately excluded entire classes of information from its so-called analysis of potential chemical agent exposures among American forces during the Gulf War. The CIA categorically refused, despite my repeated protests, to directly contact Gulf War veterans who had specific knowledge of chemical incidents during the Gulf War. CIA officials have claimed -- falsely -- that such information is not "intelligence."

This refusal to directly contact eyewitness sources with relevant, first-hand information about chemical incidents in the Gulf War is yet another example of the CIA's politicization of this issue. Throughout its entire history, the CIA has had an intelligence collection component whose sole mission is to collect information from American citizens about their overseas travel and experiences. That component was ideally suited to conduct debriefings of Gulf War veterans and civilian contractors about their experiences with and knowledge of chemical incidents during the war. The CIA refused to use this component to contact Gulf War veterans about potential chemical incidents during the war, obliterating the Agency's claim that their review of intelligence was "comprehensive."

Further evidence of CIA's analytically fraudulent approach to this issue can be found in the Agency's claims regarding chemical and biological hazard prediction modeling. It is my understanding that Ms. Slatkin informed committee staff that

> "The 1991 effort undertaken by DoD -- since it was done before the war or bombing of facilities -- was predictive modeling using a range of hypothetical parameters. In contrast, the recent CIA effort -- which occurred after the war -- was specific and modeled actual facilities weapons, and climatic data."

In fact, in 1994, the Department of Defense provided the Senate Banking Committee *specific documentation* on their modeling of potential fallout hazards at known or suspected Iraqi CW facilities that *were* attacked by Coalition forces during the war. These were not "hypothetical sites" as claimed in the Slatkin memo. I provided two such maps to committee staff in August; additional such data may be contained in the Senate Banking Committee archives. Ms. Slatkin's claims that "no specific Iraqi facilities were modeled in 1991" is false, as the Defense Nuclear Agency maps make clear.

Additionally, according to the SAIC employee responsible for the 1991 modeling effort, Mr. Richard McNally, DoD was in fact conducting *real-time* hazard prediction *during hostilities*. In his testimony before the Presidential Advisory Committee on April 16th, 1996 McNally stated

> "This happens to be some of the work that I did while I was in Defense Nuclear Agency in the basement doing near real-time hazard reporting during Desert Storm. What we were doing there was establishing footprints of potential hazard path, and we had a real-time weather team there predicting the winds for us. So an initial depiction when we get the, in this case, SCUD warning, it might look like the top graph. As we get more weather information four hours into the process it might look like the middle graph, and the third graph might look like what we might see after we finally know what the wind was like during the entire duration the hazard might have been in the air."

As the above comments make clear, Ms. Slatkin's claim that the 1991 DoD/SAIC modeling effort employed "hypothetical data" are also demonstrably false.

Ms. Slatkin told a Congressional committee that SAIC was asked

> "...to input into the model a broad range of quantities of several types of chemical warfare agents that were not related to any specific information regarding Iraqi CW agent holdings."

Again, if you refer to the two DNA targeting maps, you will notice the agent modeled was GB (sarin), which of course was already known to be the primary nerve agent in the Iraqi inventory in 1991. Contrary to Ms. Slatkin's assertion, the DoD/DNA modeling effort utilized real data and focused on real facilities.

Furthermore, I also understand that Ms. Slatkin told committee staff that with regard to the latest SAIC modeling project

> "CIA requested modeling of specific types and amounts of chemical agents and munitions stored at the three facilities, based on specific data derived from UNSCOM inspections."

It should be noted that UNSCOM data is often incomplete or misleading due to Iraq's well-established penchant for lying about the nature and scope of its CW program. Thus, any data derived from UNSCOM reporting should be treated cautiously and must be viewed as a *conservative* estimate on the number and types of munitions present at any given facility.

Ms. Slatkin's assertion that the 1991 DoD/DNA/SAIC modeling effort did not deal with the issue of low-level exposures is also highly suspect. The CENTCOM CCJ3 (X) NBC log, obtained by Gulf War Veterans of Georgia in January, 1995, has several passages which indicate that CENTCOM was aware of the likelihood of long-range CW fallout, including the following entry from 20 January 1991:

> "LTC Merryman called. Report from ARCENT forward (LNO w/NAC) Czech recon, DS to French, report "Detected GA/GB" and that hazard is flowing down from factory/storage bombed in Iraq. *Predictably, this has become/is going to become a problem.*"[1]

Indeed, in the past year I have learned that the United States Air Force conducted low-level chemical exposure experiments on primates during late 1990 or early 1991 at the Armstrong Laboratory at Brooks Air Force Base, Texas. The authors specifically stated that, "[t]he military requirement that drove this program was concern about the bioeffects of single and repeated exposure to low levels of nerve agent."[2] The timing of the study (during or immediately after the war), as well as military requirement driving it, make it explicitly clear that DoD knew that there were serious potential hazards from such exposures. Even giving the test animals relatively high doses of pyrodistigmine bromide - the very same nerve agent pretreatment medication administered to hundreds of thousands of Gulf War vets - was useless in low-level exposure situations. The authors noted that:

> "We are, therefore, faced with a similar problem in both acute and repeated low-level soman behavioral studies: a consistent

---

[1] CENTCOM CCJ3 (X) NBC log, entry for 201710 January 1991.
[2] Stanley L. Hartgraves and Michael R. Murphy, "Behavioral Effects of Low-Dose Nerve Agents, as reported in *Chemical Warfare Agents*, edited by Satu M. Somani (New York: Academic Press Inc.: 1992), pp. 125-154.

> lack of protection provided by chemical defense drugs -- drugs that are effective in protecting against lethal high-level exposures."[3]

I note for the record that I found this Air Force study in the CIA library in 1995.

Despite Ms. Slatkin's assertions that the CIA/SAIC modeling effort has been "comprehensive," CIA has in fact deliberately ignored the issue of the forward deployment of CW weapons into Kuwait. This is not entirely surprising given the fact that at the July 9, 1996 Presidential Advisory Committee meeting in Chicago, CIA spokesperson stated categorically that

> "We conclude that Iraq did not use chemical agents, nor were chemical agents located in Kuwait."[4]

Given the detailed and voluminous nature of the testimony given by dozens of Gulf War veterans before Congress and the Presidential Advisory Committee over the past three years regarding the presence of chemical munitions in Kuwait, CIA's position can only be described as intellectually and morally bankrupt.

I have personally spoken to over 220 Gulf War veterans, and at least a dozen have credible accounts of chemical agent detections, chemical munitions discoveries, or both. The CIA has, as a matter of official policy, refused to debrief any Gulf War veterans -- despite my repeated attempts to persuade them to do so. The CIA/SAIC refusal to deal with the issue of chemical hazards created by the bombing of forward deployed Iraqi CW munitions depots renders the entire SAIC model invalid, if not patently fraudulent.

Additionally, senior officials at both the Department of Defense and CIA have misled the public and several Congressional committees since the end of the Gulf War regarding not only the very *existence* of information dealing with potential exposures of American personnel to chemical agents, but also regarding their actions in attempting to conceal such information from the public. On May 4, 1994, in a memo to then Senate Banking Committee chairman Donald W. Riegle, Jr., the Secretaries of Defense, Veterans Affairs, and Health and Human Services stated categorically that with regards to potential chemical or biological agent exposures among American forces during the Gulf War:

> "There is no classified information that would indicate any exposures to or detections of chemical or biological agents."

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[3] Id. at 145-46.
[4] Testimony of Sylvia Copeland, Central Intelligence Agency, before the Presidential Advisory Committee on Gulf War Veterans' Illnesses, July 9, 1996.

At the time this memo was written, I was in possession of *hundreds* of classified documents that dealt with the presence of exactly these types of weapons in the Kuwait Theater of Operations, stockpiles of which were destroyed both during the Coalition air campaign and after the war through demolition operations by American and other Coalition forces. I note for the record that the overwhelming majority of those documents originated with the Department of Defense.

More recently, Ms. Slatkin has claimed that CIA has never sought to block the release of information regarding the presence of chemical or biological weapons in the Kuwait Theater of Operations, or any other information related to this issue. Ms. Slatkin's claims are demonstrably false.

On October 25, 1994, I submitted a Freedom of Information Act request to CIA requesting the declassification of 59 specific documents and reports. In my FOIA request, I specifically stated that I was seeking the declassification of these documents "because they contain information and analysis which may help in establishing the specific cause of a series of maladies which collectively are known as 'Gulf War Syndrome.' My FOIA request was denied in February 1995, despite my appeal for the release of the information on humanitarian and medical grounds. It was not until after my wife and I went public with our allegations that the CIA began the process of releasing the information. I note for the record that despite Ms. Slatkin's claims to the contrary, as far as I am aware at this time, CIA continues to withhold some of the relevant documents, including their May 1993 assessment that no chemical munitions were in Kuwait -- an assessment that relied almost exclusively on official DoD assurances that no such munitions were found in the theater.

More seriously, in early 1996, the senior most officials of the CIA ordered the Defense Intelligence Agency to remove several hundred previously declassified documents from DoD's GulfLINK Internet world wide web site. Ms. Slatkin, at the behest of Director of Central Intelligence John Deutch, ordered that more than 300 of the previously declassified GulfLINK documents be reclassified. This action by DCI Deutch and CIA Executive Director Slatkin represented a breach of Executive Order 12958, section 1.8, which specifically states that information declassified by competent authority cannot subsequently be reclassified. I note for the record that the overwhelming majority of the information that Deutch and Slatkin sought to reclassify dealt specifically with the presence of chemical or biological munitions in the Kuwait Theater of Operations. I have provided committee staff with a copy of an internal CIA staff note outlining Slatkin's directive. I ask that it be included in the record with my statement.

I elected to challenge CIA's illegal actions by including several of the disputed GulfLINK documents in a manuscript I had drafted on this subject. Per the terms of my secrecy agreement, I submitted that manuscript for review on July 29, 1996. By September 20, 1996, CIA had responded, insisting that I delete all reference to the

disputed GulfLINK data. In response, I instructed my attorney to file suit against CIA on my behalf. That action was filed in the Federal District Court for the District of Columbia on October 16, 1996. The CIA responded by requesting a meeting with their Office of General Counsel on October 24, 1996 to "discuss" the disputed documents. At that meeting, I reiterated my firm intention to bring this matter before the federal courts in order to demonstrate the illegality of CIA's conduct in the matter. Afterwards CIA dropped its objection to the inclusion of the disputed GulfLINK data. After our allegations became public on October 30, 1996, Ms. Slatkin stated that the CIA had never intended to withhold any of this information from the public or Gulf War veterans. As the internal CIA memo I provided committee staff makes clear, Ms. Slatkin was herself directly involved in the decision to withhold previously declassified information from the public.

Mr. Chairman, I have watched in anger for nearly three years as senior officials of both the Department of Defense and the Central Intelligence Agency have repeatedly misled the American public, the veterans of the Gulf War, and the Congress regarding these facts. To this day, neither the Congress nor Gulf War veterans have all of the information available regarding the known or suspected locations of Iraqi chemical or biological munitions in the Kuwait Theater of Operations. Until the Executive Branch adopts a policy of full disclosure with regards to the operational and intelligence records of the Desert Storm period, neither the Congress nor Gulf War veterans will be able to know with any certainty the true magnitude of potential chemical or biological agent exposures among American forces during the Gulf War. Full disclosure is a medical and humanitarian necessity. I urge the Congress to hold the Executive Branch fully accountable in this critical matter. Thank you for the opportunity to offer my views on this extremely important topic.

##

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21 APR 1995

MEMORANDUM FOR THE RECORD

SUBJECT: Meeting with Pat and Robin Eddington (U)

1. On 14 April, I met with Pat and Robin Eddington to discuss developments in various Executive Branch initiatives pertaining to allegations of chemical weapons use in Iraq during Desert Storm and on the phenomenon known as Gulf War Syndrome. Also present during this meeting were George J[redacted], OGC, and OSWR Division Chiefs Torrey F[redacted] (NBCD) and Jim M[redacted] (SSD). (FOUO)

2. Key points covered during this meeting included:

-- The CIA is studying the intelligence data relevant to whether troops were exposed to chemical or biological agents; the Agency will designate a focal point for Gulf War Syndrome/Iraqi CW use issues.

-- The CIA does not plan a comprehensive review of DoD information such as troop testimony, medical records, or operational logs. The study will check such information against intelligence holdings, where feasible, and follow up any leads that could help resolve continuing uncertainties.

-- The Eddingtons reiterated their conviction that Iraq used chemical weapons during the Gulf War and grave concerns about how DoD has handled relevant information.

-- This issue would be a part of the confirmation process for DCI-nominee Deutch and appropriate talking points and background material would need to be prepared. OCA also would contact the appropriate congressional committees, if it has not already done so.

-- We indicated to the Eddingtons that their role in stimulating the Agency to focus on the issue of Iraqi CW use was recognized and that they should be pleased with the results.

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SUBJECT: Meeting with Pat and Robin Eddington (U)

-- We also discussed with the Eddingtons the importance of being scrupulous in keeping their personal efforts in this matter separate from their official duties and Agency support and information systems infrastructure. I noted that some of Pat's actions raised questions about the exercise of judgment, but that this was now behind us.

-- In view of the Eddingtons concern about DoD's handling of this matter, George J[redacted] and I reviewed the courses of action open to them, including contacting Agency and/or DoD points of contact, Inspector Generals, the Intelligence Oversight Board, the intelligence committees, DoD's oversight committees, and the FBI/DoJ. The Eddingtons did not accuse DoD or Deputy Secretary of Defense Deutch personally of illegal conduct, and they did not want to approach the DoD Inspector General because of their concern over the integrity of the DoD process. (FOUO)

Christopher M. Holmes
Director
Scientific and Weapons Research

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SUBJECT: Meeting with Pat and Robin Eddington (U)

Distribution:
Orig - D/SWR
1 - OSWR/ChSSD
1 - OSWR/ChNBCD
1 - OGC (George J[redacted])
1 - Pat Eddington
1 - Robin Eddington

From the Desk of [redacted]

NOTE FOR: Robin A. Eddington
Patrick Eddington @ DI
FROM: [redacted]
DATE: 03/04/96 04:26:06 PM
SUBJECT: Are you sick of me yet?

This is from the [redacted] group weekly updates to the Director. [redacted] She in turn uses what she wants for the DA Staff Meeting Minutes.

DCI/DDCI Interest

Gulf War Veterans' Illness Task Force developments, a significant litigation victory, and assistance to the Defense Mapping Agency are appropriate for passage forward:

(b) To preclude any possible releases of GulfLINK materials under the FOIA, we contacted the chief of the DIA FOIA office and received his concurrence that we would be informed of any relevant FOIA requests to DIA and that no release would be effected without the affirmative concurrence of our ExDir. [AUO - Privileged Attorney-Client Communication]

CC:

GEXELL AFFILIATION

NERVE AGENT INTOXICATION AND TREATMENT

1. GENERAL: The nerve agents are highly toxic organophosphate compounds which poison the enzyme cholinesterase throughout the nervous system, resulting in an excess of the enzyme acetylcholine. The end result is potentially total disruption of nervous system function.

2. Routes of Entry: Inhalation, eye and skin absorption, ingestion. Nerve agents (GA, GB, GD, and VX) are readily absorbed through all routes of exposure, in both liquid and vapor forms.

3. Signs and symptoms of acute exposure: Effects may occur within minutes of exposure or may be delayed for hours, depending on the dose and route of entry. The effects vary with the route of entry but generally are as follows:

a. Eyes: miosis (pin-pointed pupils), dimming and blurring of vision, excessive tearing, possibly eye pain

b. Nose: excessive secretions

c. Mouth: excessive salivation

d. Respiratory track: Difficulty breathing (hard to move air in and out), chest tightness, wheezing, coughing, respiratory arrest

e. Head / Central Nervous System: headache, mental confusion, excitation, anxiety, difficulty concentrating, convulsions, coma

f. Stomach: cramping, pain, nausea, vomiting

g. Muscles: muscular twitching, or paralysis

h. Skin: local sweating

i. Other: Involuntary urination and defecation, death

4. Signs and symptoms of chronic, low dose exposure: Memory loss, decreased alertness, decreased problem solving ability, and language problems are suspected but have not been proven by scientific study. The only proven effect of long term exposure is EEG (brain wave) changes without clinical significance.

5. TERATOGENICITY (Ability to cause birth defects): Although some organophoshpate pesticides have been shown to be teratogenic in animals, these effects have not been shown in carefully controlled experiments using nerve agents.

6. RESPONSE: Prior to rendering aid, workers exposed should mask, clear the area, and take hasty steps to control the spread or absorption of contamination. All clothing should be removed. Decontamination with 5% bleach should occur, except that the eyes should be flushed with copious amounts of water. Sufficient contact time (minutes) should be allowed, followed by rinsing with water.

SECRET

7. TREATMENT: Atropine is the key drug in the treatment of nerve agent poisoning. Follow the CTT guidelines: Administer one Mk I kit (both atropine and 2 Pam Chloride) when three or more signs/symptoms are noted. Administer a second Mk I kit in 10-15 minutes if signs/symptoms persist or recur. Administer a third Mk I kit in 10-15 minutes if signs/symptoms persist or recur. With severe exposures, large doses of atropine may be needed to maintain satisfactory respiratory status, and the effects of atropine may be quite brief. Be aware that the patient may have to vomit, and therefore may need to remove his mask briefly, or have it removed.

8. RECOVERY is complete. There is no genetic or permanent damage.

I have read and understood the above information. All questions have been explained to my understanding and satisfaction.

Soldier/Employee Michael Morrissey Medical Personnel

Date 1/19/90

RICHARD W. KRAMP, M.D
MAJ [redacted] MC

TELECOPIER TRANSMITTAL SHEET

TO: Committee Reporters
(202) 225-3308 fax
~~ATTN: Rebecca Eyster~~

90345043

FROM: Mark S. Zaid, Esq.
1501 M Street, N.W.
Suite 1175
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SUBJECT: Patrick Eddington's Oral Statement

DATE: 10 December 1996

NUMBER OF PAGES TRANSMITTED (INCLUDING COVER SHEET): 6

MESSAGE/CONTENTS:

AS REQUESTED.

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Oral opening statement for Shays' hearing

Mr. Chairman, Ranking Member ~~Towns~~, members of the subcommittee. I appreciate the opportunity to appear before you today to discuss an issue that affects both the national security of our nation and the health of tens of thousands of Desert Storm veterans: chemical agent exposures during the Persian Gulf War.

However, In addition to my written statement, I have one further disclosure and comment that I would like to offer. Recently, a medically retired U.S. Army nuclear, biological, and chemical NCO contacted me regarding his possible exposure to chemical agents. Like many Gulf War veterans. this soldier claimed to have logs showing chemical agent alarms going off and unit personnel being exposed to chemical nerve agents from leaking chemical munitions. The difference in this case was that neither the soldier nor his unit were deployed to the Gulf.

Sergeant First Class Michael ~~Morrisey~~ had been an NBC NCO assigned to 330th Ordnance Company of the 59th Ordnance Brigade, located near Clausen, Germany. Between July and October 1990, Morrisey's unit was involved in Operation Steel Box, the removal of more than 170,000 aging chemical nerve agent munitions from an American chemical weapons depot in Germany. On November 23, 1996, my wife and I flew to Seattle to hear SFC Morrissey's story.

"I would have done this earlier," he told us, "but I'm just now recovering from my bone marrow transplant at the Seattle VA hospital." Morrisey had developed CML Leukemia in May, 1995; that particular form of Leukimia is caused, according SFC Morrissey, by exposure to ionizing radiation or toxic chemical exposure. SFC Morrisey kept all of the unit logs from the Operation Steel Box period, even though the OIC (officer in charge) had ordered him to destroy them. Morrissey informed me that his unit had to report any chemical incidents, accidents, leaks, etc. up the chain of command. According to SFC Morrissey, this formal reporting requirement was Congressionally mandated. Morrissey indicated that all of the reports sent up the chain stated that there had been no chemical incidents.

Morrissey stated that the reports were deliberately falsified. In my presence, Morrissey pulled out a log entry for July 10 1990 showing that an M-8 alarm had gone off at one of the chemical storage bunkers. There were no other contaminants in the area, and the device was fully functional and working normally. Additional detection equipment was dispatched to the bunker, and according to the log extract, the air sample readings appeared to indicate a slight trace of nerve agent in the air. "I was told to 'overlook' such incidents," Morrissey noted.

The 10 weeks of logs that Morrissey retained appeared to have several such incidents, to include some personnel

who displayed pinpointed pupils and other tell-tale signs of nerve agent exposure. Within a year of leaving the unit, Morrissey began to experience periodic paralysis in his extremities. He also began having memory problems. "I used to be able to quote you chapter and verse from any NBC manual," he told me. "Now, I sometimes can't remember what I did yesterday--or even five minutes ago."

What upset Morrissey the most was that his chain of command clearly understood the potential risks. "They've said they didn't know about the possible effects of low-level chemical exposure," he said, referring to the Defense Department. "If that's true, why did everyone in my unit have to sign this?" Morrissey handed me a document--previously classified SECRET--entitled "General Information: Nerve Agent Intoxication and Treatment." Two paragraphs immediately caught my attention:

> "4. Signs and symptoms of chronic, low dose exposure: Memory loss, decreased alertness, decreased problem solving ability, and language problems are ***suspected*** but have not been proven by scientific study...." (emphasis added)
>
> 5. Teratogenicity (Ability to cause birth defects): Although some organophosphate pesticides have been shown to be teratogenetic in animals, these effects have not been shown in carefully controlled experiments using nerve agents."

The last sentence of this paragraph was misleading: to the best of my knowledge, DoD has never conducted "carefully controlled experiments" with nerve agents to determine the teratogenetic effects of the agents. Despite this, DoD "suspected" that chronic low-level nerve agent exposure could produce serious, chronic health problems in exposed personnel--a year before the Coalition bombing campaign would result in the release of tons of such toxic agents over American forces in Saudi Arabia.

Every member of Morrissey's unit was required to sign an identical document. The fact that DoD classified this information sheet--and the medical records of the ***entire*** 330th Ordnance Company--SECRET is irrefutable evidence that DoD knew it was placing these men at risk....and that it did not want the outside world to know about it.

Mr. Chairman, Sergeant Morrissey's revelations obliterate DoD's claims that it had no concerns regarding the potential effects of low-level chemical agent exposures to American personnel working in close proximity to chemical agents. Clearly, this information bears directly on the issue of the health effects from similar exposures among Gulf War veterans. Gulf War veterans have testified before this and other committees regarding chemical agent detections in close proximity to Iraqi chemical munitions in the Kuwait Theater of Operations. United Nations inspectors have destroyed thousands of such leaking chemical rounds in Iraq since 1991.

Sergeant Morrissey's revelations have even broader implications, however. The specter of leaking chemical munitions at an American arsenal raise serious questions about potential chemical agent exposures among German civilians living near that depot, as well as potential exposures among our own citizens living near similar depots throughout the United States. I urgently recommend that the Congress require the Department of Defense to immediately release all relevant unit logs and similar records maintained by every chemical weapons depot operated by the United States government to determine whether additional chemical agent releases or detections may have occurred at these facilities. Anything less would be a disservice not only to our veterans, but to the public at large.

Thank you Mr. Chairman. I would be happy to answer any questions the committee may have.

Mr. SHAYS. You are here before the committee because you spoke out and I told my committee I wanted you to come. I still don't have a handle on your testimony. I just have to be very frank with you.

What I was hoping was that you would come before the committee and you would be very specific in terms of what you saw at the CIA that troubled you, and not in general terms but in some specific terms. Is there a part of your testimony you want to highlight orally?

Mr. EDDINGTON. When I discussed just a few moments ago, Mr. Chairman, this notion of sitting down with CIA analysts, trying to get them to deal with this issue, not only the analysts but the managers were looking to exclude entire——

Mr. SHAYS. Part of my problem is "this issue." There are too many "this issues". I can tell you 10 "this issues." What do you mean, this issue?

Mr. EDDINGTON. The issue of chemical agent exposures among American forces.

Mr. SHAYS. It is your testimony that you gave before the Intelligence Committee, documents that said that chemicals were used offensively?

Mr. EDDINGTON. That is correct.

Mr. SHAYS. Give me examples.

Mr. EDDINGTON. Mr. Chairman, I cannot, for security reasons, go into the specific details of those reports. I can tell you, however, that there are approximately two dozen of them, that they originated with the National Security Agency, and that the House Intelligence Committee, I believe—counsel can correct me if I'm wrong—but the House Intelligence Committee and the House National Security Committee staff have the list of those specific documents because we have provided them with that. But on those specific circumstances, I would be violating my secrecy agreement.

Mr. SHAYS. It is your testimony that as far as you are concerned, these documents clearly document that offensive weapons, chemical weapons, were used or might have been used? How do you grade it?

Mr. EDDINGTON. There are specific examples of Iraqi units reporting using the weapons. There are other reports of, in some cases, American units being on the receiving end of such attacks. But again, it would be imprudent for me to go into more detail.

Mr. SHAYS. I accept that. Are they verified by detections, or were you not able to determine that?

Mr. EDDINGTON. This is a circumstance where we are dealing with some specific reports that were generated by the National Security Agency. I believe some of those can be correlated in fact with perhaps some of the testimony that was given here today. But because those reports are still specifically classified, I can't go into that. There are many other reports that have been declassified subsequently that I would be happy to discuss, such as the Iraqi ammunition storage area located at Rumaylah in southeastern Iraq. This is an extremely large ammunition storage area, even larger than the Khamisiyah facility that has been in the news the last 6 months. That specific facility had very, very specific signatures that indicated it was a chemical storage facility; for example, chemical

decontamination trenches located immediately outside the ammunition storage area itself; the delivery means for chemical weapons, in this case, Russian BM–21 multiple rocket launchers. There were additional security measures that were in place around this particular facility. That facility is significant because American forces, as you know, occupied southeastern Iraq, and had orders to destroy all Iraqi captured ammunition in place. We have log entries from the 24th Infantry Division which clearly show that chemical weapons were found in the Rumaylah area, two separate units, the 4th Battalion 64th Armored Division and I believe 2d Company of the 7th Mechanized Infantry Battalion. That is only one site.

There are, in my opinion, anywhere from a dozen to perhaps three dozen different chemical weapons sites.

Mr. SANDERS. Clarify for me, sir, is your point that this indicates the Iraqi intention to use offensive weapons, or is your concern that these depots were destroyed, then—by our troops—releasing chemical——

Mr. EDDINGTON. I think it is a little of both. As Major Hebert testified some while ago, there were specific incidents which clearly occurred where weapons were fired at American forces that did not have a traditional high explosive reaction when they impacted.

Mr. SANDERS. Meaning that they might have been chemical?

Mr. EDDINGTON. Meaning that they might have been chemical. But I am also very deeply concerned about the notion of, before deployment—of these chemical munitions, all the way down to perhaps the battalion level, virtually the lowest level of the Iraqi army, with almost every single infantry and armored mechanized unit they had in the theater. There are several Iraqi prisoner-of-war reports that have been declassified and placed on the Gulf Link that deal with this specific issue. On the 20th Infantry Division, for example, there is a report from an Iraqi prisoner stating that his unit did specifically have chemical weapons, specifically mustard agent rounds.

There are additional reports dealing with this whole issue of the massive deployment of these chemical weapons throughout the theater. There is a specific log entry, I believe it is contained in the records of the 18th Airborne Corps, that speaks to the issue of Saddam Hussein having given release authority for the use of chemical agents down to brigade level.

Mr. SANDERS. The essence of what you are saying is that in your judgment, the problem is much more serious than we have been led to believe. It is not simply a question of U.S. troops destroying chemical weapon bunkers, but that in fact there had been an offensive attack, and you regard it of some magnitude.

Mr. EDDINGTON. I think there were three exposure scenarios that we are looking at, Mr. Sanders. The first occurred as a result of the allied bombing campaign. Remember that Major Hebert made note of the fact in his testimony that the focus of the air campaign at the tactical and operational level was to destroy not only the Iraqi delivery means for these weapons, but also the munitions that were located nearby as well. So when you take that into account, along with the destruction of the Iraqi chemical and biological weapons facilities in Iraq, you get, I think, a very massive potential exposure scenario there. So that is the first one.

The second exposure scenario deals with the limited number of attacks that I believe occurred, and Dr. Tucker, as I have indicated, also believes this. Finally, we have the Khamisiyah model, if you will, for the final set of exposures, the demolition taking place after the war.

Mr. SANDERS. Thank you.

Mr. SHAYS. You are saying offensive attacks, for point two, and then you are saying, again—one was defensive; the first was the bombing campaign, the second was the offensive use of weapons by Saddam Hussein's troops, and the third, you are going back to defense, the bombing of Khamisiyah and maybe other sites.

Mr. EDDINGTON. That is correct.

Mr. SHAYS. Do you have any background that you can share with us on the Science Applications International Corporation's projections that the plumes during the war would go away from us, actually toward civilians in Iraq, but away from United States soldiers; and now we are trying to resolve, in fact, whether SAIC actually was accurate in their projections.

Mr. EDDINGTON. I don't think there is any question that there are some very serious problems with regard to the SAIC model. One of the points that I would like to make is that it is my understanding that Ms. Slatkin informed committee staff "the 1991 effort undertaken by DOD, since it was done before the war, on bombing facilities was predictive modeling using a range of hypothetical parameters, in contrast to the recent CIA effort which occurred after the war, and specifically modelled actual facilities, climatary data, et cetera."

In fact, "In 1994 the Department of Defense provided the Senate Banking Committee with specific documentation on their modeling and potential fallout hazards at known or suspected Iraqi CW facilities that were attacked by coalition forces."

So the reality is the SAIC contractor who was involved in this, Mr. Richard McNally, admitted to the Presidential Advisory Committee in April 1996 that he was using real-time data during the war. So the CIA has misrepresented that aspect of this. This is not something new that is being done. Mr. McNally had access to all the real-time data. He used the real-time data originally. So in my view, that aspect of the model is completely invalid.

There is another aspect of this model that is also invalid. That is the CIA–SAIC emphasis on the attacks against these hardened concrete and steel reinforced bunkers. We know from testimony from the UNSCOM inspectors, as well as some of the testimony we heard here today, that the Iraqis were storing these munitions many times in areas that simply had open-topped earthen berms around their sides. That means that you are automatically going to get a great deal more in terms of collateral explosions, fallout, et cetera, than you would from a single bomb going into a bunker and have some effluent come out from a small hole. So there are some very real problems with the SAIC–CIA model.

Mr. SHAYS. In Khamisiyah they described—we have witnesses who described the fact they were 2 miles away, and that when they started blowing up the depot the missiles and shells were being projected out basically 12 miles from the site.

Did you take a close look at that study? Was that something that came across your desk?

Mr. EDDINGTON. The actual—are you referring to the original 1991 report——

Mr. SHAYS. Yes.

Mr. EDDINGTON. That was issued? That was one of the reports that we specifically gave to the Central Intelligence Agency analyst who was responsible for looking at this problem. We provided him that documentation in 1991, or excuse me, in February 1995. So they were aware of it. It was in their possession. We had drawn it to their attention, just as we drew the information regarding the Rumaylah site that I have discussed, the other sites I have been talking about for the last few minutes, we brought all of this to their attention.

I had a stack, Mr. Chairman, it was in excess of 300 classified documents that dealt with this specific subject, where these munitions may have been located, what was known about their level of deployment, how far down they were deployed. We put all of this in the hands of the CIA's analysts in February 1995.

Mr. SHAYS. Are you aware of any total destruction of material? Are you aware of fabricating data? Are you aware of any of this ever—is the CIA's major offense that they did not do what they should have done, or they actually took, in your judgment, they actually took information and doctored it?

Mr. EDDINGTON. I don't know that I would say that they doctored it. In the intelligence business, when we describe politicization of intelligence, it can take many forms. The form that I saw and the form that I can document is this notion of excluding entire classes of information that are normally included and evaluated in analyses.

Mr. SHAYS. In that context, tell me some of the exclusions.

Mr. EDDINGTON. Again, the complete refusal to contact Gulf war veterans. I was willing to put them in direct contact with veterans.

Mr. SHAYS. That is one.

Mr. EDDINGTON. They refused to look at the medical records of the individuals involved. They refused to look at the unit logs and try to correlate those with the known locations or suspected locations of chemical munitions. So you have this pattern that is established of trying to deliberately exclude entire classes of information. If you would like, I can quote directly from the CIA document that was authored by Christopher Holmes in 1995, in response to our inquiry: "The CIA does not plan a comprehensive review of DOD information, such as troop testimony, medical records, or operational logs." That is being about as definitive as you can be in terms of deliberately excluding classes of information.

Here is the problem I have with this. If the Central Intelligence Agency is willing to take the testimony of a gassed Iraqi Kurd or Shiite, and they are willing to use that in an analysis on a topic, on an intelligence topic, why will they not use—did they refuse to use testimony from our own citizens for exactly the same kind of analysis?

Mr. SHAYS. That is a great question. Did you ever put that to any of your co-workers?

Mr. EDDINGTON. Repeatedly. The answer we received from management, from management, now, was "That is not intelligence information." That is in complete contradiction to their normal policy of talking to people in DOD and debriefing folks that are in the military and other American citizens about their experiences and travels overseas.

Mr. SHAYS. What does not seem logical to me is it does not seem intelligent. You go to your best source and then you are able to go to other sources, having gotten a good basis or foundation on which to then proceed to get more information.

I'm very willing to go back to your first point until we cover this.

Mr. SANDERS. May I jump in?

Mr. SHAYS. Yes, Mr. Sanders.

Mr. SANDERS. Obviously, the implication of what you are saying is very serious. In essence, you are suggesting that there is a major cover-up, that there is a lot of information out there that high-ranking officials in the CIA, and I gather the DOD, understood about the exposure of our troops to chemical agents. Could you speculate for us, give us your reasoning, as to why in fact this information was not made available?

Mr. EDDINGTON. This is one man's opinion.

Mr. SANDERS. One man's opinion, surely.

Mr. EDDINGTON. We had that caveat—it is my view that the Department of Defense, this administration, and if it were still in power, the Bush administration, would not want to deal with this issue because it is going to cost a lot of money. Let's face it, if you've got at least 250,000 sick vets, and that is my personal estimate——

Mr. SANDERS. You think literally half of the men and women over there?

Mr. EDDINGTON. I believe so, based on their locations, because we have chemical agent detections, some of which you have indicated here on the map, which run all the way from north central Saudi Arabia all the way down to the Saudi port of Jubail. These detections were taking place during the entire 6-week period of the war. You are talking about a massive exposure scenario. So there is the medical cost of dealing with it.

But there are some other major issues that I think the Department of Defense does not want to have to acknowledge. That is the very real vulnerability of our nuclear, biological, chemical defense equipment. In the course of my research I learned that the gas masks that most of our forces were wearing, the M–17 series protective masks I'm sure most of us have seen on television, have a failure rate of 26 percent to 40 percent.

Mr. SANDERS. But in fact in the Persian Gulf most of our men and women were not wearing these masks in the first place, is that correct?

Mr. EDDINGTON. Unless an alarm had actually been sounded. But even then, my point here is they would have had even less protection. The Department of Defense has known about that vulnerability and that problem for over a decade.

Mr. SANDERS. You are suggesting that the second reason, in addition to the potentially huge financial expenses, is to not wanting

to reveal that if we send to people to war they are really vulnerable?

Mr. EDDINGTON. That is exactly correct. I think a third reason that was touched on in the earlier panel, to a degree, is this whole political implication of the United States having supplied Iraq with so much in the way of dual use technology during the 1980's that ultimately came back in the form of weapons that may have been used against them.

Mr. SANDERS. If your thesis is correct, are you suggesting, in a sense, that American technology supplied the precursor, is the word, for the assault on American troops?

Mr. EDDINGTON. And other organisms. I learned in the last 2 weeks in fact that the Centers for Disease Control did not provide the Senate Banking Committee with a complete list of all the potential pathogens that were supplied to Iraq during the 1980's. They revealed this to a researcher, Dr. Leonard Cole at Rutgers, in 1995. The CDC apparently sent 80 plus samples.

Mr. SANDERS. What you are suggesting is that the third reason is it would have been very embarrassing, in fact having given Saddam Hussein all of this stuff, to get that back——

Mr. EDDINGTON. That's correct.

Mr. SANDERS. Let me change focus, if I might, and ask if you have any information that we might not be familiar with in this area. As you know, there is a debate taking place about the potential health problems associated with low-grade exposure to chemical agents. The Pentagon has insisted for a period of time that if one does not get an acute reaction, an immediate reaction, then there is probably not going to be a problem. That is the theory that they have been operating under. There is other scientific evidence that suggests otherwise, that in fact you may end up having a long-term illness without receiving immediate acute effects.

Do you have any thoughts on that?

Mr. EDDINGTON. I want to apologize to the Chair for the use of that initial report from Sergeant Morrissey. I did not intend for that to take us off track here. But I have included this specific document because it speaks directly to the issue that Representative Sanders is talking about.

This particular document, which every unit or every member of Morrissey's unit was forced to sign in 1990, was classified secret. It deals with this entire issue of potential effects of being exposed to nerve agents, both acutely and at low levels.

Let me just read once again this paragraph No. 4: "Signs and symptoms of chronic low-dose exposure: Memory loss, decreased alertness, decreased problem-solving ability, and language problems are suspected but have not been proven in scientific study. The only proven effect of long-term exposure is EEG or brain wave changes without clinical significance."

The purpose or the point of this is to show that the Department of Defense suspected, suspected that low-level exposure could cause these very kinds of problems, to include birth defects, which is covered in paragraph 5 here. So they knew.

Mr. SANDERS. What was the date we are talking about with this statement, this information?

Mr. EDDINGTON. Mr. Morrissey signed this statement on January 19, 1990, a full year before Desert Storm.

Mr. SANDERS. So your point would be that if somebody from the DOD said, "Our belief is that low level of exposure does not cause a problem," you are suggesting that——

Mr. EDDINGTON. They lied.

Mr. SANDERS. Before the war they had evidence to indicate the opposite?

Mr. EDDINGTON. In my opinion they lied. I spent 11 years in the Army Reserve and National Guard. I have never seen a document like this. You classify something like this and you classify medical records secret, when clearly you are telling people that they could suffer long-term effects, serious long-term effects, from chronic low-level exposures?

The notion that the Department of Defense did not know is a fraud. It is a complete fraud. This document makes it very clear that they understood the risks these people were facing.

Mr. SANDERS. I'm sorry to ask you to repeat, but the date on this document is before the war——

Mr. EDDINGTON. 1–19–90, which would translate to January 19, 1990, which is a full year before.

Mr. SANDERS. You are referring to point No. 4, signs and symptoms of chronic low-dose exposure?

Mr. EDDINGTON. That is correct, and also paragraph 5, which deals with the issue of birth defects, possible birth defect problems as a result of exposure to organophosphate compounds.

Mr. SANDERS. You are suggesting that this document directly contradicts the Pentagon's position that they believe that low-level exposure might not cause a problem?

Mr. EDDINGTON. Absolutely. Absolutely.

Mr. SANDERS. Thanks very much.

Mr. SHAYS. We wrote Mr. Deutsch July 2, 1996, in regards to Gulf war illnesses. We got back a response. On page 3, he said, "We agree that the question of exposure is particularly important." This is chemical exposure. "For this reason, amidst growing concern and debate over whether U.S. troops have been exposed to chemical weapons or biological weapons agents, in March 1995 the acting DCI, Admiral Studeman, directed the CIA to perform a competence review of all relevant intelligence information. Our study concluded no chemical weapons or biological agents were used by the Iraqis, and facilities now known to contain biological weapon agents were not bombed."

Under what basis could he have made that statement? What data would he have had, would the Director of the CIA have had to have made such a sweeping statement, in your judgment?

Mr. EDDINGTON. He would have had no basis whatsoever to make that statement, on the basis of the information that I had in my possession and on the basis of the information that has subsequently been declassified up to this point and provided to the public.

Mr. SHAYS. What would he have pointed to? If he were in the room now, what would he have said was the basis for it, in your judgment?

Mr. EDDINGTON. I really can't speak to that, Mr. Chairman. To me this is a very, very obvious problem, a very obvious circumstance. The intelligence information and the information coming from the people in the theater that we heard just earlier today was quite clear: The munitions were present, they were forward deployed to the lowest unit level, they were in Kuwait as well as Iraq. Contrary to what the CIA maintains today, these chemical weapons were in Kuwait. The evidence is overwhelming that they were in Kuwait. So I have no idea what would cause Dr. Deutsch to make that kind of a sweeping statement.

Mr. SHAYS. See, that is one of the points we wanted to establish through testimony. My only reason for wanting you to address this issue first was that the DOD and the CIA have made it very clear there was no—first, no offensive use of weapons. Mr. Deutsch was actually on a major TV network saying there was no known offensive use of chemical weapons, at the very time that we had known that there was defensive exposure by our blowing up Khamisiyah, just as one And when we got the CIA employee, spokesperson, to come to our third hearing, I believe, fourth hearing, when she had made the comment that they had not interviewed one American soldier, basically I was led to believe that these statements of no offensive use—why should I have any more confidence in their statement, no offensive use is known, or what took place, when they said no defensive and we know that is blatantly false? So they don't have much credibility with us.

You obviously have left for a variety of reasons from the CIA, and I gather your basic testimony is that they didn't—let me put it this way. Is it your testimony that the CIA really did not, to the best of your knowledge, conduct any thorough research on offensive or defensive potential exposure, and that you felt that their failure to do it caused you to want to step into this void, and that in the process of your stepping into this void, you found that they were not listening to you, and so you ended up deciding to leave? Is that correct?

Mr. EDDINGTON. That is essentially accurate. We had a couple of things that were operating here. At the analytical level, we were basically telling people who had put their name on analyses that they were wrong, that these events occurred, and that, moreover, they had been lied to by the Department of Defense.

Mr. SHAYS. Right.

Mr. EDDINGTON. So we weren't winning any friends and influencing any people by doing that.

At the managerial level, I know from conversations that I had with managers who were close to me that they were terrified at the managerial level of having to try to deal with this. They did not want to have to confront the Department of Defense.

It was easy for me to understand why. General Schwartzkopf came out in June 1991 and testified before Congress that the CIA did nothing for him during the Persian Gulf war. The CIA came in for tremendous criticism. So for the last 5½ years, the CIA has spent a tremendous amount of time and money trying to ingratiate itself with the Department of Defense and make itself indispensable to DOD. Thousands of military visitors pass through the CIA every year. An entire office has been set up, a huge office, to coordi-

nate support to the military. So here my wife and I walk in and tell them that their greatest customer is a liar, and that tens of thousands, if not hundreds of thousands, of American troops have been exposed. Is that a message that is going to be well received by a conservative, stiff bureaucracy like the CIA? No, it is not.

Mr. SHAYS. Mr. Sanders.

Mr. SANDERS. Help me out again, here. The document we were looking at, that we talked about the impact of low-level exposure, and that was signed by the gentleman who acknowledged reading it, Mr. Morrissey, and also it has the author of the document, Richard W. Kramp, M.D., and another name, "Major", which is blackened out—help me out here in understanding to whom this document was given. How many documents were given out? Who received this?

Mr. EDDINGTON. You are talking about a unit with approximately 500 personnel in it, and every member of this unit was not only forced to sign this document, but their medical records were also classified secret. Dr. Kramp, who apparently was the attending physician who signed this particular statement, with Sergeant Morrissey would have been involved in monitoring these personnel for any kind of signs and symptoms of exposure to chemical agents.

Mr. SANDERS. To the best of your knowledge, there were 500 people asked to sign this?

Mr. EDDINGTON. That was Sergeant Morrissey's comment to me in Seattle about 3 weeks ago, yes.

Mr. SHAYS. I would like to just end with that document, and have you spend 5 minutes going through this again. I will try to pay closer attention.

What you started out with, you can start all over again.

Mr. EDDINGTON. I could be much briefer than that. This document, to my mind, clearly indicates that the Department——

Mr. SHAYS. Identify the document.

Mr. EDDINGTON. The document itself is entitled "General Information, Nerve Agent Intoxication and Treatment." According to Sergeant Morrissey, every member of his unit was forced to sign this particular document in the 1989–1990 period. This document clearly indicates, to my mind, that the Department of Defense knew that low-level exposure to these particular agents was a potential health risk.

Mr. SANDERS. Mr. Eddington, if I might again, what was unique about this particular unit that they were asked to sign this, this unit?

Mr. EDDINGTON. This document was passed out to personnel of the 330th Ordnance Company, which was assigned to the 59th Ordnance Brigade in Germany. Now, that brigade had the responsibility for guarding over 170,000 chemical nerve agent munitions, American chemical nerve agent munitions.

Mr. SANDERS. Thank you. Sorry.

Mr. EDDINGTON. That is fine. The document—and again, I have never seen anything like this. In the 11 years I spent in the military I never saw a document like this, a document that clearly tells the person who is signing it that you may experience long-term, perhaps lifelong, problems as a result of being in close proximity to these agents. It goes against everything the Department of De-

fense has claimed for the last 5 years, that they had no idea that low-level exposures would be a potential problem. That is the significance of the document. That is the significance of the document. That is why I wanted to bring it to the committee's attention, because this clearly has implications as they apply to the vets, Gulf war vets.

Mr. SHAYS. I think it has tremendous implications. I appreciate you bringing it before the committee.

I guess for me it is a no-brainer, that—this is where my civilian world has more meaning to me than really what we are doing in terms of this investigation; in other words, I spent 13 years as a State representative dealing with chemical exposure in an environmental way. We pass State laws that require people to be very careful how they handle certain chemicals, because even the smallest dosage we felt over time would cause serious health problems and maybe even result in death. So the civilian world was way over here, and it strikes me that therefore I have pretty much discounted the excuses of the military when they said that there is, you know, no threat from low-level exposure to chemicals. Why in the real world of daily living do we monitor and fine and sue and do a whole host of things to individuals who handle or mishandle chemicals, and yet we act like there wouldn't be a problem to the military for their exposure to similar chemicals? So for me, I don't feel I need a lot of military studies to have documented what we already know in the real world of public life, in civilian life.

The fact that they actually had potential studies detection when they denied it obviously calls—questions their own ethics and their own credibility. Frankly, the VA, DOD, and the CIA have very little credibility as it relates to any issue dealing with the Gulf war illnesses. That is why I will say to you that we are determined that this committee have all three parties participate in this effort, because ultimately, they are going to be the solution.

Having said that, given the plea of the father, Mr. Hebert, ultimately he wants his son and other sons like his son treated and cared for. The overall need is to deal with a proper diagnosis, treatment, and fair compensation. I have said to the DOD and the CIA, I am less, far less concerned about placing blame, because I feel if they think that is my biggest concern, which it isn't, then they are not going to be coming as eagerly and as willingly with information I think they have that can move us along a lot more quickly.

So my message is, to the CIA and to the DOD, I care less about focusing responsibility on who is to blame, and I think Congress does focus less concern on that, and ultimately just give us the information that can help us heal our soldiers.

Your testimony has been helpful to this committee. I think that you have a lot of information that is probably even difficult for you to decide what to disseminate, but we need little pieces, and ultimately we will get to the whole.

Do you have any last comments?

Mr. SANDERS. Mr. Chairman, I like the way that you ended the last panel. Let me ask Mr. Eddington that: Are there questions that we have not asked you that you wish we had, that you would like to ask yourself and then give us that answer?

Mr. EDDINGTON. Mr. Sanders, I believe that one question that should be asked, not just by this committee but by several committees, is why is it that John Deutsch and Nora Slatkin attempted to prevent the release and attempted in fact to reclassify several hundred documents that had to do with this very issue? Why did they do that? What was their motivation for removing over 300 documents from the Internet that had been properly declassified by competent authority, the Department of Defense, a decision that forced me to file suit in order to get those documents declassified? Why? What was so damaging about those documents?

What was damaging about the documents was that they totally invalidated the DOD–CIA position that there were no chemical munitions deployed in Kuwait and southeastern Iraq, southeast of Khamisiyah. So that is an issue that I really feel needs to be raised vigorously.

Mr. SANDERS. Let me just ask you a final question. Obviously the main concern that all of us have is doing the best that we can for the men and women who are affected by the various illnesses associated with the Persian Gulf syndrome. Do you have any information, any thoughts as to whether or not the VA and our hospitals and our doctors are doing as good as they might?

Mr. EDDINGTON. It is very difficult for them to do as good as they might, given the fact that they don't have complete data.

Mr. SANDERS. The lack of this information makes it very difficult for them to do their job, is that what you are saying?

Mr. EDDINGTON. Particularly as it pertains to this potential biological exposure issue. As previous witnesses have testified, the United States had no effective biological agent detection capability in the Gulf. We know Iraq had in its inventory and had weaponized things such as anthrax, and botulinum toxoid. Aflatoxin has been mentioned. The Iraqis may have been working on forms of mycotoxins that have not been previously disclosed or discussed in any great detail.

Mr. SANDERS. Are you suggesting some of those biological agents may have been used?

Mr. EDDINGTON. I believe that that did happen at the Saudi port of JuBail, yes. I do believe it did. Because if you look at the specific descriptions that the Seabees who were stationed there give in the Senate Banking Committee investigations May 25th report, the signs and symptoms they report are largely consistent with exposure to tricothecene mycotoxin, T–2 mycotoxins, more commonly known in the press as "yellow rain."

There may also have been a chemical agent involved in that as well, a mixed agent attack, if you will, since we know some of the Seabees got positive 256—M 256 kit test for a chemical blister agent. But the overall symptomotologies being described by those Seabees, in my opinion, are consistent with exposure to some kind of mycotoxin.

Mr. SANDERS. Thank you very much.

Mr. SHAYS. Just another area that I just need a very quick response. To the best of your knowledge, do we have any way of determining exposure to biological agents, and do you have any information about biological agents potentially being used or being used?

Mr. EDDINGTON. In the discussion that I had with Mr. Sanders just a moment ago, I made note of the fact that it is my opinion that a form of mycotoxin was probably employed against the Saudi port of JuBail on the 19th of January 1991. As far as the protocols for testing, that is some way outside the range of my medical knowledge. That would be a question for a toxicologist.

Mr. SHAYS. Thank you. While you were giving the answer, I was asking a question.

Mr. EDDINGTON. Understood.

Mr. SHAYS. The bottom line, we have tried to deal with three "nos" that DOD and VA and others have been espousing: that there is no credible detections, no exposures, and therefore, no provable health consequences. We do think there are credible detections and we do think that the exposures are real, and our hearing tomorrow is going to be how the VA is responding to these credible detections and credible exposures, how they are changing their protocol, and how they are now going to respond in a more effective way to the DOD. That will be part of what we cover tomorrow.

I appreciate your testimony before this committee, and before we adjourn, I would like to thank our two court reporters, Leanne Dotson and Bill Odom, and Amy Davenport from the full committee, and Bob Newman and Tom Costa and Cheryl Phelps for their work, as well.

This is a process we are going to continue, and we are just going to keep applying more and more pressure until we get the right answers. Thank you very much.

With that, the hearing is adjourned for today.

[Whereupon, at 4:53 p.m., the subcommittee was adjourned.]

PERSIAN GULF VETERANS' ILLNESSES: THE IMPACT OF CHEMICAL EXPOSURE DISCLOSURES ON VA HEALTH CARE

WEDNESDAY, DECEMBER 11, 1996

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON HUMAN RESOURCES AND
INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2154, Rayburn House Office Building, Hon. Christopher Shays (chairman of the subcommittee) presiding.

Present: Representatives Shays, Davis, Towns, and Sanders.

Staff present: Lawrence J. Halloran, staff director and counsel; Robert Newman, professional staff member; Thomas M. Costa, clerk; and Cheryl Phelps, minority professional staff.

Mr. SHAYS. I would like to call this hearing to order, the Subcommittee on Human Resources, the subcommittee of the Government Reform and Oversight Committee.

Recent revelations about the detection of chemical warfare agents in the Persian Gulf war theater challenge widely held conclusions about the effectiveness of U.S. Nuclear, Biological and Chemical, called NBC, defense doctrine. Throughout Operations Desert Shield and Desert Storm, thousands, thousands of chemical alarms were routinely dismissed.

Detections of chemical nerve agents in a combat theater should trigger protective countermeasures and decontamination procedures. But in the Gulf war, chemical alarms only signaled the beginning of the denials and cover-ups.

When sensitive alarms are ignored, U.S. troops are vulnerable to low-level toxic contamination.

The recent disclosures also undermine the credibility of the Department of Defense, DOD, which for more than 5 years has unequivocally denied even the possibility of troop exposures to chemical nerve agents.

Most importantly, for the sake of veterans and their families, these admissions compel a complete re-evaluation of all policies and medical protocols built on the shifting sands of Pentagon denials.

On October 3, the subcommittee wrote to the Department of Veterans Affairs, the VA, asking how Gulf war research efforts, health care and compensation procedures would be changed to reflect the

dramatic new realities of probable chemical exposures to a great many veterans.

We did so because at our September 19th hearing, Dr. Frances Murphy, Director of the VA Environmental Health Service, conceded in testimony that the Gulf war research agenda in 1995 placed a low priority on low-level chemical agent exposure studies, "because military and intelligence sources had stated that U.S. troops had not been exposed to chemical agents."

That admission raised a number of questions about the extent to which VA's approach to Gulf war veterans' issues might be captive to the dictates of Pentagon doctrine. Dr. Stephen Joseph, Assistant Secretary of Defense for Health Affairs, expressed part of that doctrine in testimony before this subcommittee on June 25, 1996, when he said that, "chronic symptoms or physical manifestations do not later develop among persons exposed to low levels of chemical nerve agents who did not first exhibit acute symptoms of toxicity."

Having already learned that vital research had been retarded by adherence to DOD's unsubstantiated conclusions about the existence and effects of chemical warfare exposures, the subcommittee was concerned that the same myopia might have infected VA health screening and treatment policies.

Veterans have consistently told this committee, VA health care systems seem predisposed toward superficial diagnosis that do not explain the full range of symptoms presented. Others note a tendency to diagnose unexplained symptoms broadly as somataform disorders, Post Traumatic Stress Disorder, PTSD, or other psychological causes.

The VA says it has always remained open to the possibility that toxic exposures play a role in the causation of Persian Gulf war veterans' illnesses. Yet it wasn't until October 1995, that the VA's Persian Gulf Registry Code Sheet, the basic screening tool used to evaluate the health of a veteran, contained specific questions about chemical alarms, chemical nerve agent exposures, or other specific toxins.

From 1991 to 1995, 53,000 Gulf war veterans were diagnosed using the less specific screening protocol. Almost 2,000 of those veterans were in the vicinity of the Khamisiyah detonations in March 1991. Had the VA been more open then to capturing the data on possible chemical exposures, we might have in hand today clinical data that could yield long sought answers and save lives.

Instead, research on the long-term effects of low-level exposures is just beginning—I find it incredible, just beginning—and the VA and the DOD Gulf war case assessment protocols are undergoing both internal and external reviews to determine how they might better capture clinically useful data.

In a previous hearing, the VA's Gulf War Health Registry program was described as, "a very crude health surveillance tool." Our question today is just how crude that system must remain and how it might be refined to reflect what the Pentagon only recently and reluctantly conceded, that what veterans have known all along, what veterans have known all along about chemical detections, low-level nerve agent exposures and possible subsequent chronic health effects.

This committee welcomes the testimony of all of our witnesses today and we look forward to this hearing very much.

Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman. As you certainly know, the evidence that troops in the Gulf were exposed to chemical agents is growing stronger every day, and that is what yesterday's hearing was about.

Tragically, it took the Pentagon 5 years, 5 years, to finally admit to the possibility that Americans serving in the Gulf might have been exposed to chemical agents. And yesterday we heard from witnesses who said that not only might American soldiers have been exposed to chemical agents after the war, in terms of the destruction of Iraqi munition depos, but there was a chance that our soldiers were exposed to chemical agents during the war.

Although we are unsure whether these possible exposures play a part in the so-called Gulf war syndrome, the Veterans Administration and others involved in treating these men and women need to take into account the very real possibility of chemical exposures when diagnosing and treating their injuries.

Mr. Chairman, thank you very much for holding this hearing which provides an opportunity to identify some of the problems that veterans encounter with regard to the diagnosis and treatment of their symptoms and to find out what, if anything, the VA has done to correct these longstanding problems.

I am particularly concerned that there has been an inadequate effort to record the veterans' account of possible exposure to chemical and biological agents. One would have thought those would be the first people we would be going to. Over 5 years have passed and it doesn't look like a comprehensive research program is in place to determine the cause of the Gulf war syndrome, and I think one of the tragedies in this whole situation is that while nobody claims to know the causes of all of the health problems associated with the men and women who served in the Gulf, it appears to me, not being an expert in this area, but it does appear to me that we have wasted 5 years in allowing our physicians and our medical researchers the opportunity to learn more about the problem.

If we go into a doctor's office, any sensible doctor wants to know the reasons, what we have been exposed to, why we might be sick. Five years have come and gone and our medical researchers and the scientists of this country were not allowed to delve and to learn about the possibility of chemical exposure on the part of our veterans.

I also, as I am sure you do, Mr. Chairman, want to make certain that veterans receive adequate treatment for their symptoms, whatever the cause may be, whatever the cause may be.

I am distressed about accounts of veterans being told that it is all in their head, before adequate study of chemical exposure has been completed. Now that we have ample evidence of the possibility of chemical exposure, I think it is time that the VA and others put this information to good use. So we will be expecting some real research to move along this line.

In yesterday's hearing, we were given a document that suggested that the Department of Defense expected low-level exposure to chemical agents may cause long-term physical problems. I urge the

VA to adopt these same suspicions and incorporate them into their protocol. Otherwise our veterans might not be receiving adequate diagnosis and treatment.

I am also concerned that the VA has the funds necessary to adequately diagnose and treat veterans complaining of Gulf war syndrome. As I am sure everybody knows, there are some people who suspect that the reason that the Pentagon has not been more forthcoming on this issue is that it would open a financial can of worms, resulting in billions of dollars of additional compensation of health care treatment.

Certainly, certainly, that cannot be a reason not to go forward. When men and women put their lives on the line, they are entitled to the best treatment this country can offer and fair compensation. I think we all want to make certain that the VA has the necessary funds to do its job and that's an issue that I hope we will be delving into today.

Thank you very, very much, Mr. Chairman.

Mr. SHAYS. Thank you, Mr. Sanders. I appreciate the support that you have provided this committee, as well as your colleagues.

The committee now will hear testimony from our first panel. We have three panels today. We only have two who are here, Julia Dyckman, who was a Persian Gulf war veteran and registered nurse, and Robert Larrisey, who is a Persian Gulf war veteran.

We also have testimony from Tom Barnes, who was to testify, again a Persian Gulf war veteran. He is back in the hospital, so he will not be here.

If I could, I would invite Julia Dyckman to come and stand before the table and Robert Larrisey as well and we will swear you both in.

[Witnesses sworn].

Mr. SHAYS. For the record, both of our witnesses have responded in the affirmative. You may sit down. Thank you.

To get a little housekeeping out of the way, I ask unanimous consent that all members of the subcommittee be permitted to place any opening statement in the record and that the record remains open for 3 days for that purpose.

Without objection, so ordered. And also ask unanimous consent that our witnesses be permitted to include their written statements in the record and, as I mentioned, Mr. Barnes' statement was submitted and it will be in the record without objection.

We will start with you, Ms. Dyckman.

[The prepared statement of Hon. Edolphus Towns follows:]

OPENING STATEMENT OF REP. ED TOWNS
BEFORE THE GOVERNMENT REFORM AND OVERSIGHT
SUBCOMMITTEE ON
HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

"THE IMPACT OF CHEMICAL EXPOSURE DISCLOSURES ON
VA HEALTH CARE"

December 11, 1996

MR. CHAIRMAN, THANK YOU FOR CONVENING THIS SIXTH HEARING EXAMINING ISSUES RELATED TO DISEASES SUFFERED BY SOME GULF WAR VETERANS AND THEIR FAMILIES. TESTIMONY RECEIVED IN YESTERDAY'S HEARING ADDRESSED THE PENTAGON'S ABYSMAL MANAGEMENT OF INTELLIGENCE ON U.S. TROOP EXPOSURE TO CHEMICAL AND BIOLOGICAL WEAPONS. TODAY WE WILL CONSIDER THE IMPACT OF DOD'S REVISED CONCLUSIONS THAT 20,000 TROOPS WERE "PRESUMED EXPOSED" ON MEDICAL PROTOCOLS AT THE DEPARTMENT OF VETERANS AFFAIRS.

I AM CONVINCED THAT OUR SOLDIERS WERE EXPOSED TO TOXIC AGENTS DURING THEIR SERVICE IN THE PERSIAN GULF. AND I CANNOT IGNORE THE COMPELLING EVIDENCE THAT THE NUMEROUS DISEASES AND SYMPTOMS THAT SOME SOLDIERS ARE EXPERIENCING ARE RELATED TO THAT EXPOSURE. ALSO, BECAUSE THE DEPARTMENT OF DEFENSE REPEATEDLY DENIED THAT TOXIC EXPOSURES OCCURRED, QUESTIONS HAVE BEEN RAISED THAT PERHAPS THE AGENCY WITH RESPONSIBILITY FOR CARING FOR SICK VETERANS GAVE INSUFFICIENT CONSIDERATION TO THE POSSIBILITY THAT A LINK EXISTED BETWEEN EXPOSURE AND ILLNESS.

I AM DEEPLY CONCERNED THAT THE VA'S DIAGNOSTIC, TREATMENT, AND COMPENSATION POLICIES REGARDING SICK GULF VETS ARE BASED ON DOD'S ERRONEOUS PREMISE OF NO LOW LEVEL CHEMICAL EXPOSURES. IF THIS IS THE CASE, THEN IT IS PROBABLE THAT THOSE POLICIES ARE INAPPROPRIATE; AND IT IS CERTAINLY PROBABLE THAT SICK GULF VETERANS AND THEIR FAMILIES HAVE BEEN RECEIVING INAPPROPRIATE AND INSUFFICIENT CARE AND COMPENSATION.

I LOOK FORWARD TO THE TESTIMONY OF DR. MATHER, THE VA'S CHIEF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS OFFICER, AND VA DOCTORS JACKSON AND GORDON. I WELCOME THE OPPORTUNITY TO BE REASSURED THAT MY CONCERNS ARE MISPLACED. I AM INTERESTED IN HOW THE VA'S POLICIES REGARDING TOXICOLOGICAL RESEARCH, CLINICAL CARE, AND COMPENSATION OF GULF VETS HAVE EVOLVED TO REFLECT CURRENT KNOWLEDGE OF THE NATURE AND EXTENT OF TOXIC EXPOSURES.

I ALSO WELCOME THE VIEWS OF OUR VETERANS. I THANK THEM FOR THEIR PRESENCE BEFORE THE SUBCOMMITTEE, AS WELL AS FOR THEIR SERVICE TO OUR COUNTRY.

FINALLY, MR. CHAIRMAN, I COMMEND YOUR DILIGENCE AND CONTINUED INTEREST IN THIS CRITICAL ISSUE. I LOOK FORWARD TO WORKING CLOSELY WITH YOU AS WE PURSUE THIS ISSUE IN THE 105TH CONGRESS.

STATEMENT OF JULIA DYCKMAN, PERSIAN GULF WAR VETERAN AND REGISTERED NURSE

Ms. DYCKMAN. My name is Julia Dyckman and I am a Persian Gulf veteran. I would like to graciously thank the subcommittee for allowing me to voice my concerns on the Veterans Administration system. I would also like to describe my quest to obtain treatment for myself and others noted through my own personal experiences with the system.

At the time of the Persian Gulf war, I was a Commander in the Naval Reserve who was activated January 16, 1991, to serve at Combat Zone Fleet Hospital 15. Fleet Hospital 15 was a 500-bed hospital with 948 personnel, including the construction battalion units, which are the Seabees.

It was assembled at a site west of Al Jubayl, Saudi Arabia, and was operational within 12 days of arriving in theater. Patient care consisted of direct front-line casualties, patients from second echelon facilities and walk-in patients. In addition, we handled sick call for our own personnel.

The environmental conditions that existed at the hospital site were: we had black skies with clearing at the horizon; rain sometimes consisting of oil droplets; mysterious clouds passing directly overhead; occasional ammonia smells and SCUD attacks, five separate times from February 1st to February 26, 1991 with a SCUD missile blowing up directly overhead.

My own medical problems in Saudia Arabia, which were documented in my military health record, consisted of rashes, open blisters on my right foot, flu symptoms, bronchitis, gastritis, rapid heart rate and high blood pressure. I had a complete military physical when mobilized and was in excellent health before leaving the United States.

We also handled sick call for our own personnel and we also saw the following medical conditions that were found in our own personnel: Respiratory problems, unexplained fevers, vomiting and diarrhea, various rashes and numerous reactions to immunizations, or secret shots, unexplained stomach and abdominal pains and cardiac problems.

Now, you have my report, and it is pretty extensive, with how I got back to the United States and how we were treated. So I would like to basically focus on the Veterans Administration.

It has been a real problem getting care and being treated as someone who has an illness. I will go on to what the main problem is with even treatment and diagnosis and, also the disability and claims procedures. Disability and claims procedures are complicated and time-consuming.

In order to obtain VA treatment for Persian Gulf illness, you first have to have a service-connected illness or injury, which is difficult to prove even when you are treated in theater. Also, the VA only considers military and VA medical records in the review for service connection, excluding sometimes expert civilian reports. I had a complete workup at NIH which documented autonomic nervous system damage, which was rejected by the VA. Additionally, they only use selective parts of records that agree with the VA and disregard any positive findings. As an example, I was turned down for service connection for heart palpitation, yet I had 10 entries in my

military medical record for heart palpitations while on active service. After 4 years and the VA's own diagnosis of Persian Gulf Syndrome, which I got at the VA Center in Washington, I received 30 percent disability for PTSD. In 1996, it was finally increased to 80 percent for chronic fatigue. Persian Gulf syndrome is not a recognized illness. According to VA, I am tired and have a mental problem.

Fellow Persian Gulf war veterans are manifesting chronic medical problems which range from severe joint pains, lung lesions, eye problems, chronic fatigue, diarrhea problems, to carpal tunnel syndrome and even cancer. The problems even extend to family members. Treatment has been inappropriate and ineffective to this time. I have always supported the concept of health promotion and early detection of disease, which the VA is not set up to do. Something happened to us and other veterans in the Persian Gulf and I want to know the cause of these problems.

The VA needs to develop proper tests to recognize unique Persian Gulf symptoms. Current testing for the Persian Gulf Register is merely routine and does not detect Persian Gulf illness.

We need to modify the entrance procedure into the VA's system for Persian Gulf illness. The current procedures are based around submitting a claim which denies most of the illnesses of the Persian Gulf war. Documentation in the Persian Gulf area was difficult, even when early symptoms were present.

When later symptoms are present, it's almost impossible to have them recognized by the VA. There's the—you need to change the 2-year limit of at least 10 percent disability. Reporting was difficult, but symptoms are also sometimes very benign at the beginning, and even getting them into any kind of record or even any kind of civilian treatment is very difficult. This limit is unrealistic due to the specific nature of Persian Gulf illness.

Strongly use the civilian medical documentation in considering service-connected claims. Very often, civilian medical tests are positive and the VA tests are negative, casting doubt sometimes on the validity of VA tests.

Stop requiring veterans to continually prove that they are ill. Self-reporting is ignored and a psychiatric diagnosis is often given. We also have a problem with the idea that some Persian Gulf vets look good, but that doesn't explain that they are in constant pain or that they have diarrhea or vomiting every time they eat. So they often go on the appearance until you are at the point where you are emaciated or you can't speak.

Quit ignoring the reality of Persian Gulf illness. When VA doctors show a positive response to Persian Gulf illness, they are sometimes eliminated from the system, which happened in the VA medical center in Lebanon.

You have got to allow for a selection of physicians. The VA center in Lebanon has a 600 Persian Gulf war patient population, yet physicians are being cut. This additionally limits access to care and diagnosis. You sometimes have to wait 6 months, 8 months, a year, to even be seen for any type of registry evaluation, which is then very cursory at the most.

You need to include spouses and family in the care and diagnosis of Persian Gulf illness since this is a family encompassing illness.

Realize that when positive test results do occur, that they should have effect on VA treatment or diagnosis, and a lot of times they are ignored.

Utilize newly breaking information on possible causes of Persian Gulf illness and modify the testing, diagnosis and care accordingly, which was demonstrated by yesterday's testimony.

When the Pentagon finally realized—or finally admits to what we were exposed to, this should be taken into consideration.

You might ask, what is it like to be a Persian Gulf war veteran after almost 6 years? Each day starts with uncertainty. When you eat, you are constantly sick and have intermittent diarrhea. Mobility is difficult due to swollen joints and muscle aches. Severe headaches are intermittent. Sometimes you forget what you are doing and what you are going to do. Pain and fatigue are your constant companions. To complete your day, you are forced to deal with constant denial from the Pentagon that nothing happened during the Persian Gulf war. These statements confuse medical providers who then doubt your credibility. What is needed is recognition, though not coded by the CDC, that Persian Gulf illness is a combination of unique symptoms and outcomes.

Right now, the VA is limited to giving you your major diagnosis, and the major diagnosis has to fall in with one of the recognized illnesses. So if your primary problem is headaches, you get a diagnosis of headaches. You have to realize that the syndrome is a unique illness.

This is why specific protocols need to be run before the VA says that this illness doesn't exist or is all in your head. The needed testing must include brain MRIs, full body MRIs, CAT scans, extensive non-routine blood tests, EGDs and colonoscopies. They must be protocol tests, not a cursory visual examination. The cost may be high but the benefits to the individual veteran and the country will be immeasurable.

Proper diagnosis and treatment would improve the quality of life and productivity of current Persian Gulf war veterans and their families, as well as ensure a less damaged future generation.

Monetary compensation does not replace good health. And about the monetary compensation, it seems that the monetary—people go for monetary compensation with the idea that it will force possibly the government to realize that they have a major medical problem. If they are forced to pay, then hopefully they will be forced to form—to at least find a cure or improve the quality of life that the compensation won't be needed.

Veterans desire to improve their health so they can be more productive citizens who have served their country well.

Thank you.

[The prepared statement of Ms. Dyckman follows:]

Presentation by
Julia Y. Dyckman, RN, MPH, Capt USN (TDRL)
before the
Human Resources and Intergovernmental Relations Subcommittee
December 11, 1996

BACKGROUND AND SAUDI ARABIA

My name is Julia Dyckman, I am a Persian Gulf veteran. I am a naval reservist who was activated January 16, 1991 to serve at Combat Zone Fleet Hospital 15. Fleet Hospital 15 was a 500 bed hospital with 948 personnel including the construction battalion units. The hospital was forward deployed to the "least developed" hospital site in-theater. It was assembled at a site west of Al Jubayl, Saudi Arabia and was operational within 12 days of arriving in-theater. We took pride in our readiness to serve as the most forward of the forward deployed fleet hospitals.

During our deployment from January 30 to April 15, 1991, we took care of approximately 8,211 out-patients, and 697 in-patients and had 90 combat admissions.

I was one of four department heads under the Director of Nursing. I was responsible for the Casualty Receiving area (emergency room) and Specialty Treatment (out-patient clinics). I was also responsible for the nurses and corps personnel at the Casualty Clearing Company at the Al Jubayl airport. Hence I was responsible for approximately 15 nurses and 40 corps personnel. My duties consisted of 12 hour shifts that included such things as supervision, direct patient care, data collection, general housekeeping, etc. (Over 8,000 Medical Encounter Data Sheets (MEDS) were filled out and submitted to Bill Pugh at the Naval Health Research Center, San Diego, CA. These MEDS came from my own departments). During the initial hospital construction, my duties also consisted of tent and facility assembly, unpacking crates, and equipment installation all of which occurred in direct contact with sand. My duties also required travel to the Casualty clearing company and assisting in discharge physicals at Camp 53, south of Al Jubayl.. These duties included travel to other areas in Saudi Arabia, camps around Al Jubayl, and other fleet hospitals including Bahrain. Some of our personnel traveled into Kuwait City and other areas of the Persian Gulf. The messing and berthing facilities were tents with concrete floors. Travel on the site was by foot through both packed and ankle deep loose sand.

Patient Care consisted of direct front-line casualties, patients from second echelon facilities and walk-in patients. In addition, we handled sick call for our own personnel. The following medical conditions were reported by and treated by our own personnel:

- Respiratory problems;
- Unexplained fevers;
- Vomiting and diarrhea;
- Various rashes;
- Numerous reactions to immunizations (secret shots); (a number of personnel had swollen arms, local reactions and systemic reactions)

- Unexplained stomach and abdominal pains;
- Cardiac problems.

Environmental conditions that existed at the hospital site were:

- Black skies with clearing at the horizon;
- Rain sometimes consisting of oil droplets;
- Mysterious clouds passing directly overhead;
- Occasional ammonia smells;
- Scud attacks (5 separate times from Feb 1 to Feb 26, 1991)
- Scud missile blowing up directly overhead.

My own medical problems in Saudi Arabia (documented in my Military Health Record) consisted of:

- Rashes;
- Open blisters on my right foot (See photo);
- Flu symptoms;
- Bronchitis;
- Stomach problems (gastritis);
- Rapid heart rate;
- High blood pressure (blood pressure had been under control before arrival in Saudi Arabia).

Situations that existed that may explain medical problems that were reported and the difficulty in documentation of peoples' illnesses.

- The site was probably contaminated either by pesticides, or possible chemical/ biological agents before arrival as well as during occupancy of the fleet hospital.
- Patients arriving from the war front were possibly contaminated without our knowledge and thereby spread contamination to us.
- Possibly contaminated Iraqi and US tanks were staged and cleaned near the fleet hospital.
- Chemical protection gear was not readily available nor was any notification of possible contaminants ever received.
- Initial foot blisters could have been caused by "dusty"mustard or other agents.
- Other personnel experienced similar symptoms as mine resulting in multiple system illnesses.
- Over 50% of personnel receiving "secret" shots experienced reactions to them.
- Discharge physicals were inadequate.

Before departure from Saudi Arabia I received a puncture wound from an unknown source in my left instep. (See Attachment 1, Record of Treatment while on

Active Duty). Please note that even with our medical problems, we all continued to work our shifts and provide good medical and nursing care.

RETURN TO THE UNITED STATES

Upon my return to the United States, (after packing up, plane travel, refueling delays, e.g. over 32 hours of travel) we had only a short rest time until we signed discharge paperwork. Many personnel still had unresolved medical problems and voiced concerns but were told that they had 90 days in which to report to an active duty medical facility for treatment. Also many personnel felt that once they left the sand, that rest and a change in environment would eliminate any medical conditions. We soon found out that we were ineligible for active duty care and registering of complaints could result in release from the reserves as "Not Physically Qualified." It was nearly impossible to come back on active duty to resolve medical complaints. In my case, I volunteered to assist in "Welcoming back" reservists through the RESTAR program. This program required that I be placed on Active Duty for Training (ADT) and consisted of interviewing returning Persian Gulf veterans. Many personnel voiced concerns over long term health effects, current health conditions, and numerous pay and family situations. During this time my health continued to deteriorate. I could not be released from ADT and the Navy was forced to return me to Active Duty. The following problems started to occur as I began reporting Persian Gulf veterans medical concerns and trying to seek my own treatment

- I continued to work on the RESTAR project which required extensive travel even though I had difficulty walking;
- Records of interviews I conducted were eventually discarded, supposedly because a new survey was being developed (I never received a new survey);
- The Readiness Commander did not like the results of my interviews. He interfered with my medical care, and eventually was instrumental in removing me from pay status for over 16 months (I mention this because it involves interference with proper documentation of immediate medical problems experienced by returning Persian Gulf vets and shows what could happen when they were reported illnesses);
- I was released from active duty even though my medical problems were not resolved but they were "considered" improving.
- Returning Saudi Veterans noted that:
    - ◊ reporting of symptoms was difficult,
    - ◊ could result in retribution (loss of pay or discharge),
    - ◊ active duty care was not readily available due to rapid outprocessing,
    - ◊ they were ineligible for active duty care after outprocessing even while remaining in a drill status,

- ◊ recognition of service connection could result in a loss of civilian insurance,
- ◊ as medical personnel , PTSD or physical impairment could jeopardize licensing or credibility,

- For most Persian Gulf reservists, the only avenue available for medical care was civilian or possibly the Veterans Administration (VA). Some veterans were too ill to hold down a job and therefore had NO medical insurance to cover civilian care.

VETERANS ADMINISTRATION CLINICS AND HOSPITALS AND ADMINISTRATIVE PROCEDURES

Since I was ineligible for treatment from the active duty military (at that time), the only recourse was civilian or the VA. Since I am a Vietnam veteran and have a service connected disability, zero compensation (varicose veins), access to VA care was available to some extent. There was no Persian Gulf Registry in effect or available in 1991.

This is the list of medical concerns I had at the time I returned from the Persian Gulf and therefore I sought care at the VA:

- Hearing loss;
- Bronchitis;
- Chronic cough;
- Hypertension;
- Rash on the right foot;
- Bilateral foot pain;
- Stomach ulcer;
- Occasional to frequent diarrhea;
- Headaches;
- Joint pains:
- Abdominal pain.

PROBLEMS WITH VETERANS ADMINISTRATION TREATMENT

I. Initial Care

I presented myself to the VA for treatment: (See VA Medical Records)

At the VA Outpatient Clinic in Harrisburg (August 1991) I was seen for:

- "Feet" problems;
- Diagnosed Gout (although Gout test was negative);
- Offered treatment of Tylenol (500 tablets given);
- Told that "nothing is wrong with you, get it through your head!"

- I requested a referral to the VA Medical Center Lebanon because I thought they would have some protocol to deal with Persian Gulf veterans.

At the VAMC Lebanon (starting in September 1991), I was seen in multiple clinics for compensation exams and evaluations. In order to be seen for my problems, I had to fill out a VA Disability Compensation Claim. If I did not claim a disability, I would be seen for a non-service connected illness and my medical insurance would be charged. No Persian Gulf protocol existed at this time. The clinics were:

- Infectious Disease - diagnosis of bad footwear even though I had uniform shoes on; accused of imaginary rashes and inquiring about PTSD; treatment suggested was to participate in a good exercise program;
- Podiatry - evaluated for a foot problem; advised to use foot inserts but was told I was not eligible because I did not have a 30% service connected disability. Black foreign material was being extracted from my right foot. No diagnosis was made;
- Internal Medicine - abnormal liver scan by ultra sound, but told I didn't have a liver problem. Again advised exercise program and low fat diet;
- Rheumatology - noted that I had pain and swelling and abnormalities but was unsure of any appropriate treatment because of stomach problems, pain medication and anti-inflammatories were not advised;
- Hematology - prolonged bleeding time noted but the reason was unknown. No treatment was suggested;
- Neurological testing - revealed slight neuropathy, cause unknown. Only being evaluated not treated.

For over two and one-half years I was shuffled from one clinic to another each investigating a different body system. No coordinated treatment or diagnostic effort was ever experienced. I was so frustrated that I went to the VA patient advocate and asked to be sent to a VA Persian Gulf center for testing, evaluation and treatment. I had heard about the Persian Gulf Registry at this time and asked to be included. A physical examination was performed by VAMC Lebanon (See exam October 15, 1993 in VA Medical Records). A summary letter was provided to me (See Attachment 2, Letter from VAMC Lebanon of October 19, 1993). The letter stated "It is unclear if your health problems are related to your Persian Gulf service". Another comment on the summary is that no lab test results are reported. I went to the Persian Gulf Referral Center, VA Medical Center, Washington DC on October 27, 1993.

II. Testing Procedures

A. At VAMC Lebanon, no obvious Persian Gulf testing protocol was used before going to the VAMC Washington. However, at the VAMC Washington, I was given a list of Persian Gulf Veteran screening evaluation procedures (See

Attachment 3, Screening Evaluation). Not all tests and procedures were performed. However, I did receive a diagnosis of "Persian Gulf war syndrome" at the completion of my stay at the VAMC Washington. I was referred back to VAMC Lebanon with no treatment plan in place.

B. On returning to VAMC Lebanon, it was arranged that I would be followed by the Chief of Medical Service. At this time I had a service connection for bilateral foot condition that was considered 0% disabling with no disability compensation (See Section for more details on the compensation system). At the VAMC Lebanon, I was sent from clinic to clinic with no coordinated treatment plan or diagnosis (See VA Medical Records). This scenario had continued up to date. (SO FRUSTRATING!)

III. Documentation and Record Keeping

It has been a problem with records for disability claims and VAMC Washington Persian Gulf Evaluation results.

A. Discharge Summary (See Attachment 4) and Evaluation Results from the VAMC Washington was lost to the VA system. I had to resort to Congressional intervention to find the records (See Attachment 5).

B. My Case File (C-file) at VAMC Lebanon was lost in an abandoned desk for 2 years (See complaint letter in VA Correspondence dated July 30, 1995).

IV. Disability & Claims Procedures

Disability and claims procedures are complicated and time consuming. In order to obtain VA treatment for Persian Gulf illness, you have to first have a service connected illness or injury (which is difficult to prove even when you were treated in-theater). Also, the VA only considers military and VA medical records in their review for service connection excluding expert civilian records. Additionally, they only use selected parts of records that agree with the VA and disregard any positive findings. As an example, I was turned down for service connection for heart palpitations, yet I had ten entries in my military medical record for heart palpitations while on Active service (See my rebuttal letter of December 13, 1995, contained in VA Correspondence, for other obvious examples).

V. Follow Up Care

Fellow Persian Gulf war veterans are manifesting chronic medical problems which range from severe joint pains, lung lesions, eye problems, chronic fatigue, diarrhea problems, to carpal tunnel syndrome and even cancer. The problems even extend to family members. Treatment has been inappropriate and ineffective to this time. I have always supported the concept of health promotion and early detection of disease which

the VA is not set up to do. Something happened to me and other veterans in the Persian Gulf and I want to know the causes of these problems.

The VA needs to:

- develop proper tests to recognize unique Persian Gulf symptoms. Current testing for the Persian Gulf Registry is merely routine and does not detect Persian Gulf illness.
- modify the entrance procedures into the VA system for Persian Gulf illness. The current procedures are based around submitting a claim, which denies most illnesses of the Persian Gulf war. Documentation in the Persian Gulf area was difficult even when early symptoms presented.
- change the two year limit of at least 10% disability. This limit is unrealistic due to the specific nature of Persian Gulf illness. Symptoms may me mild at first but then progress.
- strongly use the civilian medical documentation in considering service connected claims. Very often civilian medical tests are positive and the VA tests are negative, casting doubt on the validity of the VA tests.
- stop requiring veterans to continually prove they are ill. Self reporting is ignored and a psychiatric diagnosis is often given.
- modify their patient practices so that when medical problems occur, a veteran can obtain a clinic appointment quickly, not in several months.
- quit ignoring the reality of Persian Gulf illness. When VA doctors show a positive response to Persian Gulf illness, they are eliminated.
- allow a selection of physicians. VAMC Lebanon has a 600 Persian Gulf war patient population yet physicians are being cut. This additionally limits access to care and diagnosis.
- include spouses and family in the care and diagnosis of Persian Gulf illness since this is a family encompassing illness.
- realize that when positive test results do occur that this has NO effect on VA treatment or diagnosis.
- utilize newly breaking information on possible causes of Persian Gulf illness and modify their testing, diagnosis and care accordingly.

You might ask what it is like to be a Persian Gulf war veteran after almost 6 years. Each day starts with uncertainty. When you eat you are constantly sick and have intermittent diarrhea. Mobility is difficult due to swollen joints and muscle aches. Severe headaches are intermittent. Sometimes you forget what you are doing and what you were going to do. Pain and fatigue are constant companions. To complete your day you are forced to deal with constant denials from the Pentagon that "nothing happened" during the Persian Gulf war. These statements confuse medical providers who then doubt your credibility. What is needed is recognition that, though not coded by the CDC, Persian Gulf war illness is a combination of unique symptoms and outcomes. This is why specific protocols need to be run before the VA says that this illness "doesn't exist" or is "all in your head".

The needed testing MUST include:

- brain MRIs
- full body MRIs
- CAT scans
- extensive non-routine blood studies
- EGDs and colonoscopies

These must be protocol(ed) tests, not just a cursory visual examination. The costs may be high but the benefits to the individual veteran and the country would be immeasurable. Proper diagnosis and treatment would improve the quality of life and productivity of current Persian Gulf war veterans and their families as well as insure a less damaged future generation. Monetary compensation does not replace good health. Veterans desire to improve their health so that they can be more productive citizens who have served their country well.

Record of Treatment While on Active Duty
Captain Julia Y. Dyckman, NC, USNR
162-36-8251

NOTE: This information is extracted from Navy Medical Records

16 Jan 1991	Mustered as physically qualified.
30 Jan 1991	Arrived in Saudi Arabia
08 Feb 1991	Erythenia Multiform - possible drug reaction to diazide. Several days of papules, right foot. Told to stop blood pressure medicine for possible allergy.
19 Feb 1991	Blood pressure monitoring due to possible allergy. Still have skin eruption, right foot. BP 118/92.
25 Feb 1991	Reaction to Anthrax Vaccine #2 given on 22 Feb 1991. Reaction of chills, muscle pain - IMP - Local and mild system reaction to vaccine. BP 140/94, P 98.
27 Feb 1991	Seen for Flu, head, nose throat. Prescription for Tenormin. No Tenormin in pharmacy, medication changed to Vasotec. BP 136/100, P 98.
01 Mar 1991	Seen for right foot problem.
05 Mar 1991	Seen in Dermatology. D/C Gris Pen because of stomach upset.
13 Mar 1991	Seen for earache. P 96.
19 Mar 1991	Treated for bronchitis and stomach problem. (Noted occ bronchiti and wheezes in lung. Nausea - gastritis.)
26 Mar 1991	Prior to departure from Saudi Arabia, experienced pain in left foot. Discussed with podiatrist but was not written down since health record was packed on the airplane.

01 Apr 1991	Seen at Mechanicsburg Branch Clinic for respiratory problems. Pharyngitis, sinusitis, cough. Started on Amoxicillin X 10 days. Hearing test done (see results). BP 128/92, P 100.
06 Apr 1991	Seen in Harrisburg N&MC Reserve Center for left foot pain. Not Physically Qualified for Physical Readiness Test (PRT). Qualified to begin Active Duty for Training (ADT) except for the noted foot problem.
08 Apr 1991	Seen in Medical Clinic, Philadelphia, Pa. "Attempt" to remove foreign body from left foot. P 100.
15 Apr 1991	Seen in Mechanicsburg Branch Clinic, referred to surgery clinic. Removed material from left foot. T 99.1, P 92.
16 Apr 1991	Cancelled ADT - remained on Active Duty due to medical problems (Confimed by message from Bureau of Naval Personnel) Seen in Surgery Clinic, Philadelphia Naval Hospital, for foot problem. Told to stay off foot as much as possible.
26 Apr 1991	Seen in Mechanicsburg Branch Clinic for foot problem and flu symptoms. Referred to Internal Medicine Clinic. P 102, T 99.1.
30 Apr 1991	Seen in Internal Medicine Clinic, Philadelphia Naval Hospital, for cough, night sweats, flu symptoms.
01 May 1991	Seen in Orthopedic Clinic, Philadelphia Naval Hospital, referred for bone scan.
01 May 1991	Seen in Internal Medicine Clinic, Philadelphia Naval Hospital, for cough BP checked, possible infection?. Advised to return in 1-2 weeks.
07 May 1991	Philadelphia Naval Hospital . BP 144/112, BP 132/96, BP 132/94 - emotional distress.
08 May 1991	Seen in Emergency Room, Philadelphia Naval Hospital, for upset stomach, chills. P 109.

08 May 1991	Seen in Internal Medicine Clinic, Philadelphia Naval Hospital, for abdominal pain, persistent cough, palpitations, and diarrhea. UGI requested by clinic.
10 May 1991	BP 130/84, P 100 - Results of UGI - reflux noted...IMP gastro-esophageal reflux .... superficial gastric ulcer.
13 May 1991	Internal Medicine Clinic, Philadelphia Naval Hospital, BP 122/82. Meds: Tagament - for ulcer, and Tenormin - for blood pressure.
13 May 1991	Orthopedic Clinic, Philadelphia Naval Hospital, appointment for bone scan. General Surgery Clinic, assigned light duty by Dr.Thorp per memorandum.
14 May 1991	Surgical Clinic, Philadelphia Naval Hospital.
15 May 1991	Bone scan performed - no evidence of osteomyelitis.
16 May 1991	Internal Medicine Clinic, Philadelphia Naval Hospital, still have cough, LLQ pain, nausea.
16 May 1991	Orthopedics Clinic, Philadelphia Naval Hospital, discharged from Active Duty on medications: Tagament for possible ulcer, Tenormin for high blood pressure. Still have mild left foot pain, decreased sensation.

DEPARTMENT OF VETERANS AFFAIRS MEDICAL CENTER
1700 South Lincoln Avenue
Lebanon, PA 17042

October 19, 1993

In Reply Refer To: 595/111
-8251

Ms. Julia Y. Dyckman
1505 Pine Hollow Road
Harrisburg, PA. 17109

Dear Ms. Dyckman:

We sincerely appreciate your recent participation in the Veterans Administration's Persian Gulf Registry. This effort assists us in order to better serve veterans, such as yourself, who are concerned about health problems which may have resulted from service in the Persian Gulf.

Your examinations indicate that your medical problems include:

1. Positive PPD TB skin test (1967), treated with INH and PAS.
2. Hypertension (1988), on treatment; history of palpitations and sinus tachycardia ('91).
3. Irritable Bowel Syndrome and Lactose Intolerance (1974)
4. Gastric polypectomies and peptic ulcer disease on UGIS, Phila., 1990 -91.
5. Four C-sections, Gravida 5, Para 4. Family history of diabetes, CVA, and hemophilia (brother).
6. Chronic polymyalgias and polyarthralgias (muscle and joint pains), left knee> R knee and both feet, February 1991 to present.
7. Podiatric surgeries to left foot, 1991, with inflamed foot bunions (1993).
8. History of right foot, internal arch, skin ulcers and sores, 1991.
9. Fevers, chills, and chronic bronchitis, 1991 - 1992, resolved.
10. Lower abdominal cramps, pain, and diarrhea, Persian Gulf, 1991, resolved.
11. Herpes simplex labialis fever blisters (childhood to 1993)
12. Skin folliculitis with ulceration over left breast, September 1993.
13. 170 pounds weight, hypertriglyceridemia (199, 6-30-93) and borderline high cholesterol (250, 7-16-93).

It is unclear if your health problems are related to your Persian Gulf service. Should your symptoms not subside or should you have any further medical questions, please do not hesitate to contact your closest VA or write to the Persian Gulf Coordinator at the Lebanon VA Medical Center, Medical Service (111), Lebanon, PA 17042. Please remember that this examination does not automatically initiate a claim for VA benefits. If you wish to file a claim for compensation and establish possible service connection, please contact your nearest VA Regional Office. If you need any further assistance, you may contact a Veterans Benefits Counselor by calling the VA toll-tree telephone number (1-800-827-1000).

The results of your examination will be maintained by the Lebanon VA and will be available for future use as needed. Again, your participation in the registry is appreciated.

Sincerely,

K. Murray Leisure MD.

Katherine Murray Leisure, M.D.
Persian Gulf Coordinator

PERSIAN GULF VETERAN SCREENING EVALUATION

REFERRAL CENTER, WASHINGTON

LABORATORY TESTING:

✓CBC ✓
✓CD4/CD8 RATIO ✓
✓SED RATE ✓
✓C-REACTIVE PROTEIN ✓
✓RHEUMATOID FACTOR ✓
✓FANA ✓
✓SERUM IMMUNOGLOBULINS ✓
✓LIVER FUNCTION TESTS ✓
✓CPK ✓
✓THYROID FUNCTION TESTS ✓
✓B12 AND FOLATE
✓VDRL ✓
✓LYME TITERS ✓
HIV TESTING
✓HTLV-1 TITER
✓HEPATITIS B SEROLOGY ✓
STOOL FOR O&P
✓SEROLOGY FOR BRUCELLOSIS✓, Q FEVER✓, LEISHMANIASIS✓, SANDFLY FEVER ✓
✓BLOOD FILMS - THICK AND THIN✓
✓URINALYSIS ✓
✓URINE HEAVY METALS
✓CXR

Done preadmission except testing for high lighted items

PPD

CONSULTS:

PSYCHIATRY: STRUCTURED CLINICAL INTERVIEW FOR DSMIII-R(SCID
BECK DEPRESSION INVENTORY
MINI-MENTAL STATE EXAM

NEUROLOGY: SCREENING EXAM
EEG ~~[illegible]~~ 9 Am November 1.

INFECTIOUS DISEASE: SCREENING EXAM

PSYCHOLOGY: NEUROPSYCHOLOGICAL TESTING — 4/3 10 Am 2A-172

Please schedule all

ATTACHMENT 3

PERSIAN GULF VETERAN
SPECIAL EXAMINATIONS
REFERRAL CENTER, WASHINGTON

DIARRHEA
GI CONSULT
STOOL FOR O&P
STOOL LEUKOCYTES
STOOL CULTURE
STOOL VOLUME
COLONOSCOPY WITH BIOPSIES
EGD WITH BIOPSY/ASPIRATION

} please schedule
8 AM November 4

ABDOMINAL PAIN
GI CONSULT
EGD WITH BIOPSY/ASPIRATION
COLONOSCOPY WITH BIOPSY
CT ABDOMEN
UGI WITH SMALL BOWEL FOLLOW-THROUGH

HEADACHE
MRI- HEAD
LUMBAR PUNCTURE

MUSCLE ACHES OR NUMBNESS
EMG/NCV

} please schedule November 3 9th GC 208

CHRONIC FATIGUE
EPSTEIN BARR VIRUS - IgG,EBNA,VCA
POLYSOMNOGRAPHY WITH MSLT

} ~~please~~ scheduled Nov. 1 will go all day NOV 2

JOINT PAIN
RHEUMATOLOGY CONSULT – schedule

SKIN RASH
DERMATOLOGY CONSULT – schedule

CHRONIC COUGH OR SOB
PULMONARY CONSULT
PULMONARY FUNCTION TESTS WITH EXERCISE/ABG
CONSIDER BRONCHOSCOPY/BIOPSY

} please schedule
~~9am October 28~~
10AM October 28

Julia Dyckman
162 36 8251

SCHEDULED ACTIVITIES

October 27

preadmission testing

October 28

10:00 Pulmonary Function Tests, 4A129

October 29

November 1

09:00 EEG, 3A112
Polysomnography, 3A112

November 2

Polysomnography, continues

November 3

0900 EMG, GC208
1000 Neuropsychological Testing, 2A127

November 4

08:00 Colonoscopy, EGD

WASHINGTON VAMC 01/31/94 09:07 Page: 1

PATIENT NAME	AGE	SEX	RACE	SSN	CLAIM NUMBER
DYCKMAN,JULIA	47	F		162-36-8251	28056224

ADM DATE	DISC DATE	TYPE OF RELEASE	INP	ABS	WARD NO
OCT 27, 1993	NOV 5, 1993	NON-SERV (OPT-NSC)	9	0	4ES MED

DICTATION DATE: NOV 3, 1993 TRANSCRIPTION DATE: NOV 8 1993

TRANSCRIPTIONIST: O'CONNELL,BRIAN

ADMISSION DIAGNOSES:

1. Irritable bowel syndrome.
2. Persian Gulf war syndrome.

DISCHARGE DIAGNOSES:

1. Irritable bowel syndrome.
2. Persian Gulf war syndrome.

HISTORY OF PRESENT ILLNESS: The patient is a 47-year-old white female with a past medical history significant for hypertension and irritable bowel syndrome, who complains of intermittent diarrhea, arthralgias, chronic fatigue, and symptoms of pain and rash on the feet for approximately two years. The patient reports that her symptoms started during the Persian Gulf war. She had a skin rash which was noted on the bottom of her left foot. The patient also noted that she had some ulcers on the feet which healed later. The patient has had intermittent pain and burning of the feet after healing of the ulcers. The patient states that she was bitten by something during the war and as per inspection from the physicians in the Persian Gulf, it was ascertained that this could be insect versus animal embedded in that foot and the area of skin was removed, however it was not analyzed pathologically. The patient has an irritable bowel syndrome and diarrhea off and on since her Vietnam war days, and the patient states that her stools are soft, watery, but without blood or mucus. The patient also has no history of melena.

PAST MEDICAL HISTORY: The patient also has known hypertension since 1989; she was on Dyazide and Tenormin, however status post rash on her foot during the Persian Gulf war it was assessed that this might be due to the Dyazide, so the patient's Dyazide was discontinued. Also, the patient had hearing loss due to exposure to noise from generators but she recovered from this.

REVIEW OF SYSTEMS: The patient also complains of easily bruising x 2 to 3 months, joint pains since the Persian Gulf war, also reports palpitations since the Persian Gulf war, and secondary to palpitations the patient was placed on Verapamil.

OCCUPATION: The patient worked as a reserve for the military in Vietnam and the Persian Gulf wars.

SOCIAL HISTORY: The patient is a non-smoker and drinks only socially.

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DYCKMAN,JULIA	47	F		162-36-8251	28056224

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OCT 27, 1993	NOV 5, 1993	NON-SERV (OPT-NSC)	9	0	4ES MED

FAMILY HISTORY: There is no history of significant diseases in the family.

HOSPITALIZATIONS: The patient was admitted five times before the Persian Gulf war for delivery of children, one stillbirth. After the gulf war the patient had one admission to the Veterans Affairs Medical Center in Lebanon.

DRUGS/ALLERGIES: The patient is allergic to Erythromycin, Xylocaine, and Methergine.

ADMISSION MEDICATIONS: Verapamil-SR 240 mg P.O. q.d.

PERTINENT MILITARY HISTORY: As stated in patient's previous occupation.

PHYSICAL EXAMINATION: The patient had a pulse of 102, blood pressure 150/92, temperature 98.5, respirations 22. The patient was a moderately well-developed white female who was well nourished and in good health, and in no acute distress. HEENT: The patient had no pallor. The pupils were equal and reactive to light. Extraocular motions were intact. There was no conjunctival congestion or injection. The skin had no pallor, jaundice, cyanosis or clubbing. Neck: Revealed no jugular venous distention or bruits, no thyromegaly. Breasts: Showed no masses. The patient had no lymphadenopathy. Chest: Showed the lungs to be clear to auscultation. Vascular: There are positive peripheral pulses, symmetrical bilaterally. Heart: Positive S1 and S2, no S3 or S4, no murmurs, rubs or gallops. However, the patient was tachycardic on examination. Abdomen: The patient had an obese abdomen with a liver span of 9 cm. No palpable organomegaly and positive bowel sounds. Rectal: Negative. External genitalia: Intact. The patient did not have any pain on range of motion of her extremities. The patient had a full range of motion. During her neurologic examination the patient's cranial nerves II-XII were intact. Muscle strength was 5/5 in all extremities. Sensation was intact bilaterally. Reflexes were +2 throughout. The patient had no cerebellar signs. The patient was able to complete dysdiadochokinesis and finger-to-nose without difficulty.

MENTAL STATUS EXAMINATION: The patient was alert and oriented x 3 and had no difficulty with thought process or mentation.

HOSPITAL COURSE: During her hospitalization the patient was scheduled for numerous tests to assess Persian Gulf war syndrome. Pulmonary function tests, electroencephalogram and sleep studies to rule out any neurologic difficulty and concentration, and electromyographic study to assess muscle aches and numbness, neuropsychological testing, colonoscopy, esophagogastroduodenoscopy with biopsy for diarrhea and abdominal pain and for fatigue, Epstein-Barr virus serology with IgG, EVNA,

PATIENT NAME	AGE	SEX	RACE	SSN	CLAIM NUMBER
DYCKMAN,JULIA	47	F		162-36-8251	28056224

ADM DATE	DISC DATE	TYPE OF RELEASE	INP	ABS	WARD NO
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DCNA, etc. were obtained. Other laboratories which were drawn on admission were a complete blood count, CD4/CDA ratio, sedimentation rate, C-reactive protein, rheumatoid factor, serum IgG, liver function tests, CPK, TFT, B12, folate, VDRL, Lyme titers, human immunodeficiency virus and HTLV-I, hepatitis B serology, stool for ova and parasites, blood stains, thick and thin smears, urinalysis and urine heavy metals, and chest x-ray. To assess the patient's joint pain, a rheumatology consultation was obtained. For the skin rash dermatology was consulted and psychiatry was consulted for neurologic testing. The patient also had a malaria smear.

During her hospital stay the patient had no complications and underwent the above procedures. The results of the studies, however will be completed approximately one week post discharge. However, the patient did have results from her laboratory studies and her gastrointestinal work up which I will state here.

The patient's admission laboratories were as follows: The patient had a sedimentation rate of 21, white blood cell count 6.7, hemoglobin 13.4, hematocrit 40.1, MCV 85, platelets 362, RDW 14, 65 segs, 24 lymphs, 8 monocytes, 2 eosinophils, and 1 basophil. The patient also had a urinalysis which was negative; completed on 10/27/93. Subsequent follow-up laboratories were also negative. However, on 10/27/93, the patient had a Chem-7 with a sodium 139, potassium 4.2, chloride 103, CO2 17, phosphorus 2.6, protein 8.2, calcium 9.8, albumin 4.7, alkaline phosphatase 86, AST 21. The patient had a CK of 62, total bilirubin 0.7, direct bilirubin 0.1, and magnesium 2.1. The patient had an RPR which was negative. The patient had a CD4 count which was absolute range 753, CDA count 210, white blood cells 7,300, CD19 561. The patient also had a C-reactive protein of 0.63 which was high and IgG of 2120, IgA 320 and IgM 141. The patient also had other studies which will be mentioned.

During her hospital stay the patient was seen by the rheumatology service for aching joint complaints. The patient was seen and told to follow up in the rheumatology clinic. The patient also received a podiatry consult for insoles in her shoes, and the patient will follow up on the Wednesday after discharge for follow up. At that time the patient will discuss laboratory results with Dr. Murphy.

The patient was discharged in stable condition.

VW/bm/J:2159/E4800

PATIENT NAME	AGE	SEX	RACE	SSN	CLAIM NUMBER
DYCKMAN,JULIA	47	F		162-36-8251	28056224

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SIGNATURE PHYSICIAN/DENTIST	SIGNATURE APPROVING PHYSICIAN/DENTIST
/es/ P. K. ROHATGI for CHRISTINE POINDEXTER	/es/ P. K. ROHATGI P. K. ROHATGI

Chronology of Records Retrieval

11/5/93	Discharge for VA Center in Washington, signed Release of Information form
1/13/94	Called Dr. Murphy, informed her that NO records had been received
1/14/94	Sent letter to VA Center in Washington again requesting records.
1/26/94	Called VA Center in Washington talked to Esther Cooper, was told to talk to Medical Legal Unit for records. Called Medical Legal Unit they said it would be looked into.
2/10/94	Checked with VA in Lebanon, record not received.
2/15/94	(About) Julie received call from Gloria at VA, Washington, record was being sent.
2/16/94	Julie called Gloria about records.
2/22/94	(About) Partial record received from Washington.
3/2/94	(About) Dr. Murphy called, told her about record problems. Dr. Murphy called Julie to ask her to speak at the Workshop in April
3/9/94	(About) Julie received a memo from VA, Lebanon that her record had been sent to Fayetteville, NC.
3/14/94	Called VA Center, Fayetteville, NC. They said they didn't have the record, they had received it and returned it to Washington, D.C. last week.
3/19/94	Registered complaint with Rep. Gekas office regarding VA records.
3/21/94	Rep. Gekas' office (Tom Templeton) called regarding records status.
4/6/94	Dr. Murphy called Julie upset that a reporter was at the VA asking questions about her records. Julie stated that the records were still incomplete e.g. EMG, nueropsychology tests, biopsy, etc.

4/12/94	Esther Cooper, VA Wash, called, said records would be faxed this day to VA, Lebanon.
4/13/94	VA, Lebanon, Ralph Poole, called and said FAX received, he would send a copy to Julie.
4/15/94	Copy of records from VA, Lebanon received, still missing some lab tests, e.g. Heavy Metals, and also EMG results.
4/15/94	Dr. Murphy returned call, she said she would ensure that hard copy of EMG report would be sent to Julie. She also said that she would attempt to get a Primary Care Physician assigned at VA, Lebanon.
4/20/94	Called Dr. Murphy, left message to call.
4/21/94	Hard copy of EMG report received from VA, Wash, by overnight mail.
4/22/94	Called Dr. Murphy at 12:30. She asked about receipt of EMG report. She stated that she had tried to call several times over the last two days. Asked about Julie's urinary heavy metals test. She said she will personsally review Julie's entire record and ensure that it is verified. Will get copies for Julie of anything missing and provide on Wednesday. She asked about Julie's talk and stressed that she should talk about her exposures, experience in Gulf and symptoms. She also said it was important that the panel had a hard copy of her talk.

Mr. SHAYS. Thank you, Ms. Dyckman.

Mr. Larrisey. Don't move that mike, sir. It's the one on the stem that projects. You are fine.

Mr. LARRISEY. Is it on?

Mr. SHAYS. Yes. I think it is on.

STATEMENT OF ROBERT LARRISEY, PERSIAN GULF WAR VETERAN

Mr. LARRISEY. First, I would like to thank the committee for their interest and concern.

Mr. SHAYS. I am going to ask you, though, to move the mike more in front of you. Yes. That's better. That's great. Thank you.

Mr. LARRISEY. My name is Robert Larrisey. I served with the U.S. Air Force in a country called Oman. I was ordered from my home in January 1991 and returned home on April 28, 1991. I was released from active duty on June 22, 1991.

Mr. SHAYS. Mr. Larrisey, I am sorry to interrupt you. I am going to have you put the mike straight on. You have got it. That's perfect.

Mr. LARRISEY. I was stationed 60 miles from the ocean. As the ships were unloaded, truck containers of munitions were brought and stored for transport up north at our base. I did notice, when the radio, TV and VCRs were on, all the transmissions were interfered with by microwave blips every 3 seconds, for about 129 days.

I was treated in-country on January 25, 1991, for head congestion, runny nose, sore throat, earache, and occasional cough-up of dark brown sputum. I really did not feel well after that and on February 17, 1991, I was treated in-country for nausea, diarrhea, weakness, light-headedness. I felt very cold and fatigued all the time. I was diagnosed by the Air Force doctor as a mild viral gasteronitis.

I do remember taking some white malaria pills as we ran out of the pink ones at the time during February, only once a week. Repeated efforts to obtain the names of the pills from the 913th has produced no information.

I came home and underwent medical care privately for blurry vision, frequent urination, diarrhea, chills, skin rash, foot problems, thinning hair, dizziness, earache, not feeling very well.

I became disabled in August 1993. I lost a 32-year career in the Air Force. I also lost a long-overdue promotion to E–7.

Today, I still suffer from occasional headaches, shortness of breath on exertion, left leg gets numb while standing, skin rash, fatigue, diarrhea, awaken feeling tired, worn out, memory loss and impaired cognitive skills.

I am still under close medical supervision for my disease process, although some days I feel better than others.

I have received no medical care from the Department of Veterans Affairs, only three compensation and pension physicals and two syphilis tests.

In August 1993, a public relations officer at the Philadelphia VAMC said, "He is not entitled to free medical care from the Veterans Administration unless he is discharged with a service-related disability."

Public Affairs officers at the Air Force Reserve said, "Someone on active duty is supposed to be treated by the VA. He has the right in going to the VA." The VA said, "The VA does not treat active duty personnel or active duty reservists. That is the DOD's responsibility."

From June 1992 to April 1993, I was treated at the VA for post adjustment counseling. Instead of helping, it drove us to the brink of separation three times. We terminated these sessions and sought private counseling.

On October 20, 1992, I was seen by a doctor at the Philadelphia VAMC for the first Persian Gulf examination. The following tests were ordered: CBC, urine analysis and chest x-ray. The doctor asked at the end of page 1, do you drink or smoke? My answer was, no. He turned the page and asked, do I drink or smoke?

In August 1994, I was advised that the original protocol physical was lost. A doctor at the Philadelphia VAMC during the second Persian Gulf registry physical copied all my private and environmental testings for the record. He ordered a cardiogram, chest x-ray, PT and an APTT, Lyme Disease, Chem 7, liver function test, urinalysis, immunoglobulins, CBC profile, plus a referral to the allergist and immunology specialist at the university.

A pulmonary function test was ordered but not done until June 1995. The VA has failed to do the following testings: PET scan of the brain, ultrasound of the spleen, brain imaging and a spect brain scan. The VA also failed to do any cadmium or lead testings.

On June 19, 1995, I was seen by the VA doctor at the Philadelphia VAMC for a second compensation and pension physical examination. The doctor asked, "about the possibility of human immunodeficiency virus infection and/or syphilis as a cause for his symptoms. Veteran tells me that his life-style is such that to preclude those disorders."

The doctor orders an RPR blood test for syphilis. He also duplicates a test for hepatitis B and C, a P–7 blood profile for albumin and calcium; a 24-hour urine test for uric acid, as well as metanephines. I do not have swollen red toes. I do not show profuse sweating at rest. I do not have rapid irregular heartbeat. I do not have an irregular blood pressure. I do not have a tumor on my adrenal gland. I did not show any symptoms to warrant such a line of testing.

A pulmonary function test was ordered. The technician said there was only air exchange slightly off, but not to be concerned about it. The doctor said, "moderately severe diffusion abnormality." Since June 12, 1995, there has never been a referral to see any specialist.

On May 21, 1996, I was seen by the Wilmington VAMC for a third compensation and pension physical, for memory loss. Mild sinus inflammatory disease was noted on the MRI. To date, no referrals have ever been suggested.

My appointment was interrupted by two male visitors. This doctor reported, "magnesium levels were reported outside two standard deviations." Lead and cadmium, toxic levels have been well documented in my file. Magnesium never has been an issue.

This doctor became unprofessional and abusive toward my wife. This doctor told my wife, if you cannot put up with him, leave him.

She repeated this twice on this appointment. This incident was reported to the Wilmington VAMC.

I always check with my wife, because I am unable to remember lines of testings that have been done over the last 6 years. This doctor said, "my wife intimidates me." My wife has stood by me during Desert Storm and my illness. She has gotten my claim from the dead file at the VA, and where it is now. How dare this sorry excuse.

In the doctor's own words, she said, "she was out of her profession by telling my wife to leave me," thus making me feel unworthy and useless.

Her line of testings consisted of thyroid function, CBC, ANA, SPEP, P–7. Her remark was, "syphilis or HIV can cause dementia." She was told past RPR and HIV tests were negative. She duplicated the Lyme test as well as another RPR test for syphilis. These doctors must be unaware that PTSD cannot be introduced when there is a proven diagnosis.

Her summary report, "I also recommend formal psychiatric evaluation for the purpose of diagnosis of Posttraumatic Stress Disorder and determining whether the stress was solely from serving in the Persian Gulf or also solely from having to return home to an unsupportive environment."

In March or April 1996, I was pending admission to the DCVAMC. This admission was by the Philadelphia VAMC doctor who had not seen me since August 1994. My wife was able to overturn this decision. DCVAMC told me to arrive at 2 p.m.; Philadelphia VAMC told me to arrive at 11 a.m.

My claim is sitting in the office of Dr. Frances Murphy. I test very high in cadmium and lead. I also have had several reactions to chemicals, to benzene, rustoleum, newsprint and several unknown chemicals.

Dr. Murphy said that on multiple chemical sensitivity on May 15, 1995, "In summary, the medical records provide clear documentations of symptoms which started during the veteran's service in the Persian Gulf. No medically accepted diagnosis has been established to date which explains the symptoms other than skin rash and warts. MCS does not constitute diagnosis for purposes of service connection under 38 CFR 3–317. Further evaluation, similar to VA uniform case assessment protocol recommended to rule out a diagnosis of potentially treatable medical condition, conditions."

Both Wilmington VAMC and Philadelphia VAMC have conducted tests for syphilis. It does remain a mystery to me how the claim pending for 5½ years can possibly be treated on syphilis tests.

Dr. Susan Mather is circulating a questionnaire for the Gulf Register participants, after a listing of some 48 symptoms with a mild to severe reaction. "Severe reaction is sufficient to seek medical advice, take prescription drugs, lose work or limit routine activities."

Question 12–G, page 11, reads, "Of the current symptoms you marked in item 12, which one do you consider the most severe?" There is no place to mark all there are, only a number system from 0 to 4 and 0 to 9.

I have had moneys stolen from my income tax check by the VA, recovered by Congressman Andrews.

I was turned over for collection by the university for $1,900 because VA doctors failed to get a voucher to pay my lab charges. That was resolved 1½ years later.

A Philadelphia VAMC doctor was going to admit me to the DCVAMC after not seeing me for 18 months for unknown reasons. It is my wife who stood up for my rights when the ACLU would not get involved.

A Woman's Place, and a Woman's Shelter, agrees that the Wilmington VAMC doctor suffer from a syndrome called abuse of power. Lawyers, who have reviewed this, agree this behavior is deplorable and feel that if they—and feel that if they file in Federal Court, they will be—the judge would laugh them out of court.

Mr. SHAYS. Are we all set, Mr. Larrisey?

Mr. LARRISEY. I thank you again.

Mr. SHAYS. OK. Thank you.

Mr. LARRISEY. I am finished.

Mr. SHAYS. Mr. Sanders.

Mr. SANDERS. I am going to have to run in a moment and then I will be back. First, I want to thank both of you for your testimony and that was not necessarily the easiest thing in the world and we appreciate your remarks and thank you.

I am gathering from what both of you said that you were less than enthusiastic about the kind of treatment that you received at the VA. Let me start off with a very simple question, and I have a feeling that I know what the answer may be and I am not going to be happy to hear it, but I want to hear it.

If somebody were to give you a card right now and say, no, you don't have to go to the VA, you can go to any hospital that you want, what would you do with that card? Ms. Dyckman.

Ms. DYCKMAN. I certainly wouldn't go to the VA.

Mr. SANDERS. You would not go to the VA?

Ms. DYCKMAN. I would not go to the VA.

Mr. SANDERS. Mr. Larrisey.

Mr. LARRISEY. I wouldn't go. And I say that and I haven't been.

Mr. SANDERS. I say that sadly because we want our VA to be the best in the country and the door to be open to veterans who deserve that kind of treatment.

Ms. DYCKMAN. Can I just add one thing?

Mr. SANDERS. Yes.

Ms. DYCKMAN. I am not condemning individual doctors.

Mr. SANDERS. Right.

Ms. DYCKMAN. Individual doctors try to work within the system, and there are good ones and there are bad ones. What has happened with the VA system has been a series of paperwork to get into the system, and then justification and then an overall attitude that this is not a real illness. And so when you have that general attitude at the beginning and then it is actually forced on individual doctors, that's where we have the problem.

But there are some good doctors.

Mr. SANDERS. We know that. We know there are some enormously dedicated not only doctors, but nurses and staff in general and we are proud of them.

Let me ask you, yesterday as you may know, we had 4 hours of testimony relating to the possible exposure of our troops to chemi-

cal agents, and our concern that we will be addressing with the VA later is whether or not that reality has been incorporated into their protocol.

What is your sense about that? Do you think that that is an issue that the VA is looking into adequately?

Yes, Ms. Dyckman. And, Mr. Larrisey, please jump in when you feel appropriate.

Mr. LARRISEY. I didn't quite get the whole question.

Mr. SANDERS. My question is yesterday we heard a whole lot of testimony and I think there is an increasing belief that some of our soldiers may have been exposed to low-level chemical agents, and a concern that we have had is that the VA has not looked into that possibility as a cause of some——

Mr. LARRISEY. I agree.

Mr. SANDERS. Is that your feeling?

Mr. LARRISEY. That's my concern, yes.

Mr. SANDERS. Yes. Ms. Dyckman.

Ms. DYCKMAN. I think from the situation that existed at the time, the possibility of chemical agents was very strong, whether they are low levels or high levels.

The delivery system, the environment, they are all factors that also play a part in the illness. I feel that chemicals were used, where they were produced, who knows where or how they were delivered, it doesn't make any matter. But there were a varied number of chemicals and then there were also other factors that maybe made the chemicals more potent or whatever but chemicals were there, but it's not the only factor.

Mr. SANDERS. Sure, right.

Mr. LARRISEY. That's not the only thing they should be looking at.

Mr. SANDERS. Right. Ms. Dyckman, you testified that reporting of service-related symptoms could result in retribution and loss of VA benefits. On the other hand, recognition of service connection can result in a loss of civilian insurance. Thus, Gulf war veterans can be caught in a catch–22 where they can't get health care because they can't access health care for problems that may be attributable to exposures. Is that a legitimate concern?

Ms. DYCKMAN. What happens is, first of all, if you have a medical condition related to a war injury, civilian insurances can deny you care if it is war-related.

Mr. SANDERS. What, they will tell you to go to the VA?

Ms. DYCKMAN. They will tell you to go to the VA or they can deny your claim.

Certain jobs even have been known to not hire Persian Gulf vets because of the potential of high insurance claims. The other problem is, when you are really ill, you can't work and so you have no coverage. So what's left to you is VA or active duty care. And since, as a reservist, you are not considered entitled to active duty care, your only resource is then VA. But then VA ties in the care being related to service-connection.

If it is not service-connected, they will not pay for your treatment. So it gets down to you go for a Persian Gulf Registry examination. At that point, you are not considered service-connected. You are only going for the Registry exam. So what happens is, they

submit the bills to your civilian insurance company, or you are presented with the bills.

So then they say, well, now we know you are a Persian Gulf vet. This occurred on active duty; you are not entitled to claims.

Mr. SANDERS. You are in a real catch–22 then.

Ms. DYCKMAN. We are in a catch–22.

Mr. SANDERS. Mr. Larrisey, I think you referred to that as well, didn't you?

Mr. LARRISEY. Yes.

Mr. SANDERS. Is there anything you want to add?

Mr. LARRISEY. If you are on active duty, you are not eligible. If you are—you have to prove that you have a service-connection disability.

Mr. SANDERS. I think this gets back to the point you made, Ms. Dyckman, is I gather that there is a whole lot of bureaucracy and paperwork that is, I gather, a significant source of frustration to the veterans?

Ms. DYCKMAN. It is a justification to use that system. What you are entitled to, there are too many—too many stipulations that tries to get you not available to that.

Mr. SANDERS. The catch–22 there is, my guess is—and we will hear from the VA folks later—is that they don't have enough money to do perhaps all that they want to do. They have to screen out people, make it harder for people to use the facility. They don't have money to treat people and you have the catch–22 which I think we should address in another way.

Ms. DYCKMAN. You get the feeling, first of all, VA is saying that—you have a 600 population. We can't afford all of these people. You almost feel that they would sooner not see you.

Mr. SANDERS. Right.

Ms. DYCKMAN. And so, therefore, you are not ill. If you look at me, no, I don't look ill. So therefore, what happens is, you know, we don't want you. So they put—it is almost like they put up barriers, whether or not they are forced to do it.

Mr. SANDERS. The answer is they may be doing that. They will tell us they don't have enough money to treat everybody. Therefore they are only going to treat what they consider to be the most extreme cases. What your perception is is probably quite right.

Ms. DYCKMAN. That's true.

Mr. SANDERS. That's the vicious circle about whether or not they are adequately funded, and that's another issue we are going to have to deal with.

Ms. DYCKMAN. The other issue, which I mention in my paper, is when you come out with these illnesses, then that jeopardizes your standing with Reserve, because in Reserves you now have to be physically qualified. You have got problems? No, I am sorry, you are not physically qualified anymore.

Mr. SANDERS. Does that lead some people to be less than up front about their physical problems?

Ms. DYCKMAN. Sure. And the other problem, which is, you are not physically qualified; you now lose that job, which—and then you also lose the time you spent in that job because you are not retired—you are not entitled to retirement until you spend 20 good years. And as a reservist, you are not entitled as a drilling reserv-

ist to be seen in a military hospital. The only time you can be seen is if you were injured while on active duty. Otherwise, you are not entitled to it.

The other problem is with the PTSD diagnosis, especially for professional people. You can have a PTSD diagnosis, you are now affecting my credibility as a physician, as a nurse. And I am telling you, I have short-term memory loss!

Mr. SANDERS. OK. Please excuse me, Mr. Chairman. I am going to have to run. I will be back in a little while.

Mr. SHAYS. I would like, Ms. Dyckman, how long were you in the Persian Gulf?

Ms. DYCKMAN. I was only there 2 months, 2½ months.

Mr. SHAYS. And your location again?

Ms. DYCKMAN. We were in Al Jubayl. We were located in the Sand toward the interior. There were two fleet hospitals, Fleet Hospital 5, which was on the port and Fleet Hospital 15, which was in the Sand.

Mr. SHAYS. Mr. Larrisey, how many months were you there?

Mr. LARRISEY. I would say 3 months.

Mr. SHAYS. Three months. From when to when?

Mr. LARRISEY. Let me see. When the war broke out?

I arrived in January 1991 to April 28, 1991. I was over in-country.

Mr. SHAYS. You went in with your unit, and you left with your unit?

Mr. LARRISEY. Yes.

Mr. SHAYS. The same with you, Ms. Dyckman?

Ms. DYCKMAN. Yes. Some of us, some of the Seabees came in the advance party. They were the group that were going to set up the hospital or prepare the area. That is when they had that SCUD missile attack that was confirmed as a chemical. We went there but we were then locate——

Mr. SHAYS. Confirmed by whom as chemical? That is when they had the SCUD missile confirmed by whom——

Ms. DYCKMAN. Most of the reports say recognizable possible chemical exposure.

Mr. SHAYS. Potential, possible, is not confirmed. We would love to have people acknowledged, confirmed.

Ms. DYCKMAN. This was from most of the reports from Senator Riegle's committee.

Mr. SHAYS. There was not, fortunately, a lot of need for your services in the Persian Gulf; is that correct?

Ms. DYCKMAN. That is correct.

Mr. SHAYS. So you were able to leave sooner than was anticipated?

Ms. DYCKMAN. The hospitals right after the war started to be taken down. Ours was the last one to be taken down, but we sent some of our personnel out earlier than the final ones because they had to pack up the hospital again and put it back in the containers.

Mr. SHAYS. I didn't quite grasp when you became ill; while you were in the Persian Gulf or after you left?

Ms. DYCKMAN. I was sick while I was there, and that was demonstrated by the rashes. I had open sores, and those things were documented in my medical record while in theater.

Mr. SHAYS. Mr. Larrisey, when did you begin to feel sick?

Mr. LARRISEY. I said in my report. A few weeks after I was there.

Mr. SHAYS. So both of you while you were there?

Mr. LARRISEY. Right.

Mr. SHAYS. Did both of you have physicals before you went to the Persian Gulf? You were a full-time, in active service. Ms. Dyckman, you were a Reservist going to the Persian Gulf. Did you have a physical before you went?

Ms. DYCKMAN. Yes. We usually have yearly physicals anyway.

Mr. SHAYS. Not everyone who went had physicals. It was helpful to establish who went there well. So you were well, you had no physical problems when you went to the Persian Gulf?

Ms. DYCKMAN. That is correct, and that is in my record.

Mr. SHAYS. And you, Mr. Larrisey?

Mr. LARRISEY. I was fully qualified worldwide before I went over.

Mr. SHAYS. One of the points that I would like you to elaborate a little, Ms. Dyckman, you said you had tests by NIH?

Ms. DYCKMAN. Yes.

Mr. SHAYS. You were saying that basically the information the tests had shown that were done there were discounted by the VA as just a general rule, or they just disputed what NIH said?

Ms. DYCKMAN. Yes. In some of the supporting documents I have letters given by VA why it was excluded. They are still now reconsidering it. The way I was sent to NIH——

Mr. SHAYS. I want to establish first whether your statement is that as a general rule they just dismiss it or in your specific case they dismissed it.

Ms. DYCKMAN. It is according to the disability center in Philadelphia, and the explanations of why they dismissed almost all the symptoms is included in the letter. In my experience with other Persian Gulf veterans the same condition arises. If you get an outside consultant they don't usually consider it, and most of the people that I have known, it is not considered.

Mr. SHAYS. So your contention would be if you go to outside sources and then present that to the VA, the VA is going to ignore it?

Ms. DYCKMAN. That is what the experience has been.

Mr. SHAYS. For you, and you would contend for others as well?

Ms. DYCKMAN. Yes.

Mr. SHAYS. You were going to start to make a point, why you went to NIH——

Ms. DYCKMAN. When I got the diagnosis from the VA Medical Center in Washington is when the CCEP program came into existence, which is the active duty one. So I signed up for that one, too, because I basically think it is also an active duty problem.

It was Bethesda who referred me to NIH. It was not the VA. So Bethesda referred me there, I had the complete workup and the results came back. The active duty military did consider those results as valid results, they sent me there, but the VA did not.

Mr. SHAYS. The active military felt it was valid, but the VA did not?

Ms. DYCKMAN. That is right.

Mr. SHAYS. When you had interaction, both of you, with VA doctors, did you feel the doctors that were looking at you had the expertise to properly evaluate your symptoms?

Mr. LARRISEY. Are you asking me?

Mr. SHAYS. Both.

Mr. LARRISEY. The doctors I have seen looked like they were retired physicians that were out of touch, some of them.

Mr. SHAYS. So whether or not your analysis is right, you didn't have much confidence in them?

Mr. LARRISEY. No not very much.

Ms. DYCKMAN. Like I said before, you got good and bad doctors. The general attitude is this thing doesn't exist, so when you go in to a doctor the greatest majority don't believe you to begin with. There were only very few that did, and only through demanding that you actually go to a patient advocate and standing up for my own rights is how I got to a VA center, when there, at least at the Washington VA Center, they had some type of specific protocol to follow.

Mr. SHAYS. Help the VA out a bit here, and help DOD. Clearly some people who were well went to the Persian Gulf, when they came home they became sick, they may not have become sick because of their experience in the VA. Statistics will tell us that a certain number of people become ill.

How do you think we are able, what would be the process for us to begin to be able to separate those who became ill not as a result of their service but for other reasons, and those who sincerely have become ill because of their service? Help the VA out, as a nurse and obviously as someone who considers themselves a victim; how would you help the VA out?

Ms. DYCKMAN. There are positive tests. The tests that I submitted in the documentation, they were positive tests for those specific conditions.

What is unique about Persian Gulf and what you find in most Persian Gulf veterans is that it is a combination. There are specific combinations which you don't find in most of the general population. You don't find, like if you have ALS, that you have also all the other things that the Persian Gulf veterans have.

So it is the combination of symptoms that makes it a unique syndrome. When a person presents with it, you take it as a whole body system reaction, and these are specific to either chemicals or to whatever it is, whether immunizations or what. But that is a unique thing with the Persian Gulf. Most of the population, yes, you are going to have people that have ALS, not people that had the same background, that had the same possible exposures, and then get that illness and usually the combination of the symptoms.

Mr. SHAYS. The biggest failure of the VA would be what, in your opinion?

Ms. DYCKMAN. The biggest failure of the VA, first, is recognizing that this is a unique syndrome because it is a combination of chemicals or whatever. They have to recognize that it is a medical condition and not only a psychological or even a psychological; it is a medical condition.

They have to, then, and this is part of the Pentagon, have to take into account what were the exposures and then study the inter-

actions. But they have to believe the Persian Gulf veteran in the first place, and that is not—it is like you have to have a recognition that this is real, and at this point they still do not believe that it is real.

Mr. SHAYS. Mr. Larrisey.

Mr. LARRISEY. I believe they ought to set up a protocol and have case studies or whatever to find out exactly what is occurring to each veteran that is in common with each other.

Mr. SHAYS. Before we end this panel, do either of you have anything else you would like to say?

Mr. LARRISEY. I would just like to thank you for the opportunity to present my case.

Ms. DYCKMAN. I would like to thank you for the opportunity, but I also hope that after all these hearings that people start to believe us. You look at what would be where you simply have paraded veterans in front of committees, we have had birth defects, and we look at the person who is almost at death's door, and the problem is 5 years have gone by. Do we all have to die first before you believe us, that we are suffering?

And a lot of Persian Gulf veterans are suffering, and what we end up doing is dealing with a system, both Federal and VA, that doesn't believe us. And you have to now say it is real and get on with treating us. I am tired of studies. The studies are only still trying to prove that a chemical existed.

It is late. People are getting worse. There has to be early detection. What would have happened with the early detection of the cancers? We need to save people now instead of letting them go downhill.

Mr. SHAYS. That is a very fair request. I think the reason why we have individuals like you start out every hearing is to try to bring some reality to what we are doing.

This is the sixth hearing the committee has had. When we started out the DOD denied there were any credible detections of chemicals, for instance, denied there were any credible exposures, and denied having any credible health effects as a result. I think that we have made some headway in overcoming the first two basic denials. We still have the third.

Our primary concern is not finding blame. The primary concern is trying to adequately diagnose and adequately treat and fairly compensate our veterans, and it has taken 5 years too long. I think we are very close to having some resolution.

Ms. DYCKMAN. Can I just say I don't have any problems with the committees. I think they have been excellent because otherwise it would have been a dead issue. The committees, though, have to go a bit further, and in that they also have to address the prevention of other, God forbid, wars with the same type of scenarios, and see what happened in the running of the government and how much was covered up.

Mr. SHAYS. I feel a little almost overwhelmed because we are getting into more than one issue. There is no one illness but many. It is a combination of a lot of factors.

In one of our hearings it was suggested by someone who deals with low-level exposures in what I call the real world of daily living, and suggested that the pills that our soldiers took, were meant

to kind of give them some immunity to exposure to chemicals, may have in effect disguised their true exposure to chemicals, which is a possibility. We have had a whole host of different factors that people have suggested.

The one thing that is very difficult for us, though, to accept even on the surface is the continual denial of DOD, one, that there was exposure to chemicals and, two, that there was exposure. When you have two of the primary leaders of that effort say that alarms were going off continually but we discounted them because nobody was dying, and yet in my own environment, in my work that I have been involved in, we are very strict on how people treat chemicals in daily living. We don't allow them to be exposed because we know low-level exposure to chemicals can cause serious illness.

To me it stares us in the face, and yet only now is the VA beginning to look at that, and I can't for the life of me understand it. And I can't understand why the DOD would have to have studies done to prove that nerve agent, minimal, or blister gas of some form at low level would cause harm, when we know chemicals here in the United States at low-level exposure cause tremendous harm. So I am having a hard time wrestling with that.

So I share your concern, obviously. I do think that we are very close to seeing some major changes in attitude on the part of the DOD and the VA, and we are going to keep at it, and you are going to help us help them see the light. I thank you both for coming.

Ms. DYCKMAN. Thank you very much.

Mr. LARRISEY. Thank you.

Mr. SHAYS. We are going to have an, unfortunately, a 5-minute break, no longer.

[Recess.]

Mr. SHAYS. The hearing will come to order. We will call Dr. Susan Mather, the chief public health and environmental hazards officer of the VA, accompanied by Dr. Francis Murphy, director of the Environmental Agents Service.

[Witnesses sworn.]

Mr. SHAYS. For the record, both witnesses are primary witnesses, Dr. Murphy as well. You don't have a statement?

Dr. MURPHY. I do not.

Mr. SHAYS. We appreciate your being here. I understand, Dr. Mather, that you were here yesterday, and I want the record to note that the committee appreciates your being here listening to the testimony, taking this issue so seriously. You didn't have to be here, and I thank you for being here. I invite you to give your testimony. You don't have a time restraint on your testimony. It is important we hear it as you would like to give it.

STATEMENTS OF SUSAN H. MATHER, M.D., CHIEF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS OFFICER, VETERANS HEALTH ADMINISTRATION, DEPARTMENT OF VETERANS AFFAIRS; AND FRANCIS MURPHY, M.D., DIRECTOR, ENVIRONMENTAL AGENTS SERVICE

Dr. MATHER. I will try to be as brief as possible. Mr. Chairman, thank you for this opportunity to appear before your subcommittee today to update you on clinical programs and research develop-

ments related to Persian Gulf veterans, particularly as they relate to possible exposure to chemical warfare agents.

Persian Gulf veterans, in response to their needs, the Department of Veterans Affairs immediately began development of its Persian Gulf health care programs. The first component of the comprehensive programs was the Persian Gulf Registry Health Examination Program, developed in 1991 and implemented in 1992. Since the initiation of that clinical examination program, the Department has continuously improved and expanded its Persian Gulf programs to encompass a comprehensive four-pronged approach to Persian Gulf veterans' concerns, addressing relevant medical care, research, compensation, and outreach and education.

VA provides Persian Gulf Registry Health Examinations, referral center evaluations, readjustment and sexual trauma counseling, and special eligibility for health care to Persian Gulf war veterans. To date more than 62,000 Persian Gulf war veterans have completed registry examinations, almost 187,000 have been seen in VA ambulatory care clinics, and more than 18,200 have been hospitalized at VA medical facilities.

We assert that the record clearly demonstrates the Department has always remained open to the possibility that Persian Gulf war veterans were potentially exposed to a wide variety of hazardous agents, including chemical warfare agents. Three years prior to the DOD announcement in June regarding demolitions in Khamisiyah, VA designed its clinical uniform case assessment protocol to detect clinical signs and symptoms related to possible neurotoxic exposures. Neurologic examinations and cognitive testing were part of the earliest versions of this protocol.

As a consequence, VA diagnostic protocols continue to serve as a valid set of clinical guidelines. These protocols received positive reviews by highly respected physicians and scientists in the past and will be reviewed again by a newly constituted Institute of Medicine Committee.

At this time there is, unfortunately, no specific diagnostic biomarker for chemical warfare agent exposure. Therefore, no test can be added to the protocol which will confirm for individual veterans that they were exposed to these toxins during their service in the Gulf.

VA has recently been asked by members of this subcommittee whether we listened to veterans who reported their belief that they had been exposed to chemical warfare agents. The answer definitely is yes.

For instance, members of a Naval Reserve Seabee unit from Alabama, Tennessee, North Carolina and Georgia reported suffering adverse health effects which they and their physician, Dr. Jackson, who is here today, attributed to exposure to low-level chemical warfare agents. In response, VA established a pilot medical program at the Birmingham VA Medical Center to evaluate their health status.

As part of this special health care program, more than 100 veterans have been evaluated. Fifty-five Persian Gulf war veterans complaining of cognitive problems underwent extensive neuropsychological testing and clinical evaluations. These evaluations

did not reveal the pattern of neurologic abnormalities associated with neurotoxin exposure.

In addition to our clinical programs, VA research programs related to Persian Gulf veterans' illnesses include more than 30 individual projects being carried out nationwide by VA and university-affiliated investigators. One recent important research publication was in direct response to concerns that veterans of the war had a higher expected risk of dying after service in the Persian Gulf.

In 1994, the VA Environmental Epidemiology Service began a mortality study of Gulf war veterans which has now been published in the New England Journal of Medicine. The study included all deaths occurring between May 1991 and September 1993. This was the maximum period for which complete validated mortality information was available in 1994.

The study showed a small but statistically significant increased risk of death from all causes in Persian Gulf veterans. However, when cause-specific mortality was evaluated, the increased risk of death has been shown to be attributable to external causes such as accidents, and including motor vehicle accidents. There was no increased risk of death from medical diseases, suicide or homicide, cancers, circulatory diseases or infectious diseases, categories which have been identified as conditions of particular concern to Gulf war veterans and their families.

The result should not be misconstrued, however, to mean that Gulf war veterans' health concerns and symptoms can be dismissed. Our health care programs have identified a number of Persian Gulf veterans who are suffering multisystem complaints, illnesses and disabilities. These illnesses are real and will continue to be treated at VA medical facilities nationwide.

VA is committed to pursuing research studies on non-life threatening diseases which result in illness in Persian Gulf veterans, to the support of a long-term mortality study, and to investigate the underlying cause or causes for the increased risk of death from external causes. A report of the current federally sponsored research projects is included in the annual report to Congress.

In addition, the Persian Gulf War Veterans' Coordinating Board completed work on a call for proposals on epidemiologic and basic science projects on long-term health effects of low-level chemical warfare nerve agent exposures. Both government and nongovernment researchers have been invited to submit proposals, and this call for proposals was published yesterday.

Finally, there have been several media reports indicating that VA was discharging physicians on the basis of their comments and/or activities relating to Persian Gulf war veterans. These allegations are simply incorrect. We have discussed this issue with staff of the subcommittee and will be pleased to continue such discussions.

As you know, Mr. Chairman, the Veterans Health Administration has been undergoing reorganization and integration of facilities, and that has resulted in the need to reduce staff. Any staff reductions which have or will take place are based on an assessment of staffing requirements and are categorically unrelated to any statements or activities of our employees concerning Persian Gulf war veterans.

Thank you, Mr. Chairman. That concludes my statement, and we would be happy to address your questions.

[The prepared statement of Dr. Mather follows:]

STATEMENT OF

SUSAN H. MATHER, M.D., M.P.H.

CHIEF PUBLIC HEALTH AND ENVIRONMENTAL HAZARDS OFFICER

VETERANS HEALTH ADMINISTRATION

DEPARTMENT OF VETERANS AFFAIRS

BEFORE THE

HOUSE GOVERNMENT REFORM AND OVERSIGHT COMMITTEE

SUBCOMMITTEE ON HUMAN RESOURCES AND INTERGOVERNMENTAL RELATIONS

DECEMBER 11, 1996

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Mr. Chairman and Members of the Subcommittee:

Thank you for this opportunity to appear before your subcommittee today to update you on clinical programs and research developments related to Persian Gulf War veterans, particularly as they relate to possible exposure to chemical warfare agents.

First, I'd like to provide some background information, then I'll discuss how VA has dealt with the issue of possible exposure to chemical warfare agents.

The United States military deployed almost 700,000 men and women to the Persian Gulf during Operations Desert Shield and Desert Storm. Shortly after returning from the Persian Gulf War veterans began to report a variety of symptoms and illnesses. In response to the needs of these wartime veterans, the Department of Veterans Affairs immediately began development of its

Persian Gulf health care programs. The first component of the comprehensive programs was the Persian Gulf Registry health examination program, developed in 1991 and implemented in 1992. Since the initiation of that clinical examination program, the Department has continuously improved and expanded its Persian Gulf programs to encompass a comprehensive four-pronged approach to PGW veterans' programs, addressing relevant medical care, research, compensation, and outreach and education.

VA provides Persian Gulf Registry Health Examinations, Referral Center evaluations, readjustment and sexual trauma counseling, and special eligibility for health care to Persian Gulf War veterans. To date, more than 62,000 Persian Gulf War veterans have completed Registry examinations, almost 187,000 have been seen in VA ambulatory care clinics, and more than 18,200 have been hospitalized at VA medical facilities.

Persian Gulf veterans participating in the Registry examination have commonly reported that they suffer from a diverse group of symptoms including fatigue, skin rash, headache, muscle and joint pain, memory problems, shortness of breath, sleep disturbances, gastrointestinal symptoms, and chest pain. Of note, 12% of the Registry participants had no current health complaints but wished to participate in the examination because they were concerned about their future health as a consequence of their service in the Persian Gulf War. This program was established to assist veterans' entry into the continuum of VA health care. All Persian Gulf War veterans, symptomatic or asymptomatic, are encouraged to avail themselves of the Registry examination program.

We, at VA, feel that the record clearly demonstrates the Department has always remained open to the possibility that Persian Gulf War veterans were potentially exposed to a wide variety

of hazardous agents while serving in the Southwest Asia theater of operations, including chemical warfare agents. Three years prior to the DoD announcement on June 21, 1996 regarding demolitions at Khamisiyah, VA designed its clinical uniform case assessment protocol to detect clinical signs and symptoms related to possible neurotoxic exposures. Neurologic examinations and cognitive testing were part of the earliest versions of this protocol. As a consequence, VA diagnostic protocols continue to serve as a valid set of clinical guidelines for initial screening examinations (Phase I) and more comprehensive evaluations of difficult to diagnose cases (Phase II). These protocols received positive reviews by highly respected physicians and scientists in the past and will be reviewed again by a newly constituted Institute of Medicine Committee under VA contract in early 1997. To date, no specific diagnostic biomarker exists for chemical warfare agent exposures that occurred years ago; therefore no test can be added to the protocol which will confirm for individual veterans whether they were exposed to these toxins during their service in the Gulf.

VA has recently been asked by members of this Subcommittee whether we listened to veterans who reported their belief that they had been exposed to chemical warfare agents during their Persian Gulf service. We believe that there is clear evidence that VA officials did listen to those veterans and did take appropriate action to investigate their concerns. For instance, members of a Navy Reserve Construction Battalion unit from Alabama, Tennessee, North Carolina, and Georgia reported suffering adverse health effects, which they attributed to exposure to low-level chemical warfare during their Persian Gulf War service. In response, VA established a pilot medical program at the Birmingham VA Medical Center to evaluate their health status. As part of this special health care program, more than 100 veterans were evaluated. Included in this

group were 55 Persian Gulf War veterans complaining of cognitive problems who underwent extensive (7-8 hours) neuropsychological testing and clinical evaluations. These evaluations did not reveal the pattern of neurologic abnormalities typically associated with neurotoxin exposure.

In the past, Members of Congress, veterans groups, and the media have frequently asked VA to provide definitive answers regarding the health of Persian Gulf veterans using clinical and administrative databases. It should be remembered that the Registry and other examination program data are provided through medical records of self-selected individuals who have sought health care in federal programs and are not likely to be reflective of the entire population of Persian Gulf War veterans. In order to draw definitive conclusions about the health status of the veterans, a carefully designed and well-executed research program is necessary. VA has already laid the foundation for such a research program. VA is also developing a structured research portfolio to address the most important Gulf-related medical and scientific issues. We continue to search for answers and to expand our understanding of the illnesses of Persian Gulf veterans. While scientific answers are being sought, VA also continues to provide all needed health care services to reduce their suffering and compensation for their disabilities resulting from their undiagnosed illnesses.

VA's research programs related to Persian Gulf veterans' illnesses include more than 30 individual projects being carried out nationwide by VA and University-affiliated investigators. One recent important research publication has received considerable media attention, and I would like to discuss it here today. For many months now veterans have voiced their concerns that they and their colleagues who served in Operations Desert Shield and Desert Storm had a higher than expected risk of dying after their service in the Gulf War. VA listened to these veterans concerns

and began a study to provide a scientific answer to the questions raised by Gulf War veterans about life-threatening illnesses. In 1994, the VA Environmental Epidemiology Service began a mortality study of Gulf War veterans. That study was carried out by Dr. Han Kang and Tim Bullman and has been published in a recent issue of

The New England Journal of Medicine.

This research studied all 695,000 U.S. military personnel who served in the Persian Gulf between August 1990 and April 1991. A randomly selected group of more than 746,000 military personnel representing approximately half of all non-deployed military personnel during this time period was identified for comparison.

The study included all deaths occurring between May 1991 and September 1993. This was the maximum period for which complete, validated mortality information was available in 1994. The investigation demonstrated several important findings. First, in the cohort of 695,000 Gulf War veterans 1765 deaths occurred while among the 746,000 Gulf era controls, 1729 died. Calculations of adjusted death rates from these figures after controlling for potential confounding factors (such as age, sex, race and military variables) show a small (9%; RR=1.09, 95%CI= 1.01-1.16), but statistically significant, increase in risk of death from all causes in Persian Gulf veterans. However, when cause-specific mortality is evaluated, the increased risk of death has been shown to be attributable to external causes (RR=1.17, 95% CI = 1.08-1.27; 1317 deaths observed vs. 1126 expected) such as accidents including motor vehicle accidents.

Secondly, there was no increased risk of death from medical diseases, suicide or homicides among Gulf War veterans. This included cause-specific mortality for cancers,

circulatory diseases, and infectious diseases. These are disease categories which have been identified as conditions of particular concern to Gulf War veterans and their families.

Third, there were important gender-specific difference in deaths. In men, the risk of death due to medical diseases was lower among Gulf War veterans than among controls. Like their male colleagues, women veterans of the Gulf War had a significant increase in deaths from external causes, including accidental deaths. In contrast to men, death due to motor vehicle accidents, suicides and homicide were all elevated but did not reach statistical significance. In addition, adjusted risk of death from all external causes was much higher among women than among men who served in the Gulf War (1.78 vs. 1.17). The death rates for medical disease-related causes were essentially the same for men and women serving in Operations Desert Shield and Desert Storm (0.89 vs. 0.87).

Lastly, when compared to the entire population of the United States, Gulf War veterans and non-Gulf War veterans both had significantly lower cause-specific mortality ratios for medical causes. Deaths among veterans occurred at a rate no more than half the rate of death expected in the general population. This lower mortality should not be surprising since military members undergo induction physical screening, are required to meet stringent physical fitness standards to remain in the military, and have better access to health care than the general population.

While this mortality study provides very important new evidence that Gulf War veterans as a group are not suffering from an increased risk of life-threatening illnesses, the results should not be misconstrued to mean that Gulf War veterans' health concerns and symptoms can be dismissed. Our health care programs have identified a number of Persian Gulf veterans who are

suffering from multisystem complaints, illnesses and disability. These illnesses are real and will continue to be treated at VA medical facilities nationwide. The mortality study published in *The New England Journal of Medicine* should be reassuring in that it demonstrates that Gulf War veterans were not at higher risk of death from medical diseases during the two-year study period. VA is committed to pursuing research studies on non-life threatening diseases which result in morbidity or illness in Persian Gulf veterans, to support of long-term mortality studies which could identify increased mortality among Gulf War veterans due to medical conditions with a longer latency period (e.g. cancers) and to investigating the underlying cause or causes for the increased risk of death from external causes which was identified in the current research report study. A report of the current federally-sponsored research projects is included in the Annual Report to Congress: Federally Sponsored Research on Persian Gulf Veterans' Illnesses for 1995.

In addition, the Persian Gulf War Veterans' Coordinating Board, comprised of members from the Departments of Defense, Health and Human Services and Veterans Affairs, has recently completed work on a call for proposals on epidemiologic and basic science projects related to the long-term health effects of low-level chemical warfare nerve agent exposures. Both government and non-government researchers will be invited to submit proposals.

In conclusion, there have been several media reports indicating that VA was discharging physicians on the basis of their comments and/or activities relating to Persian Gulf War veterans. These allegations are incorrect. We have discussed this issue with staff of the subcommittee and will be pleased to continue such discussions. As you know, Mr. Chairman, the Veterans Health Administration has been undergoing reorganizations and integration of facilities and this has resulted in the need to reduce staff. Any staff reductions which have, or will take place, are based

on an assessment of staffing requirements and are categorically unrelated to any statements or activities by our employees concerning Persian Gulf War veterans.

Thank you, Mr. Chairman. We would be happy to address any questions.

Special Articles

MORTALITY AMONG U.S. VETERANS OF THE PERSIAN GULF WAR

HAN K. KANG, DR.P.H., AND TIM A. BULLMAN, M.S.

ABSTRACT

Background Since the 1990–1991 Persian Gulf War, there has been persistent concern that U.S. war veterans may have had adverse health consequences, including higher-than-normal mortality.

Methods We conducted a retrospective cohort study of postwar mortality according to cause among 695,516 Gulf War veterans and 746,291 other veterans. The follow-up continued through September 1993. A stratified, multivariate analysis (with Cox proportional-hazards models) controlled for branch of service, type of unit, age, sex, and race in comparing the two groups. We used standardized mortality ratios to compare the groups of veterans with the general population of the United States.

Results Among the Gulf War veterans, there was a small but significant excess of deaths as compared with the veterans who did not serve in the Persian Gulf (adjusted rate ratio, 1.09; 95 percent confidence interval, 1.01 to 1.16). The excess deaths were mainly caused by accidents (1.25; 1.13 to 1.39) rather than disease (0.88; 0.77 to 1.02). The corresponding rate ratios among 49,919 female veterans of the Gulf War were 1.32 (0.95 to 1.83) for death from all causes, 1.83 (1.02 to 3.28) for accidental death, and 0.89 (0.45 to 1.78) for death from disease. In both groups of veterans the mortality rates were significantly lower overall than those in the general population. The adjusted standardized mortality ratios were 0.44 (95 percent confidence interval, 0.42 to 0.47) for Gulf War veterans and 0.38 (0.36 to 0.40) for other veterans.

Conclusions Among veterans of the Persian Gulf War, there was a significantly higher mortality rate than among veterans deployed elsewhere, but most of the increase was due to accidents rather than disease, a finding consistent with patterns of postwar mortality among veterans of previous wars. (N Engl J Med 1996;335:1498-504.)

THERE is persistent concern in the United States that veterans of the Persian Gulf War may have had a higher rate of postwar mortality than other veterans and that certain causes of death may have been especially frequent.[1,2] Excess numbers of deaths from cardiovascular disease and even from malignant neoplasms have been mentioned often in the news media and in one scientific journal.[3]

Some 700,000 U.S. troops were deployed in the Persian Gulf area between August 1990 and the end of Operation Desert Storm in 1991. Among the potential health risks associated with military service during that conflict, infectious diseases, oil-well fires and hazards associated with other petroleum products, insecticides and pesticides, sand particles, the possible use of chemical and biologic warfare agents, anti–nerve gas agents, and multiple vaccinations have often been suggested as putative risk factors.[3,4] Furthermore, the psychological stress involved in deployment to the Persian Gulf and exposure to combat has been well documented.[5-7]

On the basis of previous studies, we expected that veterans of the Gulf War would have increased mortality due to external causes, including motor vehicle accidents and accidents of other types, suicide, and homicide. Among Vietnam veterans, an elevated risk of traumatic deaths, including deaths due to motor vehicle accidents, has been often reported.[8-10]

We conducted a retrospective cohort study of mortality in which we compared the postwar mortality of Gulf War veterans with that of veterans from the era of the Gulf War who did not serve in that conflict. This study complements the study by the Department of Defense of non–battle-related deaths among Gulf War troops who remained on active duty.[11]

METHODS

Study Subjects

The study subjects were all 695,516 military personnel who served in the Persian Gulf from August 1990 to April 1991 ("Gulf War veterans"). They were identified from a roster provided by the Defense Manpower Data Center. A control group of 746,291 military personnel consisted of a stratified random sample of approximately half of all personnel on active duty, in the National Guard, and in the military reserves who served from September 1990 to April 1991 but did not go to the Persian Gulf. The number of controls and the number of Gulf War veterans in each type of unit in each branch of the armed forces were approximately equal. In the case of controls serving in reserve and National Guard units, equal numbers were selected from units

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that were activated but sent to places other than the Persian Gulf area and units that were not activated at all. Personnel sent to the Persian Gulf area after the war were not included in the control group.

Available demographic information and data on military service included the veteran's date of birth, race, sex, military rank, branch of service, and deployment date, and the type of unit (active, reserve, or National Guard).

Determination of Vital Status and Collection of Death Certificates

We determined the vital status of each Gulf War veteran from the date the veteran left the Persian Gulf area. The follow-up of controls began on May 1, 1991. The follow-up period ended either on the veteran's date of death or on September 30, 1993, whichever came first. (The reporting of vital status after that date was expected to be incomplete in the national data bases available for matching in May 1994.) Vital status was determined with a data base of the Department of Veterans Affairs known as the Beneficiary Identification and Records Locator Subsystem (BIRLS). Veterans were also matched against a file of deaths reported to the Social Security Administration. In a recent study of 4300 deaths of veterans ascertained independently from states, the Veterans Affairs BIRLS data base, used in conjunction with the Social Security Administration file, reported 97 percent of deaths of Vietnam-era veterans.[12]

Death certificates were requested first from the Veterans Affairs regional offices and the Federal Records Centers identified in the BIRLS data base. Death certificates not found at these locations were requested from state vital-statistics offices. Causes of death were coded by a qualified nosologist who used the *International Classification of Diseases, 9th Revision* (ICD-9), without knowing the subject's deployment status.[13]

The degree of completeness of the combined data sources (the BIRLS data base and the files of the Social Security Administration) used in the determination of vital status was evaluated by matching a random sample of 15,000 Gulf War veterans and 15,000 other veterans with the National Death Index, which includes all deaths reported to the National Center for Health Statistics by state vital-statistics offices, beginning in 1979.

Statistical Analysis

The data were analyzed in three stages. In stage 1, for each Gulf War veteran the number of person-years at risk of dying were counted from the date the veteran left the Persian Gulf area to the veteran's date of death or September 30, 1993. For the controls, this period at risk began on May 1, 1991. The relative frequency of death overall, as well as death due to specific causes, was compared between the Gulf War veterans and the controls on the basis of the number of person-years at risk. Unadjusted rate ratios were calculated from the crude death rates.

In stage 2, the Cox proportional-hazards model was used to account for possible confounding and the effect of selected covariates on the risk of a veteran's dying from a specific cause, according to the time since that veteran's entry into the cohort.[14] The covariates considered in the model included age at the start of follow-up, race, sex, service branch, and type of unit.

In stage 3, the cause-specific mortality of Gulf War veterans and other veterans was compared with the number of deaths expected in the overall U.S. population after adjustment for age, sex, race, and year of death. The results were expressed as standardized mortality ratios[15] expressing the ratio of observed deaths among veterans to the expected number of deaths in the general population.

RESULTS

Characteristics of the Two Groups

The demographic and military characteristics of the Gulf War veterans were similar to those of the controls with the exception of the year of birth, sex, and type of unit (Table 1). The Gulf War veterans were slightly younger than the controls (age in May 1991, 28.4 vs. 30.2 years), included more troops serving in active units, and included fewer women (7.2 percent vs. 13.3 percent). Among reservists and members of the National Guard who did not take part in the Gulf War, the characteristics of 106,840 veterans who were mobilized and 115,478 veterans who were not were similar.

Among the 695,516 Gulf War veterans, 1765 died, and death certificates were located for 1654 (93.7 percent). Among the 746,291 controls, 1729 died, and death certificates were located for 1615 (93.4 percent). In a random sample of 30,000 veterans (15,000 Gulf War veterans and 15,000 controls), 71 were identified from the National Death Index as having died during follow-up. Sixty-three of these deaths had been identified earlier through the use of the BIRLS data base and the Social Security Administration files, for an estimated reporting rate of 89 percent (95 percent confidence interval, 83 to 97 percent). Of the eight veterans whose deaths were identified only from the index, four were Gulf War veterans and four were controls. Whether a veteran had served in the Gulf War bore no signif-

TABLE 1. DEMOGRAPHIC AND MILITARY CHARACTERISTICS OF THE STUDY SUBJECTS.

CHARACTERISTIC	GULF WAR VETERANS (N = 695,516)	OTHER VETERANS (N = 746,291)
	percent	
Race		
White	67.6	69.6
Black	22.6	21.5
Other	9.8	8.9
Sex		
Male	92.8	86.7
Female	7.2	13.3
Year of birth		
≤1961	33.7	42.7
1962–1967	31.9	28.5
≥1968	34.3	28.6
Rank		
Enlisted person	89.1	84.8
Officer	9.6	13.9
Warrant officer	1.3	1.2
Service branch		
Army	50.5	55.7
Navy	22.7	17.7
Air Force	11.9	11.3
Marine Corps	14.9	15.2
Type of unit		
Active	83.3	70.2
Reserve		
Activated	10.4	9.7
Not activated	—	9.6
National Guard		
Activated	6.3	4.7
Not activated	—	5.8

icant relation to the rate of ascertainment of vital status.

Cause-Specific Mortality

As Table 2 shows, after we controlled for potential confounders (age, sex, race, and military variables), the Gulf War veterans had significantly higher mortality from all causes than the other veterans. The excess deaths were entirely attributable to external causes (rate ratio, 1.17; 1317 deaths observed vs. 1126 expected), including all types of accidents and motor vehicle accidents specifically. There was no observed excess of suicides, homicides, or deaths from disease-related causes. The risk of death from infectious and parasitic diseases was significantly lower among the Gulf War veterans than among the other veterans.

Relative-risk estimates derived from the Cox proportional-hazards model are shown in Table 3 for 1,000,996 male troops (both Gulf War veterans and other veterans) who served in active units. Overall mortality and mortality from all external causes (rate ratio, 1.17; 1110 deaths observed vs. 949 expected), including accidents of all types and motor vehicle accidents, continued to be significantly elevated among the Gulf War veterans as compared with the controls. In men, the risk of disease-related mortality was lower among Gulf War veterans than among controls.

We also compared mortality rates among 49,919 women deployed in the Persian Gulf area with those among 84,517 women deployed elsewhere at the time of the Persian Gulf War (Table 3). Like their male counterparts, the women sent to the Persian Gulf had a significant excess of deaths from all external causes, including accidental deaths. Mortality due to motor vehicle accidents, suicides, and homicides was elevated, but the excess was not statistically significant. The adjusted rate ratio for deaths from external causes was higher among female than among male veterans (1.78 vs. 1.17). In contrast, the rate ratio for deaths from disease-related causes was almost the same among female veterans as among male veterans (0.89 vs. 0.87).

TABLE 2. DEATHS, MORTALITY RATES, AND MORTALITY-RATE RATIOS AMONG THE STUDY SUBJECTS, 1991 THROUGH 1993, ACCORDING TO THE CAUSE OF DEATH SHOWN ON THE DEATH CERTIFICATE.

CAUSE OF DEATH (ICD-9 CODE)*	GULF WAR VETERANS (N = 695,516)		OTHER VETERANS (N = 746,291)		MORTALITY-RATE RATIOS	
	NO. OF DEATHS	MORTALITY RATE†	NO. OF DEATHS	MORTALITY RATE†	CRUDE	ADJUSTED (95% CI)‡
All causes	1765	10.4	1729	9.6	1.08	1.09 (1.01–1.16)
Disease-related causes (001–799)	337	2.0	534	2.96	0.68	0.88 (0.77–1.02)
Infectious and parasitic diseases (001–139)	10	0.06	49	0.27	0.22	0.21 (0.11–0.43)
All cancers (140–208)	119	0.70	216	1.20	0.58	0.83 (0.66–1.05)
Disease of circulatory system (390–459)	149	0.88	184	1.02	0.86	1.12 (0.90–1.40)
Disease of respiratory system (460–519)	14	0.08	14	0.08	1.07	1.27 (0.60–2.70)
Disease of digestive system (520–579)	12	0.07	21	0.12	0.58	0.79 (0.37–1.69)
All external causes (E800–E999)	1317	7.74	1081	6.0	1.29	1.17 (1.08–1.27)
All accidents (E800–E929)	812	4.77	619	3.44	1.39	1.25 (1.13–1.39)
Motor vehicle accidents (E810–E825)	549	3.23	398	2.21	1.46	1.31 (1.14–1.49)
Suicide (E950–E959)	261	1.53	277	1.54	0.99	0.94 (0.79–1.12)
Homicide (E960–E969)	145	0.85	159	0.88	0.97	0.85 (0.67–1.08)
No death certificate	111	—	114	—	—	—

*ICD-9 denotes *International Classification of Diseases, 9th Revision*.[1] Only major causes of death are shown.

†Crude rates shown are per 10,000 person-years.

‡Adjusted rate ratios (and 95 percent confidence intervals [CI]) were derived from the Cox proportional-hazards model after adjustment for age, race, sex, branch of service, and type of unit.

Cause-Specific Mortality According to the Time of Deployment to the Persian Gulf

Troops sent to the Persian Gulf before March 1, 1991, would have been subjected to most of the potential risk factors previously described. Troops deployed after the war ended (that is, after March 1, 1991) would not have taken anti–nerve gas agents (pyridostigmine bromide) or received vaccinations against anthrax and botulinum toxins. Nor would they have been subjected to the threats of Scud missile attacks, chemical and biologic warfare, or combat-induced stress. There was no significant difference among Gulf War veterans in the risk of death from any of the underlying causes studied according to period of deployment.

Effect of Mobilization

We studied the effect of being mobilized without being actually sent to the Persian Gulf area in 222,318 veterans assigned to units in the reserves and the National Guard. Mobilization without subsequent deployment to the Persian Gulf did not appear to affect the overall mortality or the risk of death from external causes, even after adjustment for the type of unit (reserve or National Guard), age, sex, race, and branch of service.

Comparison with the General Population

As compared with the general population of the United States, the Gulf War veterans and the non–Gulf War veterans both had significantly lower

TABLE 3. DEATHS, MORTALITY RATES, AND MORTALITY-RATE RATIOS AMONG THE STUDY SUBJECTS ACCORDING TO CAUSE OF DEATH AND SEX.*

CAUSE OF DEATH†	GULF WAR VETERANS		OTHER VETERANS		MORTALITY-RATE RATIOS	
	NO. OF DEATHS	MORTALITY RATE‡	NO. OF DEATHS	MORTALITY RATE‡	CRUDE	ADJUSTED (95% CI)§
All causes						
Men	1437	10.7	1084	9.8	1.10	1.09 (1.01–1.18)
Women	70	5.8	84	4.1	1.41	1.32 (0.95–1.83)
Disease-related causes						
Men	238	1.8	286	2.6	0.69	0.87 (0.73–1.04)
Women	14	1.2	26	1.3	0.92	0.89 (0.45–1.78)
All external causes						
Men	1110	8.3	732	6.6	1.26	1.17 (1.07–1.29)
Women	47	3.9	41	2.0	1.95	1.78 (1.16–2.73)
All accidents						
Men	689	5.1	422	3.8	1.34	1.26 (1.11–1.42)
Women	25	2.1	22	1.1	1.91	1.83 (1.02–3.28)
Motor vehicle accidents						
Men	457	3.4	269	2.4	1.42	1.27 (1.09–1.48)
Women	21	1.7	19	0.9	1.89	1.81 (0.96–3.41)
Suicide						
Men	211	1.6	191	1.7	0.94	0.88 (0.72–1.08)
Women	11	0.9	12	0.6	1.50	1.47 (0.63–3.43)
Homicide						
Men	116	0.9	101	0.9	1.00	0.80 (0.61–1.05)
Women	11	0.9	6	0.3	3.00	2.66 (0.96–7.36)

*Data for men are based on 544,270 Gulf War veterans and 456,726 controls assigned to active units. Data for women are based on 49,919 Gulf War veterans and 84,517 controls assigned to active duty.

†The ICD-9 codes corresponding to the various causes of death are shown in Table 2.

‡Crude rates shown are per 10,000 person-years.

§Adjusted rate ratios (and 95 percent confidence intervals [CI]) were derived from the Cox proportional-hazards model after adjustment for age, race, branch of service, and type of unit.

cause-specific standardized mortality ratios (Table 4). Deaths among both groups of veterans occurred at a rate no more than half that expected in the U.S. population after adjustment for age, sex, race, and year of death.

Effect of the War on Female Veterans

Being mobilized without actually serving in the Persian Gulf area appears to have affected the mortality rates of women more than those of men. Among 31,814 female study subjects who served in the reserves or the National Guard and who did not serve in the Gulf War, 17,270 were mobilized and deployed somewhere (for example, in Germany), and 14,544 were not mobilized at all. Women who were deployed somewhere had a higher, but not a significantly higher, rate of death from all causes than nonmobilized women (rate ratio, 1.94; 95 percent confidence interval, 0.92 to 4.07), a higher rate of death from external causes (1.81; 0.73 to 4.5), and a higher rate of death from accidents (3.0; 0.6 to 15) after adjustment for the type of unit, age, race, and branch of service.

Female Gulf War veterans had a higher (but not significantly higher) risk of death from external causes, including accidents, than their female peers in the general U.S. population (Table 4). The rate of death due to motor vehicle accidents among the female Gulf War veterans was 43 percent higher than expected, whereas among other female veterans the risk was 31 percent lower than expected.

DISCUSSION

The purpose of this study was to assess the effect of service in the Persian Gulf War on mortality among veterans of U.S. military service. Gulf War veterans have had a significantly higher mortality than other veterans who served during the same period. Accidental deaths accounted for most of this increase. Neither the suicide rate nor the homicide rate was elevated among Gulf War veterans. Mortality due to illness was not higher in Gulf War veterans than in other veterans. Of the 10 deaths attributed to infectious or parasitic disease, none were reported as due to leishmaniasis or other infectious diseases endemic to the Middle East, or as due to the effects of biologic warfare agents. If there are excess illnesses due to Persian Gulf service, they do not appear to have been life-threatening.

The significant excess mortality from external causes among Gulf War veterans as compared with controls is similar to what has been observed in studies of veterans of other wars. Studies of Vietnam veterans repeatedly found an increased risk of traumatic deaths, mainly from accidents.[8-10] The Department of Defense study of Gulf War veterans who remained on active duty found 225 non–battle-related deaths, including 183 deaths from injuries, through July 1991 (five months after the war began), whereas 202.7 and 118.6 deaths, respectively, were expected on the basis of the rates among other veterans serving at the same time.[11]

The underlying reasons for the excess of deaths due to external causes among war veterans are not well understood. One may speculate that survivors of war perceive the degree of risk in any given situation differently from others and may therefore engage in more risk-taking behavior. Another possibility is that those in combat may be at increased risk for post-traumatic stress disorder or other depressive disorders, which in turn contribute to the excess number of deaths due to trauma.[5-7,16-18]

TABLE 4. STANDARDIZED MORTALITY RATIOS (AND 95 PERCENT CONFIDENCE INTERVALS) FOR THE STUDY SUBJECTS, ACCORDING TO CAUSE OF DEATH, AS COMPARED WITH THE U.S. POPULATION.*

CAUSE OF DEATH†	GULF WAR VETERANS		OTHER VETERANS	
	MEN AND WOMEN (N = 695,516)	WOMEN ONLY (N = 49,919)	MEN AND WOMEN (N = 746,291)	WOMEN ONLY (N = 99,061)
All causes	0.44 (0.42–0.47)	0.56 (0.44–0.71)	0.38 (0.36–0.40)	0.37 (0.30–0.45)
Infectious and parasitic disease	0.03 (0.02–0.06)	0.14 (0.00–0.80)	0.14 (0.11–0.19)	0.15 (0.02–0.54)
All cancers	0.32 (0.27–0.38)	0.28 (0.11–0.57)	0.38 (0.33–0.44)	0.27 (0.15–0.44)
Disease of circulatory system	0.28 (0.24–0.33)	0.21 (0.06–0.54)	0.23 (0.20–0.27)	0.12 (0.04–0.29)
Disease of respiratory system	0.14 (0.07–0.23)	—	0.11 (0.06–0.18)	—
Disease of digestive system	0.08 (0.04–0.14)	—	0.10 (0.06–0.16)	—
All external causes	0.64 (0.61–0.68)	1.14 (0.84–1.52)	0.55 (0.51–0.58)	0.60 (0.45–0.80)
All accidents	0.76 (0.71–0.82)	1.17 (0.76–1.73)	0.60 (0.55–0.65)	0.50 (0.37–0.85)
Motor vehicle accidents	0.82 (0.75–0.89)	1.43 (0.88–2.18)	0.62 (0.56–0.69)	0.69 (0.42–1.07)
Suicide	0.69 (0.61–0.77)	1.81 (0.90–3.24)	0.73 (0.65–0.82)	1.22 (0.68–2.00)

*Standardized mortality ratios were calculated by dividing the number of observed deaths by the number of expected deaths in the U.S. population for each cause shown, after standardization for age, sex, race, and calendar year of death.

†The ICD-9 codes corresponding to the various causes of death are shown in Table 2.

That there were fewer deaths among veterans than were expected from mortality rates in the U.S. population is consistent with the findings of studies of many other military populations. This "healthy-soldier effect" is similar to a healthy-worker effect. Because of the initial physical screening for military service, requirements to maintain a certain standard of physical well-being, and better access to medical care during and after military service, a military cohort almost always has better survival rates than a comparable segment of the general population. A recent study of all soldiers in the U.S. Army who were on active duty in 1986 found that the mortality of soldiers was only half that of their civilian counterparts.[19]

Serious flaws in the design and execution of the study are an unlikely explanation for our findings. To minimize statistical variation due to sampling, the study included all Gulf War veterans and almost half of all military personnel who were not sent to the Persian Gulf. Given the large sample and the 2.4-year period of follow-up, the statistical power of the study would be about 80 percent to detect a 10 percent increase in overall mortality and almost 100 percent to detect a 20 percent increase (by a two-tailed test with a type I error of 0.05).[20] In the analysis of deaths from all external causes combined, the power would be about 60 percent to detect a 10 percent increase, but 99 percent to detect a 20 percent increase. For accidental deaths, the statistical power would be about 90 percent to detect a 20 percent increase, and almost 100 percent to detect a 50 percent increase.

Because of the healthy-soldier effect, a moderate increase in the risk of death would not have been detected in a population of recent veterans, had we compared our findings only with the U.S. population. The results would be unlikely to change substantially if data from missing death certificates were added. Vital status was ascertained at an estimated rate of 89 percent (95 percent confidence interval, 83 to 97 percent) in relation to the National Death Index, with no significant difference between Gulf War veterans and other veterans in the proportion whose vital status was unknown. Among veterans who died, the cause of death was known for 93.7 percent of those who served in the Gulf War and 93.4 percent of those who did not.

The interpretation of the study findings is somewhat confounded by the possibility that military personnel who were seriously ill or recovering from major surgery would not have been deployed to the Persian Gulf area. How much this potential selection bias has contributed to the favorable outcomes with regard to mortality from disease-related causes in veterans of the Gulf War is unknown.

Another limitation of the study is our reliance on death certificates rather than medical records for information on causes of death. Death certificates dependably establish the fact of a person's death, but their accuracy in recording the cause is variable.[21] However, in reporting external causes of death the agreement between medical records and death certificates has been reported to be good.[8] A further possible limitation is the lack of data on potential risk factors, such as a history of smoking, a history of drinking, and preexisting mental disorders. Any such factors may have been present in equal degrees in the two groups, because the men and women were all accepted into the military before the war and in almost all instances deployment to the Persian Gulf was not voluntary.

The effect of the Gulf War on postwar mortality appears to be greater among female veterans. Both male and female veterans of the conflict had higher rates of mortality from external causes than the controls, but the increase was greater among women. In contrast, there was no excess of deaths from disease among either male or female Gulf War veterans. Mobilization without actual service in the Persian Gulf area had no substantial effect on the mortality of Gulf War veterans as a group. Among women, however, those who were mobilized had a higher risk of death from each category of external causes than those who were not mobilized, although the risk was not significantly higher.

More of the troops deployed to the Persian Gulf War were women (7 percent) than in any previous war. By contrast, women made up less than 0.5 percent of Vietnam veterans.[10] The increase in the number of women in the military and their expanding role in combat-related activities mean that their health must be monitored carefully. Furthermore, a substantial portion of the women sent to the Persian Gulf area (45 percent) were married at the time, and some of them left small children at home to be cared for by others. The effect of this added psychological stress associated with deployment and redeployment warrants further study.

In summary, as compared with non–Gulf War veterans, veterans of the conflict in the Persian Gulf had significant excesses of death from external causes (mainly accidents) but not from disease-related causes. Their risk of death remained less than half that expected in their civilian counterparts. Our findings are consistent with the postwar mortality observed in veterans of previous wars.

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Mr. SHAYS. Thank you very much, Doctor.

Dr. Murphy, do you have any comment?

Dr. MURPHY. No. Be happy to answer your questions.

Mr. SHAYS. Any study that is done is only as good as the data that is presented to it. How comfortable are you with the data that you are using in your studies?

Dr. MATHER. In the mortality study I think it was complete for the time period. Obviously there are some diseases that simply will not show up in that brief a time period, and that is the reason we are continuing the study and hope to publish again in 5 years and beyond.

Mr. SHAYS. Let me really focus in on that statement, "complete for the time period." I view that as such a gigantic escape clause as to almost make the study meaningless, and I want you to tell me how you view exposure to low-level chemicals?

Tell me the significance, in your judgment, of literally thousands of alarms going off in the Persian Gulf, telling our soldiers that there was low-level exposure to chemicals? Tell me your reaction when you were here yesterday, and you had people who were experts, not people who were trained to fight a war but also, by the way, here is a machine that will tell you if a chemical might be in your vicinity that could cause your death. These were people who are literally trained to detect it.

Dr. MATHER. I found it very troubling. I have found the report that alarms went off troubling. One, you would rather have false positive than false negative alarms, in other words, alarms that were triggered at below a troublesome dose than that let the dose get up to the point where it would actually kill somebody before the alarm went off.

We have always found this troubling in VA. Our advisory committee chaired by Dr. Bingham has found it troubling, and we have not accepted that there was no evidence.

Mr. SHAYS. That is not entirely accurate because we have had, this is our sixth hearing, and basically the VA has expressed to us that there has not been a focus on low-level exposure because the DOD, whose information you rely on, has said there has been no use of chemicals in the Persian Gulf and no exposure.

Dr. MATHER. That is very true in the research arena. I think research into low-level exposures had a low priority. It was still considered a possibility. When we looked at the literature that existed, and this was at least starting in 1993, it did appear that when you saw long-term effects of low-level exposure you also saw acute effects occurring at the time of the exposure. And since we had not seen instances where there were effects that were easily attributable to chemical weapons exposure at the time that the alarms went off, we put that at a lower priority than some of the other possibilities. But we still think that this is a—there are not yet specific answers to this problem.

Mr. SHAYS. We are going to stay on this a bit.

Dr. MURPHY. Can I comment? I would like to go back to the detectors going off, because there are different levels of detectors. The individuals that were here yesterday were talking about the FOX vehicles, which are very sophisticated. The witnesses that you had here yesterday were talking about the FOX vehicles, which are

mass spectroscopy machines and are very sophisticated pieces of equipment and can detect very low levels of agent very specifically.

The other detectors that were in the field, that were set up all over the area, and the test kits, do have some overlap with other chemicals. We were told that there was no—when those alarms went off they were tested with the M 256 kits.

Mr. SHAYS. I want you to speak more slowly because what you are saying is fascinating to me. It is very important, and I want to really delve into your thinking about what you are thinking, so speak more slowly.

Dr. MURPHY. Clearly there were a lot of alarms going off. Those alarms were for detectors that were designed to be sensitive but not necessarily specific, and then the soldiers were trained to do more specific testing with the M 256 test kits.

DOD and the Defense Science Board, during their deliberations on what happened during the war, had said that they found no evidence of credible detections. Now we are given different information.

I think VA is very happy that DOD and CIA are now going back and looking more carefully at those FOX vehicle detections that they had previously thought had not been confirmed, or discounted, and we hope that that investigation will be taken very seriously. I think the testimony that you heard yesterday is of concern, and certainly if there were FOX vehicles that the tapes were showing positive detections, that is significant information.

Mr. SHAYS. Do you have any—there were literally thousands of these alarms going off, not tens, not hundreds, but thousands of them.

Dr. MURPHY. These nonspecific alarms, yes.

Mr. SHAYS. And there were basically some that were on the back of jeeps that general soldiers had, and then there were alarms that were in more sophisticated units like the FOX units, that really could then dissect it and significantly analyze it. These were real pros. Are you aware that the DOD has given credibility to any of these alarms, even one?

Dr. MATHER. They have not told us of a situation where they have——

Mr. SHAYS. They have in fact said there are none; is that not correct? I want to know what you were told.

Dr. MURPHY. They have said that they are now going back——

Mr. SHAYS. I want to know.

Dr. MURPHY. In the past they have said no.

Mr. SHAYS. I want the record to clearly establish that for over 5 years the DOD has told the VA that there were no credible detections, not one. Now, is that a fact?

Dr. MURPHY. Unless you take into account the Czechs.

Dr. MATHER. There were two Czech detections, as I understand it. What I was told——

Mr. SHAYS. The Czechs basically said they had credible detections and gave it to the United States, and we then had to analyze that because it became a public document. But DOD had that information for a long time, since 1991.

So the Czechs, which didn't have any number of the amounts of equipment we had in, weren't in many places because they were

just a few hundred men, and they had seven just within their units, and we verified that two were very credible. I want to establish for the record, has the DOD told you that any of those alarms and findings were credible?

Dr. MURPHY. I am not aware of any detections that DOD has informed VA, made by American military troops, that were considered credible.

Mr. SHAYS. I will put it in the reverse. They basically said to VA that there were no credible detections; is that not correct?

Dr. MATHER. That is correct from my perspective.

Mr. SHAYS. I want to put myself in the shoes of the VA. It didn't take this committee 100 or 200 or 300 or 1,000 or 10,000 men and women to maybe begin to have us doubt the credibility of the DOD. When you have a soldier who comes to one of your doctors and says, "I was down in a bunker because an alarm went off, I came out of the bunker without my mask and equipment on, I tasted a substance, I smelled a substance, I started to spit up blood and I started to vomit," when you have someone tell you that, what does a doctor do? Do they listen to that veteran or do they listen to DOD, who says we have had no credible documentation or verification of chemicals being used? Who do you listen to?

Dr. MATHER. The veterans.

Mr. SHAYS. If you were listening to veterans, why are we still now only beginning to think that maybe exposure to chemicals might in fact be credible?

Dr. MATHER. I think our perspective and our emphasis has been on the illness that the veterans had, and we were looking at the illnesses that the veterans had and working back from that. That is a different clinical, I think, problem.

And also the whole idea of cause and effect in clinical medicine is sometimes very difficult to make. When you have an individual with a disease, it is very hard to tell that individual, unless it is an infectious disease, what the cause of that disease is. This is true of heart disease, in individual cases.

I think when you are looking at—at the time the veteran had the acute symptoms, when he was exposed to the chemical, obviously that was not a time that the VA actually saw the patient. A patient like that would come to us sometime later, at which time we would look at what the clinical situation is now and work backwards to try to find what is causing that.

Mr. SHAYS. That is one of the ways you would do it. Wouldn't another way you would do it, to help you in this analysis and this effort to truly understand the illnesses that are affecting your patient, you would want to know what kind of environment they were in and what physical confrontation they had with that environment.

Dr. MATHER. Exactly. That is the reason we revised the questions that we asked the veteran.

Mr. SHAYS. When did you make that revision?

Dr. MATHER. Unfortunately, the revision did not get finished until this past year. We started that revision 2 years ago. It took a long time to get it approved, and I apologize for that.

Mr. SHAYS. I think it is almost meaningless that you started a few years ago, because you could have changed it in a week.

Dr. MATHER. A meaningful questionnaire is very difficult to develop.

Mr. SHAYS. Two weeks.

Dr. MURPHY. Let's go back. We began educating our physicians early on about all the exposures that were known. If you look at our satellite video teleconferences that are broadcast nationwide to all physicians involved and all Persian Gulf registry programs, it was very clear from those initial educational conferences that we addressed the whole range of exposures and asked them to question veterans about those exposures.

Mr. SHAYS. Dr. Murphy, I am not looking for apology. I am just looking for a way to change what is happening, and I think it is a meaningless statement to say you started a process years ago to revise a questionnaire. I think that you could change a questionnaire in a matter of a few weeks or a month. So saying you started seems to me to be kind of a meaningless statement that doesn't help us get at the truth.

Dr. MATHER. We do have a questionnaire now, and we did begin educating physicians about what questions to ask several years ago, and in fact used Dr. Claudia Miller and some of the well-known experts in chemical exposure to help that education process.

Mr. SHAYS. But the fact is that we have under oath documentation that soldiers weren't asked vital questions dealing with chemical exposure until after Khamisiyah. When did you really start to change your approach? When in fact did the form get changed?

Dr. MATHER. I am sorry?

Mr. SHAYS. When in fact did you start asking questions about potential exposure to toxic——

Dr. MURPHY. The form was published in September 1995, and the instructions were changed in 1993 or 1994.

Mr. SHAYS. So when did the protocol begin in earnest?

Dr. MATHER. The original protocol began in 1992. It was revised in 1993, and again in 1995.

Mr. SHAYS. 1995 is when you started to focus on chemical exposure?

Dr. MURPHY. Actually the focus began on chemical exposure much earlier than that, as we have just said, sir. The questionnaire was not published until then. The instruction to the field about how they should clinically evaluate these individuals actually began as soon as we had a number of veterans who came back to us——

Mr. SHAYS. How would those instructions be disseminated? You are saying that it didn't in fact happen in 1995 but years ago. I want to know what document made that known to your doctors in the field?

Dr. MATHER. These were training programs, training videotapes, training audio conferences.

Mr. SHAYS. You can supply a video to this committee that will say that you suspected an exposure, chemical exposure, and therefore your doctors should proactively seek this out?

Dr. MURPHY. In conjunction with a whole list of other exposures that we still believe are important to ask about.

Mr. SHAYS. I am not asking you about other things. I am just focusing on the chemical exposure, and you are before a committee

of Congress that is simply trying to know the truth, and whatever the truth is is fine. I just suspect that what you are telling me is not really, frankly, a precise presentation to the committee. I want to know what document you sent to your field that let them know that you suspected that chemical weapons might have been used in the field and therefore they should check for chemical weapons.

Dr. MURPHY. We will provide you documentation.

Mr. SHAYS. Describe to me what I can expect.

Dr. MURPHY. We will provide you copies of our national satellite video conference training programs, of our onsite physician education programs.

Mr. SHAYS. When were those provided to the field?

Dr. MATHER. They have been ongoing——

Mr. SHAYS. No. The ones that dealt with chemical exposure.

Dr. MATHER. I will have to review that. I don't remember.

Mr. SHAYS. Is it—was it happening so often that it just——

Dr. MATHER. No.

Mr. SHAYS. There must have been a moment when you finally said, "Wait a second. Our troops were exposed to chemicals."

Dr. MURPHY. Different issue. Different issue. We have, in 1993, 1994, on up through time, said this is the list of exposures that are of concern. We don't have—even before we had confirmation that these exposures occurred, we pointed out to our physicians that these were the types of exposures that could potentially have been affecting our Persian Gulf veterans, and they should perform their clinical evaluations with that information in mind and look for the potential health outcomes that might result from those exposures. That is different from going out to say to the field that we have confirmation——

Mr. SHAYS. You didn't hear me say confirmation. What I said was that you suspected that potential chemical exposure could have been part of what our troops——

Dr. MURPHY. I think it is very clear from statements from multiple VA officials that that has always been a consideration.

Mr. SHAYS. Let me just tell you what is clear to me. What is clear to me is DOD has denied from day one that there was any credible exposure, and the VA has basically bought into that denial. That is what is clear to me. You can shake your head, but I am asking for something very specific, and I will be amazed if I have you provide that documentation because it just flies in the face of what you all said to us in March. It just flies in the face of it.

We have had troops one after another who have said you have discounted any potential chemical exposure, that it is all basically in their head, that there was no chemical exposure. This is what the troops have said. You can shake your head but that is what they have said, and that is why we have troops who come to us, the men and women who fought. They have said that hardly anyone in the VA has listened to their stories. You listened to DOD deny that there was any credible exposure to chemicals, and that is the basis for you now in 1995 having started to change your protocol. You didn't listen to the veterans. Nobody was listening to the veterans.

What I am trying to understand is, if we with just a few hundred veterans have heard alarming stories, why weren't there people in the VA who said maybe DOD is not facing reality, maybe we should listen to the veterans? That is really my line of questioning. I don't think you have. So I think——

Dr. MATHER. Our view has been with the veterans. From the perspective of my office and the responsibilities we have, we feel our responsibilities are to the veterans, not getting into a fight with DOD.

When Dr. Jackson in 1993 called us and said he felt that chemical and biological weapons had been used against our troops, we looked at the evidence we had, we sent a group of infectious disease doctors down to look at what he had found. We referred the patients to Birmingham, which was the nearest tertiary care medical center where they could get neurological and neuropsychiatric evaluation, and we took them seriously. We worked with what we had, which are the veterans.

Mr. SHAYS. I don't know what you mean, you took them seriously, because it was not until 1995 that you started to take them seriously.

Dr. MURPHY. I think that the record shows otherwise.

Dr. MATHER. I think the record shows otherwise as well.

Mr. SHAYS. I want to be really clear, so clear that when we have our next hearing and you are before us and you have brought these documents and we look at them, I will be able to say I am satisfied or the committee is satisfied, or I think you are way off base. I want to be so clear here. I want to know specifically when you began to suspect that our troops might have been exposed to chemicals, toxic material, and when you specifically, and on what days and dates did you go out into the field and say, "We suspect that our troops may have come in contact with chemicals that may have caused their illnesses or contributed to their illnesses." I would like to know when you did that. You will be providing me that information.

Dr. MATHER. For me personally, I have listened to what the veterans said and to what DOD said. I have kept in the back of my mind there was a possibility.

Mr. SHAYS. OK. That in your own mind. I want to know, thinking that it was always a possibility in the back of your mind, when did it get to the front of your mind where you proactively began to express this to the field? Dr. Murphy, right now I am not asking you.

Dr. MATHER. I have always had in the back of my mind the possibility that there were chemical exposures. I could not differentiate between industrial chemicals, environmental chemicals, chemical weapons.

We have asked people who are familiar with the concept of multiple chemical sensitivity what they thought on this. Claudia Miller provided us with consultations at the medical center in Texas. We have encouraged the environmental hazards research centers—one of those looks at multiple chemical sensitivity as a possible explanation for the symptoms.

Mr. SHAYS. I want to know when you did that.

Dr. MATHER. I can provide you with that chronology.

Mr. SHAYS. When do you think you did that? When did you take proactive action to make sure the field knew your concern?

Dr. MATHER. This has been a part of the total picture. We did not pull chemical weapons or chemical sensitivity out from the total program.

Mr. SHAYS. Why not?

Dr. MATHER. Because every veteran—this was a different war with different veterans—every veteran deserves attention and concern about his concerns.

Mr. SHAYS. You are going way off here. I am not suggesting they are mutually exclusive. I have never suggested that.

Dr. MATHER. I hope not.

Mr. SHAYS. You say you hope not; I am not. I am suggesting that you have not been responsive to my question, and my question is this: when in the back of your mind, your concern that the possibility our troops were exposed to chemicals, when did it go to the front of your mind?

Dr. MATHER. I do not keep a diary of my thinking.

Mr. SHAYS. I am not asking you to keep a diary of your thinking. I am asking you to tell me what your actions were.

Dr. MATHER. I said that I will provide you with the evidence that we have. I will do that.

Mr. SHAYS. What I am asking is, when specifically did you go out into the field and express concern that our troops may have been exposed to chemicals that may cause them harm, and when did you go out in the field and say that doctors need to check on this——

Dr. MATHER. I will provide you evidence.

Mr. SHAYS. When do you suspect that happened?

Dr. MATHER. You have reminded me at least three times that I am under oath, and I don't remember the exact dates, but I will be providing you with that evidence.

Mr. SHAYS. That would be better, that you be accurate.

Mr. Sanders.

Mr. SANDERS. Let me thank you very much. I apologize. I had to be on a radio show with a Vermont veteran who suffers from Persian Gulf syndrome and is not happy with the treatment that she is receiving.

Let me ask you a simple question. Can you give us the name in confidence, at some other point, of one veteran who you have diagnosed as being ill as a result of exposure to chemical weapons? One. You have examined tens of thousands of people. Is there one veteran who you have said, "This veteran is ill as a result of exposure to chemical weapons." I think that would answer a lot of questions in the direction that you were going.

Dr. MATHER. I am not aware of one.

Mr. SANDERS. That puts into context much of what Mr. Shays was trying to say.

Dr. MURPHY. I think that is different because in many cases you are looking for an adverse health outcome and you are looking for an illness or a disease in a veteran, and sometimes you can make a diagnosis and not know what the cause is. We have repeatedly informed our physicians about the whole range of possible exposures and risk factors, and one of the considerations has always been exposure to nerve agents, and you left out mustard agents.

That has always been considered. The difficulty is assigning that specific cause even when you find an illness. The current state of knowledge doesn't allow us to do that.

Mr. SANDERS. I am at a disadvantage because I am not a physician and I am not an expert on the area, and you probably know more about the specifics than I do. But I am impressed by your statement that after examining, I gather, tens of thousands of men and women who fought in the Persian Gulf, not one VA physician has said, "You are ill, we believe, because of exposure to a chemical agent." It seems to me if you have not come up with one of those, one diagnosis on that basis, then maybe you are not putting a terribly high priority on that causation.

Let me tell you something. I am going to be easier than the chairman is because I don't know that the problem to begin with was yours. I don't know that the VA has the capabilities or was given the function to determine what happened in the Persian Gulf. That, it seems to me, was much more appropriately the DOD. And I am not here to criticize you for saying, if you did, to the chairman, "Look, this is what they told us. We weren't there. Our job is to treat sick people after the war."

The DOD told us that people were not exposed to chemical weapons. We believed them. We did our job. If that is what you say, I don't think that that is a bad thing to say within your context. I think the fault rests on the DOD's shoulders, and you used the evidence that you had.

I think the point that the chairman and I are in agreement on, and let's see if you are in agreement, is there now has been a change in thinking. The feeling now from the DOD and from many other people is that at least some of our soldiers were exposed to chemical weapons. Do you agree with that, based on your understanding?

Dr. MURPHY. Yes.

Mr. SANDERS. That is a yes, I gather. The chairman tells me to make sure that I am clear. I need more than a nod of the head. Is it your opinion now that some of our soldiers were made—that some of our soldiers were exposed to some form of chemical agents? Is that your opinion?

Dr. MURPHY. It is clear that there was release of chemical warfare nerve agents, sarin and cyclosarin, at Khamisiyah, and people likely to have been exposed at that site. The concentrations, unfortunately, are not clear.

Mr. SANDERS. Some Americans were exposed to a chemical?

Dr. MATHER. That is my understanding of what happened at Khamisiyah.

Mr. SANDERS. I think that I am angry not so much at the VA, but at the DOD for taking 5 years to make that acknowledgment.

Let me detour a little bit, and ask you as health care professionals, if 5 years ago the DOD had made it very clear that we thought that there was a problem at Khamisiyah, and as you know, some people say there were additional problems. You are aware of that. I don't know all of the evidence. There are some people who think that some Iraqi plants which manufacture the stuff were bombed; correct?

Dr. MURPHY. Yes.

Dr. MATHER. Yes.

Mr. SHAYS. I just need to say that nodding the head will not——

Mr. SANDERS. Let me ask the question. Are you aware that there are some people who believe that when American planes bombed Iraq we blew up installations that produced chemical weapons, that some of those chemicals may have released in the air and been absorbed by American troops?

Dr. MATHER. Mr. Tuite made a presentation to the Blue Ribbon Advisory Committee on Persian Gulf War Illnesses to that effect, so yes, we are aware.

Mr. SANDERS. Out of curiosity, does the VA have an opinion about the validity of that assertion?

Dr. MATHER. I think at this point we do not.

Mr. SANDERS. I guess for a start, I am concerned that given—the question I was asking is, what difference would it have made for the treatment of thousands of soldiers if 5 years ago the evidence was clear that at least some of our people were exposed to chemical agents? I would imagine that it would have made a change. How do you feel?

Dr. MATHER. From a treatment perspective, I do not believe it would have made a difference. We would still be looking for evidence of illness, evidence of neurologic changes, neurologic diseases. However, I think it definitely would have made a difference in our research program. I think we would have been very much more interested in additional research in low-level exposure, which still needs to be done.

Mr. SANDERS. Let's start off with treatment and research, two separate issues. You mean to say, and again, the last I know Mr. Shays was not a physician. I'm not a physician so we're at a bit of a disadvantage here. But if I walk into my doctor's office and say, doctor, I believe I was exposed to A, B, and C, you don't believe that that would necessitate quicker and more effective treatment than my walking into an office and saying, doctor, I'm not feeling well? Please answer that.

Dr. MATHER. I think what you would do if they said I was exposed to A, B, and C, you would ask for the symptoms that you would expect to have occurred at the time of the exposure and the symptoms now. If those symptoms were present, you would look into possible physiologic and anatomical changes and diseases that you could treat. We often treat diseases that we don't know the cause to. We would be looking at that. But there are no markers, there is no test you can do to prove that a person was exposed to these chemicals.

Mr. SANDERS. Let me ask you this. If you knew for a fact that I walked across the street, that I was exposed to a chemical agent and I walked into your office, you would be able to more appropriately treat me than if I walked in and said I'm not feeling well, correct?

Dr. MATHER. I would know which questions to ask.

Mr. SANDERS. They're not only questions. Isn't there a treatment of some sort?

Dr. MATHER. No.

Mr. SANDERS. There is no treatment that you have available at this point?

Dr. MATHER. Not if you are not showing any symptoms. Now, there are——

Mr. SANDERS. I am showing symptoms.

Dr. MATHER. There are antidotes for certain chemical exposures that you would want to give ahead of time.

Mr. SANDERS. Let me rephrase my question. If I told you that 3 years ago I now understood, somebody told me that the box that I opened contained a chemical agent, they told me now 3 years later and I walked into the office and I said I'm feeling bad, I have all of these ailments and somebody just now told me that 3 years ago I was exposed to chemical agents. Could you treat me better than if I just walked in and said I'm not feeling well?

Dr. MURPHY. Maybe I can answer that. I'm a neurologist and most of the effects of the nerve agents are actually on the nervous system. It has an effect on acido colon asterace and you can get memory problems, and peripheral neuropathy in high doses. Those are the kinds of effects that we would be looking for. We do not have effective treatments for memory problems in most cases. We do have some symptomatic medications and symptomatic treatments that might relieve the numbness, the tingling, the painful sensations that can come from neuropathy. But there is not anything specific that I can do if I know it's a nerve agent as opposed to diabetes that is causing that ailment.

So, in fact, if the evaluations are done in a very thorough way and a neuropathy is diagnosed, there would be no difference between treating a patient who had that as a secondary effect of one of the organophosphate nerve agents, a chemical warfare nerve agent as opposed to——

Mr. SANDERS. Doctor, again, I am over my head here, not being a physician or a medical researcher. But are you suggesting that—we had yesterday a gentleman here, as you know, who is in very unfortunate physical condition, going much further than memory loss. Are you suggesting that the extent of exposure to a low-level chemical agent is only memory loss? Is it a possibility that forms of cancer can develop as a result of that?

Dr. MATHER. There are some chemical exposures which we know, there are some chemicals that are carcinogenic. We do have evidence that some types of dioxin and herbicides and Agent Orange do cause certain types of cancer. We have evidence, animal studies and human studies that show that. But the point is made that if you know the chemical you're exposed to, if you came to me immediately and said I have been exposed to nitrogen mustard or mustard gas, sulfa mustard, I would say let's decontaminate you immediately, start pouring water, go to the housekeeper and get some bleach because bleach decontaminates mustard gas. Get rid of it on you and then we would watch you for whatever problems you develop.

If you came to me and said I sprayed cark, which is a type of chemical agent resistant paint which we know causes asthma, if you came to me and said that when I was in the Gulf I didn't have proper respirators and yet they made me spray these airplanes with cark and that did happen, then I would say, I would expect that your asthma is due to that, and we will treat your asthma. We would treat that asthma the same way, whether it was due to

cigarette smoke, whether it was due to certain pollens in the air or that we didn't know what the cause was. We would give you epinephrine, steroids, we would give you broncholithic antispasmodics and we would get your asthma under control. But it depends.

I'm a pulmonary physician so I'm more comfortable discussing chest and asthma where Dr. Murphy is a neurologist and that is really out of my area of expertise. It partly depends on the chemical, but then you treat the disease that you find as a result of that. But it really doesn't matter. If you have asthma, I'm going to treat your asthma. But if I know that you were exposed to cark, I would say it's almost certainly due to that.

Mr. SANDERS. But now you raise the distinction between treatment and research and obviously the more we know about the problem, the better we are able to treat it. Are you comfortable, in fact, that you really understand all of the physical manifestations of exposure to low-level chemical agents so that maybe somebody is coming to you with a problem and you really don't know what the cause of that problem is?

Dr. MATHER. I think that's the reason that we do advocate more research into this area and I think low-level exposure we even know less about than we do high-level exposure. When the gases were released in Japan in the subway and in the town, people died and those were well-recognized results of acute high exposure. What we do not know as much about is what happened to the people who didn't get the high-level exposure but in fact got—were off on the periphery and got some low-level exposures.

Mr. SANDERS. Let me ask you this question: Are you aware of members of our armed forces who, in fact, had an acute reaction to exposure to chemical agents during the war?

Dr. MATHER. We have people who had reactions to—who appeared to be reacting to chemicals. The Al Jubayl problem of the veterans who were wearing the undershirts that turned color, there was some sort of chemical in the air. What we don't know is what it was.

Mr. SANDERS. And what happened to those men and women?

Dr. MATHER. Many of them didn't feel well at the time. They felt sick.

Mr. SANDERS. Long-term effects?

Dr. MATHER. Some of them have had long-term effects which we are not sure are due to that or whether these are illnesses that occurred after they got back from the Gulf.

Mr. SANDERS. Was that in the Khamisiyah area?

Dr. MATHER. No, that was down in the port of Jubayl in Saudi Arabia.

Mr. SANDERS. So what you are suggesting is that there was a form of chemical exposure in an area other than Khamisiyah. Is that what you're saying?

Dr. MATHER. But we don't know that it was chemical weapons exposure. It was some sort of chemical. But we are surrounded all the time by chemicals. Unfortunately, our environment is filled with chemicals. Diesel fuel, industrial chemicals in an industrial area. In Vermont you don't have that problem very much.

Mr. SANDERS. We have enough of that problem, believe me.

Dr. MATHER. But we certainly do down here.

Mr. SANDERS. Let us go now to research. There is as best I understand a division within the scientific community. The top ranks of the military have suggested that if they were not terribly concerned, if there were not serious acute problems such as in the Japanese subways, right, that was pretty acute, right? That was not the case in the Persian Gulf.

Therefore, I think to roughly paraphrase Colin Powell and Schwarzkopf, we heard these things, but we didn't see anything dramatic. We didn't see it as a problem. And I gather there are at least some members of the scientific community who believe that if you do not have an acute response to a chemical agent, it is not going to be a problem; is that correct? There are at least some people who believe that, correct?

Dr. MATHER. I believe so, yes.

Mr. SANDERS. Is that, Dr. Murphy, your understanding?

Dr. MURPHY. There are individuals who would say that.

Mr. SANDERS. That is what I have been reading in the paper. At least that appears to me, would you agree, is the official position of the Pentagon at this point?

Dr. MATHER. I think you should ask them. I don't feel comfortable expressing the Pentagon's point of view.

Mr. SANDERS. Dr. Murphy, am I paraphrasing the Pentagon correctly?

Dr. MURPHY. I think that there is sworn testimony that has made statements similar to that.

Mr. SANDERS. Now, what I want to ask you and I think—I am not necessarily comfortable with your statements on treatment, but in terms of research, if you knew 5 years ago for sure that our soldiers had been exposed to low-level doses of chemical agents, would you have been more aggressive in trying to research the long-term effects of that exposure?

Dr. MURPHY. I think the record on that is clear. Because, in fact, immediately after the announcement in June of the Khamisiyah episode and the release of chemical warfare nerve agents, we did change our position on research. There are two ways to look at this problem.

You can either start with the health effects and try to identify what the illnesses are in the population and then work toward trying to associate them with exposures or risk factors, or you can go in the opposite direction. You can take that exposure and try to work backwards and try to see in the individuals that you know were exposed what are the specific health problems.

Mr. SANDERS. Or you could do it both ways, I gather?

Dr. MURPHY. Yes. And it was not viewed, again, as high priority to take asymptomatic exposures to chemical warfare nerve agents and look for health effects, because there was no evidence either from what we were being told from DOD or from advice we were getting from outside scientists that that was a likely possibility.

Clearly, now with a known release and a known exposure, we recognize that there is a gap in the scientific knowledge. It is very hard to prove a negative. The evidence does not exist in the scientific literature at this time that clearly says asymptomatic exposures to low-level nerve agents cause this recognized group of signs and symptoms, physical findings.

Mr. SANDERS. But there are some studies which suggest that that is a possibility?

Dr. MURPHY. The best study, I think, that addresses that issue is one by Duffy that was published many years ago and was actually included in an analysis that was done by the Institute of Medicine in the early eighties. The problem is that even that study does not look at either primates or humans, industrial workers, who were exposed who were asymptomatic.

Every single one of those individuals had an episode where they got acutely ill. They had minor symptoms, they didn't require hospitalization, it was not a lethal effect, but even those individuals had symptoms. And the paper did not diagnose illness or disease. It looked at very subtle changes in brain waves as an end effect.

Mr. SANDERS. Let me ask you a question: I wrote a bill which was passed a few years ago called the National Cancer Registry Act because it seemed to me important to know who was coming down with cancer, where they were, what kind of diets they had, what kind of environmental conditions they had and we could learn a lot from that.

How much epidemiological work have we done, for example, I read in the papers today in England now the government is under—you may have seen that—under similar type criticism for not responding to the needs of their vets in Israel, some of the vets were ill and in other countries as well.

To the best of your knowledge, I think I am giving an answer here, but this is clearly not uniquely an American problem. Have you been in contact with other countries that have troops in the Persian Gulf? Have you been comparing notes?

Dr. MATHER. Yes, we've had several visits from the British. Dr. Murphy has gone to England to work with them on their epidemiology projects. Last September or August when we had our latest face-to-face training with the physicians who are taking care of Persian Gulf veterans, we had presentations from the Canadians and from the British about what they were seeing in their troops.

Mr. SANDERS. Am I correct in assuming that this problem was simply not an American problem, but an international problem, similar type symptoms developing all over the world?

Dr. MATHER. That's correct.

Mr. SANDERS. I'm going to give it over to the chairman who is itching here with his pencil in a moment, but let me just ask you this question: Earlier, Ms. Dyckman testified and she gave a feeling that I hear from Vietnam vets as well is that the VA is not terribly open about giving off vibes that say, hey, come on in, we want to treat you, we have the resources to treat you, don't worry about the paper, and so forth and so on. But, rather, there seems to be an invisible veil that says, hey, we really don't want you, we're trying to get rid of you, if you can go through all the hurdles, I guess we'll take you.

Without getting too deeply into that, I do understand that you operate with financial limitations, that you cannot simply open the door to everybody who wants to walk in, true?

Dr. MATHER. We have eligibility criteria, some of which are imposed by Congress.

Mr. SANDERS. All of which are imposed by Congress. I'm not here to blame you for that. There are limits in what you can do with limited resources. Is one of the problems that you are having that you do not have the financial resources to adequately address this problem, or is that not a problem?

Dr. MATHER. I am not aware that finances are the problem. From my perspective, we have been given the help we need. I, too, was somewhat upset by Ms. Dyckman's testimony and think that it points out the need to continually educate our physicians and obviously others, because Persian Gulf veterans do have the right to care if they believe the conditions which they have are related. They don't have to prove that to get care.

Now, to get compensation, there is a different evidentiary requirement. But to get care under VA, if you served in the Persian Gulf and you are now having health problems, there is priority care available. Priority may not be as good a word as we would like to use, but they are eligible for care and should be taken care of.

Mr. SANDERS. I should tell you that Ms. Dyckman is not the first veteran to express those concerns.

I will give it over to the chairman again.

Mr. SHAYS. In Mr. Sanders' questions to you, you pointed out—you volunteered that there was one area where all the shirts of the soldiers changed colors and you attributed that to some kind of chemical, but we do not know if it was offensive. We do not know what kind of chemical. It could have been industrial as you point out.

Dr. MATHER. Ammonia will do this, for example. Exposure to ammonia in the atmosphere will do that.

Mr. SHAYS. But I imagine if it changes the color of your shirt, it probably has effects on your body as well?

Dr. MATHER. Perhaps. I don't know.

Mr. SHAYS. Did we have soldiers in that area who were complaining of physical symptoms that they thought were quite serious?

Dr. MATHER. These were the Seabees from Alabama and North Carolina that I spoke about.

Mr. SHAYS. Were they part of that group of shirts changing colors?

Dr. MATHER. I believe so, yes.

Mr. SHAYS. So you got a chemical and it changed the color of their shirts and you have soldiers who said they don't feel too good and we are trying to see if maybe chemicals maybe were a factor.

Now, I am going to read to you a statement prepared by Nick Roberts, Persian Gulf war veteran, Petty Officer, Second Class, Naval Mobile Construction Battalion 24. He was in the port of Al Jubayl in Saudi Arabia.

Dr. MATHER. I believe he was one of those.

Mr. SHAYS. Let me just read to you what he said.

On January 20, and this is his testimony before the committee.

On January 20, 1991, I was awakened by a loud explosion. Running to the bunker, I heard a second explosion and noticed a large fireball toward the port. Once in my assigned bunker, I put my gas mask on. We all sat there for approximately 20 minutes, and then the all-clear was given. We left the bunker and went outside. I estimate that half of the unit returned to their tents and the other half remained outside talking. To the best of my knowledge, there were 112 men assigned to the

air detachment. I was one of the men outside talking. Within just a few minutes, my arms, neck, face, were stinging. My lips felt numb and I had a strange taste in my mouth like a copper penny or perhaps a metallic taste better describes it. Some say a mist came over the camp I do not remember a mist but more of a fog.

Just about the time we all concluded we had been hit with something, chemical alarms began sounding. Alarms were going off everywhere. Marines camped nearby began to yell go back to your bunkers, we have been gassed. Once inside the bunker we were ordered to MOP Level 4. Radio transmissions were coming in. 'confirmed gas attacks, I repeat, confirmed gas attacks. All stations go to full MOP Level 4.'

We stayed at MOP 4 about 1 hour and then we were given the all-clear once again. Afterwards many of us went to the water tank and washed ourselves down to stop the stinging. My first symptoms were redness of the skin and welts on my chest that afternoon. The cause of my symptoms is very obvious. I stand by my charge as I have from the very beginning of chemical exposure, not to mention the overall exposure from fallout due to intense bombing to chemical and biological plants, radiation fallout from thousands of depleted uranium rounds used by the United States, exposure to vaccines and nerve gas pills and months of breathing smoke from more than 300 well fires. I do not see how you could call it anything else.

Now, he was in the same area. He had immediate symptoms. He did not die. The attitude at DOD has been, well, if they didn't die, they weren't exposed to chemicals because there was no acute signs.

We have the testimony of Mr. Joseph that basically makes it very clear what his attitude is about the fact of acute symptoms.

Is it possible that someone can be exposed to low-level chemicals, become sick and die?

Dr. MATHER. I don't know.

Mr. SHAYS. You don't know?

Dr. MATHER. To low-level chemicals.

Mr. SHAYS. To any kind of chemical. You don't know of that question?

Dr. MATHER. Well, there are—I guess each chemical would have its own level of lethality.

Mr. SHAYS. Is it possible that you don't have—to ultimately become sick and die, that you don't have to first have an acute symptom so severe?

Dr. MATHER. My review of the literature has not shown this to be documented in the literature, described in the medical literature.

Mr. SHAYS. So all the environmental law that we have been dealing with as a member, in State houses where I voted on laws that said if you don't treat this chemical properly, the long-term effect will be your bad health and ultimate death?

Dr. MATHER. No, there are cumulative effects to repeated exposures, to long-term exposures. I mean, tobacco smoke is an excellent example of that. Repeated exposures to tobacco smoke causes cancer. I know that. There are other chemicals. But each chemical is different and each chemical has to be treated differently. And yes, repeated exposures to low level can cause serious disease. Chromates, for example, can cause lung cancer.

Mr. SHAYS. Your contention would be low-level exposure just once would not result in years to come in someone becoming sick——

Dr. MATHER. I can't site you a chemical right now at low level.

Mr. SHAYS. I just want to know what's in your mind because you're a leader in this area. You're in charge.

Dr. MATHER. At this point I simply cannot site you a chemical where a single low-level exposure that causes no symptoms at the time—it is a research area, but I am certainly not aware of one.

Dr. MURPHY. You're almost asking an unanswerable question.

Mr. SHAYS. Why is that?

Dr. MURPHY. There are hundreds of thousands of chemicals and you're asking us to pick out just one.

Mr. SHAYS. No, I didn't ask you to pick out just one.

Dr. MURPHY. Where asymptomatic exposures would cause serious disease.

Mr. SHAYS. I want to correct you. I asked such a general question that she could have responded generally, yes, if it was all or some chemicals, yes. I didn't ask for a specific chemical. At least I don't think I did.

Dr. MATHER. That would be the way I would have to go through in my mind, chemical by chemical. I'm not a toxicologist. I would have to defer to an expert.

Mr. SHAYS. What did you think when you heard this testimony? Would you be inclined to listen to this soldier?

Dr. MATHER. Yes, certainly, I think you had evidence at the time. Those are not, however, the symptoms of acute exposure to a nerve gas.

Mr. SHAYS. Why does it have to be acute?

Dr. MATHER. That does fit with the acute exposure to ammonia, for example. These are symptoms that are consistent with acute exposure to ammonia.

Mr. SHAYS. I get the sense that you don't really have the background in chemical exposures; is that correct?

Dr. MATHER. I'm not a toxicologist. I am a chest physician.

Mr. SHAYS. And, doctor, you're not a toxicologist.

Dr. MURPHY. I'm a neurologist, sir.

Mr. SHAYS. You are not a toxicologist; is that correct?

Dr. MURPHY. That is correct.

Mr. SHAYS. I just want you to acknowledge you're not a toxicologist.

How many doctors do we have working for the VA?

Dr. MURPHY. Over 14,000, sir.

Mr. SHAYS. And how many are full-time?

Dr. MATHER. Roughly 8,000, I'm told, by my staffer.

Mr. SHAYS. Of those 8,000, how many are toxicologists?

Dr. MATHER. I don't know.

Dr. MURPHY. Physicians are rarely toxicologists. That's a Ph.D. level kind of specialty. There are people who are medical toxicologists. Dr. Kizer, for instance, is a medical toxicologist physician who has a background in toxicology. He's our Under Secretary for Health. I would have to go back and look specifically.

Mr. SHAYS. It would be an estimate, and we would treat it that way. One percent, 10 percent? A half a percent?

Dr. MURPHY. I cannot estimate.

Dr. MATHER. I honestly don't know.

Mr. SHAYS. Can you name me 10 toxicologists that you know of working for the department?

Dr. MURPHY. In general, toxicologists don't work in health care organizations. They're often in research laboratories or in organiza-

tions like the EPA. We certainly have access to toxicologists and do use their expertise.

Mr. SHAYS. That is not what I asked. I asked a very simple question. Can you name me 10 toxicologists who work in the VA?

Dr. MATHER. No.

Mr. SHAYS. Dr. Murphy.

Dr. MURPHY. I can't come up with 10 off the top of my head.

Mr. SHAYS. Can you name me five?

Dr. MURPHY. Dr. Peter Spencer is a funded neurotoxicologist who is heading up one of the environmental hazard research centers.

Mr. SHAYS. That's one.

Dr. MURPHY. Specifically focused on Persian Gulf research.

Mr. SHAYS. That is one. I am going to ask if you can name me five. That is a simple question. Out of 8,000. Can you name me another?

Dr. MURPHY. No, sir.

Mr. SHAYS. So you can only name me one expert in a field that deals with chemical exposure. Is that correct? You can only name me one? Can you think of another?

Dr. MATHER. Employed by the VA?

Mr. SHAYS. Yes. One of your 8,000 potential full-time. Can you name me a second one?

Dr. MURPHY. Toxicologists are not the only specialists who would have importance.

Mr. SHAYS. We'll come to that. You can make your point. I will let you make your point. Can you name me a second toxicologist?

Dr. MURPHY. We've already said, no, sir.

Mr. SHAYS. Can you give me other qualifications that a doctor would have that you wanted to touch on now dealing in chemical exposure? What other specialties would there be besides the toxicologist?

Dr. MURPHY. Most of the subspecialists that we have have some role in investigating toxic exposures, including neurologists, pulmonologists, the occupational health physicians, and we have numerous individuals in those subspecialties who may have an interest in toxic exposures without being a toxicologist.

Mr. SHAYS. So it might be not their primary focus, but they might have some knowledge of chemical exposure and its impact; is that correct?

Dr. MURPHY. Yes.

Mr. SHAYS. I think it is telling, though, that you cannot name me more than one person in the entire department. I am going to give you two examples——

Dr. MURPHY. We can, of course, provide that for the record if you are interested.

Mr. SHAYS. I would definitely like it for the record. But given that chemical exposure is something that I know the Department is focused on, because you say you are, it would seem to me you would be able to name a number. But I think of two analogies and tell me where I am off base.

I have a street in Stamford, CT, that has 14 lights and it has never been synchronized and we would always try to improve this system. We would call and have the lights fixed. And then I found out that we only had one expert who dealt with lights in the city

of Stamford and he didn't deal with solid state. He dealt with literally an old-time mechanical system and so he kept ordering the old-time mechanical system because he did not have the expertise to order the modern system. So the city of Stamford suffered until we finally got someone with the expertise who ordered proper equipment.

I think of universities, small universities that teach courses and the only courses they teach are the courses those professors have their background and expertise, so students were deprived of courses they needed because they didn't have professors who had that expertise.

Is there any possibility that one of the problems the VA faces is that when our veterans go and talk about chemical exposure, they are talking to people who don't know a word of what they are talking about because they don't have any expertise, they don't have any background and therefore they don't focus on it? Is that a possibility?

Dr. MURPHY. We are certainly provided relevant education in those areas and background reading material. It is very difficult to try to evaluate exposures to each of the multitude of things that happen to people in the Gulf. We do not in general have specialists in Persian Gulf Registry examinations. However, when a problem is identified, those veterans are often referred to physicians who have subspecialty training in the relevant area. The VA is a large organization with very well-trained physicians who do have a vast range of expertise.

Mr. SHAYS. Doctor, I believe that, but one of the telling points was that Dr. Mather was basically very candid in saying, under oath, that she had really no expertise in this area that we were really questioning her about and you do not have specific expertise in this issue, and you can only mention one that was really focused in chemical exposure. And there are more. There are more.

Dr. MURPHY. No, you asked about a toxicologist. Let's be very precise about the language.

Mr. SHAYS. Yes, I did. And you could only mention one toxicologist, out of a vast number. That speaks volumes. There are other areas that would give them some expertise. I just simply ask the question, is it possible? Could you open up your mind to the possibility that maybe, possibly, we have veterans like this veteran who tells a real life story and he goes to a doctor and the doctor does not have any expertise in this area?

Dr. MURPHY. I think that's a bad example. Because in fact the Birmingham Pilot Program was set up to address exactly that issue. Those physicians were extremely well informed. Occupational medicine physicians evaluated each one of the people who decided to participate.

Mr. SHAYS. The Birmingham doctors, how many of them are there?

Dr. MURPHY. In the Birmingham Medical Center?

Mr. SHAYS. That is the one you're talking about, right? You are saying you have this area right there? How many doctors?

Dr. MURPHY. I don't know. We'll have to provide it for the record. It's a large tertiary care medical center.

Mr. SHAYS. I am not aware that all veterans who think they have chemical exposure end up in Birmingham.

Dr. MURPHY. You were referring to Nick Roberts' case, where he had access to a specialized program that was set up for that group of veterans to evaluate that exposure. And in fact, an occupational medicine physician was involved who does have expertise in industrial and toxic exposures. So in fact, in the individual case that you used as an example, that is not relevant.

Mr. SHAYS. That's a really strong statement. You don't think it's relevant that he and others like him believe that the VA, first, isn't listening and, second, doesn't have the expertise to deal with chemical exposure?

Dr. MURPHY. I would say that in that case those veterans were listened to, the record shows that they were listened to and they were dealing with physicians who did have the expertise to evaluate very well that exposure. That may not be true at every medical center around the country. I agree with that. We have provided a well-organized, well-developed national training program to educate physicians on the relevant issues.

Mr. SHAYS. When you say relevant issues, we are talking about chemical exposure right now. So I don't want you to say you are telling the physicians around the country about the relevant issues. I want to know if you are also including in that, in very specific detail, the possibility of chemical exposure. Before I just yield, or I give back, not yield, but give the gentleman his time, as much as he wants, I am just trying to understand, because you are the two leaders who basically, from you then the rest of the field, responds. I am just trying to understand your attitude, your approach, your concept of what is going on.

And when Mr. Sanders asked about, did you believe that our troops were exposed to any chemicals, the only site that you acknowledged was the potential at Khamisiyah. So I am going to ask you if you believe our troops were exposed to chemicals in any other areas. And I would say in general chemicals now, I will say offensive as specific.

Dr. MATHER. The chemical weapons, the one chemical weapon exposure that DOD has confirmed is the exposure at Khamisiyah.

Mr. SHAYS. So that's the only one you accept?

Dr. MATHER. The possibility exists that there were others. The possibility exists. There were certainly other chemical exposures. There were exposures to diesel fuel. There were exposures to industrial gases. There were exposures to other things that were in the desert.

Mr. SHAYS. Let me just ask you, though, just for the record, do you believe—I'm asking what you believe—do you believe that our troops were exposed to offensive or defensive chemicals either attack or being blown up by our own troops other than Khamisiyah?

Dr. MATHER. What I believe is the possibility does exist.

Mr. SHAYS. In a few places or in many places?

Dr. MATHER. I suppose it exists in—the possibility exists in many places.

Mr. SHAYS. What do you think, doctor?

Dr. MURPHY. I think we have made very clear statements on this.

Mr. SHAYS. No, I'm asking you.

Dr. MURPHY. In this testimony that we have presented today and what I presented to you in the past, the VA has always remained open to the possibility that there were chemical exposures, including chemical warfare nerve agents to Persian Gulf veterans serving in Desert Shield and Desert Storm. That has been a very clear statement on our part from the beginning.

Mr. SHAYS. I want to know what you believe as someone in charge. Do you believe that our troops were exposed to chemical weapons, offensive or defensive, in addition to Khamisiyah?

Dr. MURPHY. I believe that the possibility exists and that that possibility has to be taken very seriously and we need to look for potential health effects.

Mr. SHAYS. You believe it is a very real possibility or only a slight possibility? You smile, but it matters.

Dr. MURPHY. It does matter.

Mr. SHAYS. Because if you think that there is a very real possibility, your approach and energy will be one. If you think it is very, very slight, it will be another. And if you have doctors who work in the VA who may have expertise who say we think it happens everywhere, but you don't, you may not treat them and take them as seriously. So it matters to me. I will ask the question again. You think the possibility is not that likely or it is very likely?

Dr. MURPHY. I don't know that I can put my feelings into your terms, sir. Let me express my feelings my way.

Mr. SHAYS. OK.

Dr. MURPHY. First of all, it is very clear that there were chemical warfare agents that the Iraqis had. It is clear that in some cases they were weaponized. It is clear that they were in southern Iraq and maybe even in Kuwait. It is clear that the possibility exists that our Persian Gulf veterans, U.S. citizens, may have been exposed. I take that very seriously.

If you want me to grade that, I can't do it. I think that we have taken it seriously in our clinical evaluation programs. We have taken it seriously in the way we have handled veterans who have come to us with those concerns, and I think we have taken it seriously in our research programs. We have looked for neurologic effects from the first establishment of the Persian Gulf Research Program. What we did not address was low-level exposures and the potential long-term health effects and we have corrected that problem.

Mr. SHAYS. The last point is to know your feelings. Do you think that most of the veterans who believe they were exposed to chemicals are right or wrong? Would you say—do you believe that 50 percent of them may be right or 5 percent of them may be right or 3 percent of them may be right? What do you think?

Dr. MURPHY. If even one is right, it is an important problem. I can't tell you what percentage of people's beliefs are correct. What I can tell you is that we have taken this seriously. If even one veteran is right, that chemical warfare nerve agents were present in the theater, then that's important to VA, bottom line.

Mr. SHAYS. Mr. Sanders.

Mr. SANDERS. Thank you.

Doctors, as you know, you and the chairman and I and people from the VA in general share something in common. We all work for what is called the government. As you may have noticed in the newspapers, not everybody in America is enthusiastic about the performance of the U.S. Government in many areas, Congress included, the chairman asks me to add.

And I think one of the backgrounds, the backdrops to this particular hearing, is the feeling, not just for the VA, but for the DOD and for the Congress that we have tens of thousands of folks out there who are hurting and if you go to those folks and say has in general the U.S. Government responded to your needs appropriately, I would say that they would tell us that the answer is, no.

Would you agree with that? Or not? Maybe we should not even begin on that one. I talk to folks. I understand, by the way, that every doctor has a problem that every patient who walks into that doctor cannot be cured instantly, right? And every patient isn't happy and thinks maybe there was something more that could be done. I understand that that is a problem that the medical community has always had.

But given that reality and my understanding of that reality, would you agree that most folks who served in the Persian Gulf, especially those who are suffering from what is loosely called the syndrome, do not feel that the United States Government in general has acted effectively in addressing their problems?

Dr. MURPHY. I would have difficulty with the word "most." I think that there are a group of veterans who have unexplained illness who feel that they deserve to have a diagnosis, that they deserve to have a cause identified, and I have to echo those feelings and we are working hard to make those diagnoses and to give them the answers that they deserve.

Yes, I think that there are a group of veterans who have been dissatisfied with the reception they have gotten at some medical centers. But we also hear from a number of veterans who are, in fact, very satisfied. And there have been oversight groups who have gone out and talked to veterans who have told them that they felt that our Registry physicians were well-informed, that they answered their questions, and that they got appropriate medical care. We don't consider that the total answer. Our office is currently working on a patient satisfaction survey that will specifically ask that question of Persian Gulf veterans and we will be happy to provide those answers when they are available.

I would like to say, though, that I think there has been a misimpression here. Ms. Dyckman left the impression that not every Persian Gulf veteran has access to VA health care. In fact, priority care, special eligibility was passed by Congress in 1993, which gave every Persian Gulf veteran access to VA health care if they felt they had a health problem that was due to—potentially due to an exposure that occurred in the Gulf. They don't have to give any proof. They just have to come to VA and say, I'm sick, I think it happened while I was in the Persian Gulf.

Mr. SANDERS. But Ms. Dyckman also said not theoretically, but based on personal experience, that she did not feel welcome, that she believed that other people did not feel welcome. You can have a law which says something and a reality which indicates some-

thing else. I don't want to stretch this point too much, Dr. Murphy. There is no question that there are some wonderful—believe me the last thing in the world that I want to do up here is beat up on the VA and the hospitals and the doctors.

You have some wonderful, dedicated people and I think everybody acknowledges that. But I would suggest to you that there are a lot of folks out there from Congress, to the DOD, if it took 5 years for the DOD to acknowledge that our soldiers were exposed to chemical weapons, it is hard for me to believe that there are a lot of people out there who are not unhappy. My phone was banging off the hook yesterday after this hearing. OK?

The second question that I would like to ask you is I believe that the criticism should be leveled at the Pentagon and not at you that it took us 5 years to acknowledge that soldiers were exposed to chemical agents. But there is a criticism, at least there is in my mind that I want to level at you. You have examined tens of thousands of soldiers, correct?

Has anybody concluded that said, gee, we have examined people who were in this particular area, Khamisiyah, anyplace else, and we are finding a commonality of problems that may have been caused by one single source. We have done epidemiological work that would suggest there may be a problem, maybe it was exposure to chemicals.

Dr. MATHER. We have asked the Environmental Epidemiology Service to look at the list that DOD provided us with, with those people who were within a 50-mile radius of Khamisiyah and also who were onsite at Khamisiyah. Many, if not most of them, have come in for Registry examinations and when we look at the figures, they don't look any different from the people who were not within a 50-mile radius of Khamisiyah.

Mr. SANDERS. Your research at this point suggests there are no differences in terms of health problems associated with people from that region?

Dr. MATHER. Looking, but then we are not absolutely certain that the names we have provided were actually there. So that needs to be worked on by DOD in developing the true cohort. These were people that they think were there.

Mr. SANDERS. Let me ask you this: So you're saying now that you really don't have any good information, that the names may not be——

Dr. MATHER. We have some information we have looked at, and we just have gotten this information, so we will be looking at it further. But I think that at this point in time, the thing—the signs and symptoms and the diagnoses don't look awfully different.

Mr. SANDERS. Have you seen any clusters developing in terms of where people were located during the war? Are you seeing folks over here coming down with certain types of illnesses as opposed to folks over there?

Dr. MATHER. We certainly have, the one cluster in Pennsylvania where a physician at the Lebanon VA Medical Center examined a group and felt that there was a connection with warm sand, and she was hypothesizing that there was an infectious agent in the warm sand that had infected the veterans and, in fact, the veterans were infecting their families. She presented——

Mr. SANDERS. Were those particular folks from Pennsylvania located in an area which was significantly different from folks in other areas of the Persian Gulf?

Dr. MATHER. Not necessarily. But they were located together and they shared common experiences. We took her concerns very seriously. She presented them to our advisory committee who also took them seriously. We asked the Centers for Disease Control to go in and look at this because this was a potential infectious disease problem which they have done and they have published information on that cluster of people in the MMWR.

Mr. SANDERS. Dr. Mather, you mentioned the CDC. Let me ask you a simple question that maybe I should have asked you a half-hour ago. Who, in fact, has the responsibility within the U.S. Government for doing the cutting edge research on the area? Does it fall on your shoulders?

Dr. MATHER. The Department of Veterans Affairs, the Secretary of Veterans Affairs was given the lead role by the President shortly after the war for coordinating the research into Persian Gulf war. He has used the coordinating board made up of HHS, DOD and VA to help direct that research. It does not fall directly in my shop.

Mr. SANDERS. But it is on his shoulders?

Dr. MATHER. Yes.

Mr. SANDERS. So if we are going to look for answers to these problems, it is appropriate to look to the VA and not at other agencies?

Dr. MATHER. Well, I think it is a very complex problem and I think we can use all the help we can get.

Mr. SANDERS. Sure, I understand that.

Dr. MATHER. HHS and DOD are partners in this effort.

Mr. SANDERS. Let me ask you this. You may have seen the front page of the New York Times yesterday and let me just read a statement from it and maybe you can comment on it. The front page.

This is from the New York Times. The scientist who led a 1994 Pentagon study that discounted links between chemical weapons and the illnesses reported by veterans of the Persian Gulf war said today, being yesterday, that some of the findings might have to be revised in light of newly disclosed evidence from the Pentagon, evidence the Defense Department did not share with him at the time of his investigation and this particular fellow was a scientist, Joshua Lederberg, a Nobel Prize winning geneticist and a former president of Rockefeller University.

Later on he said in an interview that as a result of the newly disclosed evidence there should be an intensified effort to determine whether low doses of nerve gas could cause long-term illnesses. Later on in the article, it states—it mentions the study that you had talked about.

Dr. Lederberg's comments came as three former Army researchers said that research they conducted for the Pentagon in the 1970's suggested a connection between low levels of nerve gas doses so small they might not result in immediate physical symptoms and the sorts of health problems reported by Gulf war veterans.

The researchers, Dr. Frank Duffy and Dr. Birchfield and Dr. Bartels said in interviews that the Pentagon seemed intent on ig-

noring or dismissing their evidence when it was first disclosed. Later on, back up that statement, in a report on the issue that was widely distributed earlier this year to Gulf war veterans, the Pentagon discounted the importance of the research done by Dr. Duffy and his colleagues while embracing other studies that suggested there was no link between low-level exposures to nerve gas and the illnesses reported by Gulf war veterans.

Quote, this is from the Pentagon report. "'There is no credible evidence for chronic illnesses caused by exposure to organophosphate nerve agents at concentrations too low to produce signs or symptoms,' end of quote, of poisoning at the time of the exposure, the Pentagon report stated." It added, the Pentagon report, "such a process cannot reasonably be advanced as having a role in Gulf war illnesses." Sarin is among the family of chemical compounds known as organophosphates. Would you want to comment on that?

Dr. MATHER. I can't really comment on the Pentagon's comments. However, I do agree with Dr. Lederberg that the Khamisiyah revelations do put new impetus and importance to further research in low level and that is, in fact, what we are proceeding to do. As I say, the request for proposals was published yesterday and we hope that there will be significant and scientifically sound research proposals that come as a result of that call for proposals.

Mr. SANDERS. How has your agency looked at the work done by Dr. Duffy and the other scientists?

Dr. MATHER. We have reviewed it and we did agree that it was suggestive. However, my reading of it, and I think the reading of others who have looked at it, was that in the humans certainly, these low levels did cause symptoms at the time. Certainly, there is the possibility that the effects might be seen in people who did not have symptoms. However, it is hard to mark those individuals as having been exposed without the symptoms.

They were taking people who work in the organophosphate industry, people who produce organophosphate chemicals, pesticides, primarily, and then those who had had symptoms, following them for long periods of time. You can't do a prospective study of human beings where you would expose them to sarin. That's an unethical experiment.

Mr. SANDERS. Is this connected to some of the problems that farm workers in California have?

Dr. MATHER. Yes, the type of thing that people who use this in their occupation or who manufacture it.

Mr. SANDERS. Is more research going to be done on analyzing the findings of the Duffy study? What do you think?

Dr. MURPHY. I think there will be work done that will extend that research. I think that was—that is important information that needs to be taken into account when further research studies are designed. I think we need to look at clinically relevant, clinically important outcomes and other physiologic measures like the EEGs, the brain wave studies that Duffy used in his analysis. So yes, that knowledge is an important base for the further research that will be done.

Mr. SANDERS. How do you feel about the Pentagon suggesting that there is really not much there in terms of low-level exposure unless there is an acute response? Do you disagree?

Dr. MURPHY. No, again, I don't think that the current body of research proves that low-level exposures cannot cause health effects. They have not proved the negative. And, therefore, from the very beginning when we started to look at this, knowing that there may have been asymptomatic exposures at Khamisiyah, we said that further research needed to be done that answered that specific question. With low-level subtoxic, asymptomatic exposures in humans, can you find health effects, illnesses and symptoms that occur as a result of that exposure?

Mr. SANDERS. Does the VA have an official position on this issue? I have read you what the Pentagon's official position seemed to be. Is yours in agreement?

Dr. MATHER. I think our position is more research needs to be done.

Mr. SANDERS. I noticed in the paper the other day that in Israel, you may have seen it, there were some scientists who perhaps had discovered that there may be a problem with some of the inoculations that were given to the soldiers in terms of causing some of the symptoms that they are suffering from now. Is that something that you have looked at?

Dr. MURPHY. Actually, to correct the record, it was not the inoculation. It was the pyridostigmine bromide, which is a nerve agent protection pill.

Mr. SANDERS. Yes, you are right.

Dr. MURPHY. A pill that was taken prior to exposure. That research was interesting, because it showed that—it looked at two different populations of rodents and in one they stressed them by having them do a force swim. In the other they were not stressed. And it showed that there was a dramatic difference in the rate of entry of pyridostigmine into the brains of those animals.

Mr. SANDERS. As a result of those who were stressed out more.

Dr. MURPHY. That certainly gives us a different perspective on how dynamic the blood brain barrier can be. Normally those chemicals do not get into the brain. I think that this is an interesting report and if replicated will change our perspective on the blood brain barrier.

Mr. SANDERS. One of the things I would hope, I mean, are we in constant contact with the people who are doing research around the world?

Dr. MURPHY. Yes.

Mr. SANDERS. You mentioned that you went to a meeting, but is there some sort of council that meets on a regular basis to compare notes?

Dr. MURPHY. It is not so formal. We meet with the British, with the Canadians. I actually sit on a Gulf War Illness Advisory Committee for Canada. We have weekly contact with our colleagues in Britain with the Ministry of Defense and their research programs. Just about 4 to 6 weeks ago—I'm sorry, I don't remember the exact date—researchers from the VA did meet with the Israelis and talk about what research is being done in their country related to some of these exposures. And there is an active sharing of knowledge.

I think it is also important to point out that Dr. Kenneth Kizer, the Under Secretary for Health for VA, in his testimony before the Senate Intelligence Committee and Senate Veterans' Affairs Committee on September 25, announced that VA will host an international symposium to bring the best minds together on this issue, to make sure that we have every single piece of information that has been published on this subject and to get input into the best way to proceed forward with a better understanding and better research in this area.

Dr. MATHER. I would like to chime in that the National Research Council, one issue that has not come up today, but which is very troubling to us and very important to us is the whole issue of reproductive effects of chemical exposure, reproductive toxicology, and the Department of Veterans Affairs is helping to fund a workshop that is going on today and yesterday. But we felt that it was of greater priority to be here than at that workshop on reproductive toxicology.

We will certainly look at the proceedings, the published proceedings of that. But this is one step in getting the best minds in the world together in reproductive toxicology to talk about where we need to go in research in this field.

Mr. SANDERS. Let me ask you this. Mr. Shays mentioned a moment ago in his hometown of Connecticut, the problems that he had in getting some lights adjusted and I was a mayor for 8 years and I know about those problems. Tell me frankly, understanding that there are tens of thousands of veterans who are hurting on this, do you believe right now that we are doing as good a job, state-of-the-art, cutting edge research to alleviate those problems, that we have the best minds in the world working on those problems?

AIDS is a tremendous problem and there seems to be a commitment all over the world to get the drugs that are needed and some progress seems to be made. One doesn't have the feeling that we are moving quite as vigorously or effectively in that area. Is the VA doing, in your judgment, the kind of work, the quality of work that should be done?

Dr. MATHER. I think it is a continuing process and I think the commitment is there to do it. We are looking at effects in AIDS. For example, this is 1996 and AIDS has been in the research picture since 1983 at least. So it does take time. I think good science takes time both to design and to do. And that is really the only science worth doing, is good science. So I think we're on the right track. I think we are building on what we learn. It is also an iterative process. What we know today builds on what we found out yesterday.

Mr. SANDERS. Doctor, you say we are on the right track. If we had the people who are suffering here today that are watching us on TV, do you think they would be nodding their heads and saying, yeah, they're on the right track?

Dr. MATHER. It would be incredibly arrogant to say I think we're doing all that could be done. But I think there is a desire to do good science to answer these questions and I think there is a commitment to that.

Mr. SANDERS. Let me just change course here for a moment.

What conditions must exist for the variety of diseases and symptoms that were once labeled the Persian Gulf syndrome to be considered service-related injuries? This is a question that came up in the previous panel.

Dr. MATHER. Well, there are many ways that individual symptoms, signs, diseases can be found to be, either the first sign or symptom occurred while the patient was in the Gulf.

Mr. SANDERS. This gets us to that chicken and egg problem again.

Dr. MATHER. Yes, or if it turns out to be an undiagnosed illness, but if it occurred within 2 years of the Gulf, that can be compensated. So each symptom and each disease is evaluated separately as a part of the——

Mr. SANDERS. Are we leaning, given the complexity and your admission and all of our admissions that we just don't know enough about it, if somebody comes in and says I think I got this in the Persian Gulf and you're saying, well, it doesn't really look that way, we can't treat you, then which way are you bending? Are you bending and saying, well, we don't know, but I guess if you say so we'll treat you, or not?

Dr. MATHER. I think if they come in wanting treatment, there should be no question that we will treat—if they think there is a connection with the Persian Gulf, we will treat it in VA medical centers, look after it. That doesn't mean that the treatment will always cure the patient or restore them to optimal health or the state they were before they went, but we will take care of them.

The question of compensation and service connection is a separate one that I am probably not the expert to ask. There are people who know more about that than I do. But each symptom, sign is evaluated separately and adjudicated separately.

Mr. SHAYS. You all have been very patient and we are coming to a close. I just would like to ask a few more issues for our record.

The 1994 study of mortality that was done included data from what year to what year?

Dr. MATHER. From 1991 through 1992.

Mr. SHAYS. So it was just basically——

Dr. MATHER. It was a short-term mortality study. Immediate mortality study.

Dr. MURPHY. From September 1991 through September 1993.

Mr. SHAYS. So bottom line, though, is that we are just talking about really almost 2½ years out?

Dr. MURPHY. The first 2 years.

Mr. SHAYS. So we really would not expect to learn anything all that significant from a study that just looked at the first 2 years. We have had 3 years since then. Do you think there is any danger in coming out with studies like this that really tell us nothing?

Dr. MURPHY. It doesn't tell us nothing. I would disagree with that statement. There are numerous veterans who have come to you, who have come to us and said we are concerned. We think that Persian Gulf veterans are dying at a higher rate than the United States population. And we set out to answer that question for them. The study was begun in 1994. The national death index is 1 year behind. So the best, most valid information that we could use was 1 year behind. Currently, the Environmental Epidemiology

Service is, in fact, updating that information through December 1995. Again, the latest available information that we can validly rely on.

Mr. SHAYS. I didn't say you weren't taking the latest data. I was just saying that given that it is basically 2 years after the war, is it really telling us anything?

Dr. MATHER. But that is an answer to the question. In the immediate timeframe after the war, were Persian Gulf veterans dying at an unusual rate? They were dying at a lower rate than the U.S. population. They were dying at a slightly higher rate than other people who were in the military. But those deaths were all due to deaths from accidents and other external causes.

Dr. MURPHY. I do think that it is important to understand that that is the question that this study was designed to answer and it answers that very well in a highly valid, scientific way and was published in a very prestigious journal.

Mr. SHAYS. I know it was, it was in the New England Journal of Medicine. Printed when?

Dr. MURPHY. November 14, 1996.

Mr. SHAYS. So in 1996, we tell veterans that they are not dying at a higher rate than anyone else. And then when they look at the study, they come back to us and say wait a second, it's just the first 2 years after the war. So in 1996 we come out with data that basically was 2 years after the war. So it raised some gigantic questions in the minds of a lot of veterans. So people say, hey, we don't have anything to be concerned about.

Dr. MATHER. That is not what it says. It says in the 2 years—it only answers the question that it asks. In the 2 years following the war, were Persian Gulf veterans dying at a higher rate than Americans in general or nondeployed veterans.

Mr. SHAYS. Sadly those who talked about it didn't emphasize that it was 2 years after the war.

Dr. MURPHY. But we don't have control over the media. What we do have control over though and what we were very clear, we had a news conference the day of the publication and Dr. Kenneth Kizer, the Under Secretary for Health, made exactly the point that you are making. This study answers the question, was there an increased death rate the 2 years after the war and he was very clear that he did not want these research results misconstrued to say, no problem.

Dr. MATHER. Exactly.

Dr. MURPHY. In fact, there are real questions about the illnesses, the symptoms and the disability of Persian Gulf veterans. We recognize that they are real and there are other studies that are designed to answer that question.

Mr. SHAYS. Did that data take information from private clinics or from private doctors?

Dr. MATHER. It took death certificates from every Persian Gulf veteran, from wherever they died, whether they died in private hospitals, whether they died at home.

Mr. SHAYS. And we know of all the Persian Gulf veterans who died, we had a list of every Persian Gulf veteran?

Dr. MATHER. The National Death Index keeps track of Americans who died, Persian Gulf veterans.

Mr. SHAYS. Right. But how do we know that they have a complete list of all the people who fought in the Persian Gulf war? You don't. Do you have a complete list of all the persons who served in the Persian Gulf?

Dr. MATHER. Yes, we do.

Mr. SHAYS. Hold on. We got into this the last time. You are saying you have a complete list and know of everyone who served in the Persian Gulf war?

Dr. MURPHY. Yes.

Dr. MATHER. We did not have in Vietnam.

Mr. SHAYS. Does that list also include people who did not serve in the Persian Gulf? Because in your last testimony, you just said they just gave us everybody who was in the service. They were not able to tell you they actually were in the Persian Gulf.

Dr. MURPHY. No, that's not correct. The Dambize Roster, as we've previously told you, contains almost 697,000 people who served during Desert Shield and Desert Storm in the theater of operations. The study then went back and identified a matched group of people who did not serve in the Gulf from, again, the Defense Manpower Data Base Center out in Monterey, CA. So it was about half the people who were on active duty, but did not serve in the Persian Gulf.

Mr. SHAYS. Wait a second. Wait a second. I know you are saying it is clear to everyone else, but it's not clear to me. I don't understand why, if you had a complete list, why did you have to exclude anybody?

Dr. MATHER. When we were doing the study, we have a matched list of people who served—who were serving in the military at the time but did not go to the Persian Gulf.

Mr. SHAYS. OK. All I said, and you said I was incorrect, and all I said was you were given a list of everyone who served, but not necessarily everyone who served in the Persian Gulf.

Dr. MATHER. We have two different lists. We have everyone who served, and we have everyone who served in the Persian Gulf.

Mr. SHAYS. OK. Why would you need the list of everyone who served?

Dr. MATHER. Because that's where we take the controls from. When you do epidemiologic studies, you do the cases who actually were in the Gulf, and then you look at people who were in the military at the same time but did not go to the Gulf.

Mr. SHAYS. When you did—when this 1994 study was done, did they have a complete list of everyone who served?

Dr. MATHER. Yes.

Dr. MURPHY. Yes.

Mr. SHAYS. When you came before us in March, you did not have a complete list of everyone who served in the Persian Gulf.

Dr. MURPHY. No. We had——

Mr. SHAYS. No, don't say no. We have it on the record. You did not have a complete list of everyone who served in the Persian Gulf. I asked the question, and you said you didn't have a complete list. And I asked when would you get that complete list.

Dr. MATHER. I am sorry, but——

Dr. MURPHY. You were asking about the Registry——

Dr. MATHER. You were asking about the Registry.

Dr. MURPHY [continuing]. At the time.

Dr. MATHER. We have always, from the word go, we have had a list from the Defense Manpower Department of the people who served in the Gulf.

Mr. SHAYS. OK. And connected the Registry to the complete list?

Dr. MURPHY. The Registry does not contain the complete list of individuals. The Registry contains a list of those individuals who—the health examination Registry contains the list of those individuals who have received the Registry health examination. There's another larger Registry that contains five categories of individuals. People on the Registry health examination list——

Mr. SHAYS. Could you move the mike a little closer to you? I am sorry.

Dr. MURPHY. Individuals who are in the health Registry, individuals who come to VA for outpatient or inpatient care, individuals who have received or applied for compensation, and those individuals who have participated in the DOD health program and who asked to be included on that list, that's the Registry.

There is a roster of all the individuals who served in the Persian Gulf that VA has, and I am sorry if I created confusion. But, you know, the terminology is very specific.

Mr. SHAYS. Do you know where each of those soldiers served? You know they were in the Persian Gulf. Do you know where they served in the Persian Gulf?

Dr. MATHER. No.

Dr. MURPHY. No. I don't think DOD does.

Mr. SHAYS. The last question that I have, and then we are going to get on to the next panel unless you have an additional question or two, in writing to Jesse Brown a number of questions, we asked this question—this was a letter dated October 3d, and the question 3 from the committee was: What immediate changes will VA make to diagnosis—to diagnose this treatment and compensation policies in light of recent disclosures by DOD regarding exposure of U.S. troops to chemical agents? That dealt with Khamisiyah.

Now, this is the response from the Secretary, Jesse Brown, in testimony before a joint hearing of the Senate Select Intelligence and Senate Veterans Affairs Committees, Dr. Kizer said, and this is a quote from Dr. Kizer, "The diagnosis of conditions related to nerve toxins, whether they be chemical warfare agents, pesticides or hazardous industrial chemicals, is based on two things: First known or presumed"—presumed is bold and then Jesse Brown has in parenthesis, "emphasis added—so first known or presumed exposure to the chemical agent and, second, symptoms or physical signs consistent with the known biological effects of the chemicals."

My first question is: What does it take, in terms of clinical history, to create the presumption of exposure to a toxin involved in causing an illness?

Let me ask it again. What does it take in terms of clinical history to create the presumption of exposure to a toxin involved in causing an illness?

Dr. MATHER. I am having trouble understanding the question.

Dr. MURPHY. If you are referring to the Khamisiyah——

Mr. SHAYS. Describe a case.

Dr. MURPHY. If you are referring to the Khamisiyah case in particular——

Mr. SHAYS. No, any case, any case that you would begin to say—you begin to say, based on this—these symptoms, we suspect chemical agents.

Dr. MATHER. If we saw a neurologic picture consistent with exposure to neurotoxic chemical agents, and there was a history of exposure to such agents, then I——

Mr. SHAYS. Describe the history to me.

Dr. MURPHY. Veterans reporting that they were exposed to a chemical that they knew about and that they had a clear description of, with symptoms at the time. That's a presumed exposure.

Mr. SHAYS. What would those symptoms be?

Dr. MURPHY. A measured exposure would have been something where you could measure the concentration by some objective measure. Presumed is a reported history.

Dr. MATHER. From a medical point of view, a presumed would be one that the veteran—or what the patient reported to you from a—I mean, from a benefits question, presumption has legal—there's a legal definition.

Mr. SHAYS. OK. My question was: What does it take in terms of clinical history to create the presumption of exposure to a toxin involved in causing an illness? And your response was that basically, the veteran has to describe that they were under some kind of chemical attack.

But we don't feel that people have been listening to what our veterans have been saying about potential chemical attack.

My second question is: What are the symptoms and physical signs consistent with the known biological effects of chemical exposures?

Dr. MURPHY. It would be those that we have described to you before, the acute symptoms with salivation, lacrimation, you know, muscle complaints, GI complaints at the time of the exposure. If those didn't occur, then you might look for neuropathies, memory complaints and other neurologic conditions that could occur afterwards.

The difficulty is in establishing a cause and effect.

Mr. SHAYS. The first one, the acute, there weren't many. The second, you have got them in spades. You just—there is continual diagnosis of the second.

But basically, what I am gathering, and this has been helpful to me to understand one assumption I have made, it is very clear to me that we have no treatment for chemical exposure.

Dr. MATHER. That's right.

Mr. SHAYS. None. And it's very clear to me that the assumption is that one exposure to low level will not cause damage. Or let me put it in the reverse. You have nothing that proves to you that low-level exposure in a one-incident or two-incident basis is going to cause damage.

And I have always assumed that low-level exposure doesn't always have to be repeated. And based on my feeble knowledge in the environmental community, I had made that assumption.

Dr. MATHER. Well, in some instances, with perhaps cyanide, that might be true, one small exposure could be fatal.

Mr. SHAYS. You all have been very patient, and I appreciate that you came here instead of your other alternative, and thank you very much.

Do you have anything you want to say before we conclude?

Dr. MATHER. I would just like to thank you for the opportunity to testify and to say that while veterans may have been disappointed in the past, we certainly make a plea for any who have a problem that they think are related to the Persian Gulf to come to the VA. That's why we are there. We want them to come, and we want to be able to help them.

Mr. SHAYS. Thank you. Thank you very much.

At this time, we will call on our last panel. We appreciate their patience. This is Dr. Charles Jackson from Tuskegee, AL, the VA Medical Center; and Dr. Victor Gordan, Manchester, NH, VA Medical Center. I would ask you both to remain standing.

[Witnesses sworn.]

Mr. SHAYS. You both responded in the affirmative, for the record. At this time, we will invite Dr. Jackson to provide your testimony.

Dr. JACKSON. Thank you.

Mr. SHAYS. And I will say, beforehand, that Dr. Jackson, just so I know, you have been present for about how much of this hearing?

Dr. JACKSON. Almost the entire hearing.

Mr. SHAYS. Well, anything that has occurred beforehand, if you would like to comment on, feel free in your opening statement. You don't need to wait for a question.

The same with you, Dr. Gordan. I am happy to have you read your statement, summarize them. I am also happy to have you provide any reflection on what you have heard to date.

So thank you, Dr. Jackson. You may begin.

STATEMENTS OF CHARLES JACKSON, TUSKEGEE, AL, VA MEDICAL CENTER; AND VICTOR GORDAN, MANCHESTER, NH, VA MEDICAL CENTER

Dr. JACKSON. Yes. It is getting late in the afternoon. I will make this very brief.

I do want to make a couple of comments that are not on the public statement, and that is that, yes, there was a physician in the VA who did feel clinically that there were symptoms suggestive of chemical and/or biological exposure from the Gulf, and these were communicated to the VA central office.

Mr. SHAYS. I am going to have you repeat that statement. I am sorry. Would you begin again.

Dr. JACKSON. Well, one of the questions that you asked to Dr. Mather was whether or not one person in the VA had made the clinical opinion that there was a veteran exposed to chemical and/or biological agents, and, yes, there was. We did this back 3 years ago.

The second thing is, and I was sitting here listening to your questioning to Dr. Mather and Dr. Murphy, and I was beginning to feel uncomfortable. I don't know how they were feeling. And I think one of the reasons I was feeling uncomfortable was because I am a physician. It is so important, in medicine, to have a history of a problem.

If you have a person, as they have stated, who comes to you and has all the classical symptoms of tingling, paresthesia, problems walking and things—memory problems, there are so many different things which can cause this problem, so that you really need to have a history which says, yes, you were in an environment where you were exposed to some toxic element, and I do feel that this is significantly important. And I agree with Dr. Murphy and Dr. Mather that we have not been provided this history over the last 5 years.

And so in this sense, I am not saying that independent thinking and research did not go on or should not go on to include all different elements. But I am saying, when they are at a certain level, an administrative level, and the primary source of their information is the Department of Defense, I can understand why they would say, well, this is a priority which is lower on importance than other things.

So I just felt consciencewise I should say that.

Mr. SHAYS. Dr. Jackson, we will get into that in some detail. The question, though, is: Were we also listening to our veterans who were talking to veterans' doctors specifically about experiences, or are we just listening to the DOD? Are we listening to the patient as well as DOD? That's the issue, and we will get into it.

Dr. JACKSON. Do you want my brief statement?

Mr. SHAYS. I want you to give your entire statement, and then we will reserve our questions.

Dr. JACKSON. OK. Very briefly, my name is Dr. Charles Jackson. I am staff physician in ambulatory care in the VA Medical Center in Tuskegee. I serve there on the staff. One of the official positions I have is as an environmental physician; that is, covering Agent Orange and Persian Gulf.

The Registry began in 1992, and we have registered 306 individuals from November 1993 until August 1995. Of these, 88, or 33 percent, were symptomatic. The symptoms were recurrent diarrhea, fatigue, joint aches, skin rashes, shortness of breath and memory problems. The expanded protocol that we had at our institution consisted of CBC, profile–8, urinalysis, chest x-rays, ANA, Rheumatoid Factor, hepatitis profile, serum protein electrophoresis and sed rate. Stools for ova and parasites and stool cultures were performed when appropriate.

One-third of those individuals that were symptomatic tested positive for ANA and/or Rheumatoid Factor. I was convinced, however, that the veterans had an organic illness, even though we were unable to come up with any definitive diagnosis in a good percentage of these cases.

Literature search. In December 1943, an American liberty ship, the USS Harvey, was sunk in the Italian harbor. One hundred tons of mustard gas were aboard this ship. The mustard usually had a peak death rate of 48 hours after exposure. At Bari Harbor, however, a second peak death rate occurred 9 days after exposure. The conclusion of the medical investigator at the time was that a combination of the mustard and oil from the sinking ships altered the manifestations of the mustard.

In 1982, the area around Madrid, Spain, experienced a unique disease called a toxic oil syndrome where over 30,000 people were

ill, and there were over 300 deaths. Oil contaminated with an aniline dye was felt to be the culprit. Contaminated ingested oil led to many becoming chronically ill and having a positive ANA, or antinuclear antibodies.

A number of articles discuss the effects of chronic low dose exposure to insecticides, organophosphorum compounds, in farm and veterinary workers. The symptoms experienced by these individuals are psychological problems, paresis of the extremities, paresthesia in extremities, muscle cramps, insomnia, memory problems and GI problems.

Theory of the problem. The problems in combination—the products of the combination—combustion, excuse me, of over 530 oil well fires contaminated the Kuwait theater of operation. Czech detection of yperite, mustard, and sarin, organophosphorus compound, were made in several locations in Saudi Arabia. Recent DOD and CIA revelations concerning the destruction of tons of mustard and sarin in Iraq have supported the probability of exposure, acute, low dose, to the agents.

The oil, contaminating food, soil, air, clothing and skin, converted acute low dose exposure to chronic low dose exposure. The symptoms of the veterans are not inconsistent with those of the farm and veterinary workers with chronic low dose exposure to organophosphorus insecticides.

Problems encountered. In talking with veterans across the country, a number of problems seem to occur. Many National Guard and Reserve veterans feel that they were symptomatic prior to release from active duty. Many personnel still on active duty fear revealing their illnesses. Many veterans do not go to VA facilities, and, therefore, a true picture of the extent of the illness among veterans in the Gulf is lacking.

Thank you for allowing me the opportunity to present my testimony before the committee.

Mr. SHAYS. Thank you. Thank you, Dr. Jackson.

[The prepared statement of Dr. Jackson follows:]

STATEMENT OF

CHARLES E. JACKSON, M.D.

TUSKEGEE VA MEDICAL CENTER

BEFORE THE

HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

SUBCOMMITTEE ON HUMAN RESOURCES AND

INTERGOVERNMENTAL RELATIONS

DECEMBER 11, 1996

Mr. Chairman and Members of the Subcommittee:

My name is Charles E. Jackson and I am staff physician in Ambulatory Care at the VA Medical Center in Tuskegee, Alabama. I also serve as an environmental physician, i.e., Persian Gulf and Agent Orange.

The Department of Veterans Affairs Medical Center in Tuskegee, Alabama analyzed data related to 306 individuals who were provided registry examinations between November 1993 until August 1995. Of these, 88 (33 percent) were symptomatic. The symptoms were: recurrent diarrhea, fatigue, joint aches, skin rashes, shortness of breath and memory problems. The expanded protocol consisted of: CBC, profile-8, U/A, crx, ANA, Rheumatoid Factor, hepatitis profile, serum protein electrophoresis and sed rate. Stools for ova and parasites and stool cultures were performed where appropriate. One third of

those who were symptomatic tested positive for ANA and/or Rheumatoid Factor. Referrals to specialists and referral centers did not provide diagnosis for most of those who were symptomatic. I was convinced, however, that the veterans had an ORGANIC ILLNESS. The question was what were some of the probable explanations for their illness.

Literature Search

In December 1943, an American liberty ship, the USS John Harvey, was sunk in an Italian harbor. One hundred tons of mustard gas were aboard. Mustard usually has a peak death rate 48 hours after exposure; at Bari Harbor, a second peak death rate occurred nine days after exposure. The conclusion of the medical investigator was that the combination of mustard and OIL (from sinking ships) altered the manifestation of mustard.[1]

In 1982, the area around Madrid, Spain experienced a "unique disease," the toxic OIL syndrome caused 30,000 persons to become ill and 300 deaths. OIL contaminated with an ANILINE dye was felt to be the culprit. Contaminated ingested OIL led to many becoming chronically ill and having positive ANA.[2]

A number of articles discuss the effects of chronic low dose exposure to insecticides (organophosphorum compounds) in farm and veterinary workers. The symptoms experienced by these individuals are: psychological problems, paresis in extremities, paresthesia in extremities, muscle cramps, insomnia, memory problems and GI problems.[3]

Theory of Problem

The products of the combustion of over 530 OIL well fires contaminated the KUWAIT theater of operation (KTO). Czech detection of yperite (mustard) and sarin (organophosphosur compound) were made in several locations in Saudi Arabia. Recent DoD and CIA revelations concerning the destruction of tons of mustard and sarin in Iraq have supported the probability of exposure (acute, low dose) to the agents. The OIL, contaminating food, soil, air, clothing and skin, converted acute low dose exposure to chronic low dose exposure. The symptoms of the veterans are NOT INCONSISTENT with those of the farm and veterinary workers with chronic low dose exposure to organophosphorus compounds (insecticides).

Problems Encountered

In talking to veterans across the county, a number of problems seem to occur. Many National Guard and Reserve veterans feel that they were symptomatic prior to release from active duty. Many personnel still on active duty fear revealing their illness. Many veterans do not go to VA facilities, and, therefore, a true picture of the extent of illness among veterans of the Gulf is lacking.

Thank you for allowing me to present my testimony before this subcommittee. I would be glad to answer your questions.

References

1. Steward F. Alexander, Medical Report of the Bari Harbor Mustard Causalities, Military Surgeon, 1947; Vol. 101:1-20.

2. Kilbourne, et al., Toxic Oil Syndrome, NEJM, Vol. 309, No. 23:1411-1413.

3. Gershon, S., Shaw, F., Psychiatric Sequence of Chronic Exposure to Organophosphorus Insecticides. Lancet, June 24, 1961: 1371-4.

Mr. SHAYS. Dr. Gordan.

Dr. GORDAN. Mr. Chairman, my name is Victor Gordan. I am a full-time physician at the VA Medical Center in Manchester, NH. I am board certified in internal medicine, pulmonary diseases and critical care medicine. I have been with the VA system as a full-time physician since 1978. I thank you very much for allowing me to testify before you.

I have been evaluating and taking care of the Persian Gulf war veterans since November 1991 at the VA Medical Center in Manchester, NH.

Let me start with describing the demographics of these veterans. Total number of veterans evaluated by me and under my medical care is 544; 529 are males and 15 females. Their age, when first evaluated by me, were 83 percent between 21 to 30 years of age. So they were very young. Over 30 years of age, 17 percent, and only very few were older than 50 years of age. They come from all military branches.

The residence of these veterans is mainly in the New England States and very few from other States, including New York, Florida, South Carolina, North Carolina, California, Texas and one from Montreal, Canada.

Ninety-three percent of them do have symptoms. Seven percent do not have symptoms. The average number of symptoms per person is six to eight.

This last finding was for the first time communicated by me on my poster presentation on August 27, 1996, in Long Beach, CA. The average number of symptoms per person in the British and Coalition Forces is eight. These communications were made by Dr. Bill Cocker from London, UK, and Dr. Scott from Canada during that conference in Long Beach, CA, August 27th and 28th.

These two physicians and I have a common approach in evaluating these veterans. We meet these veterans face to face, so to speak, for an unlimited period of time. And because of this common approach, it is not surprising that our findings are very similar.

What is strikingly consistent in these veterans' stories are, No. 1, a drastic change in their health status from very good to perfect, as it was before deployment to the Gulf war, to poor to fair after their return from the Gulf war; No. 2, the large variety and number of symptoms suggesting dysfunction of more than one organ or system in their body; No. 3, the very consistent history of being exposed to chemicals in the Gulf, including the strong belief of being exposed to chemical warfare.

These consistent stories, in my opinion, point very strongly toward the physical environmental hazards as the cause or causes of these so-called unexplained illnesses. Unless the science addresses these environmental hazards, we will never be able to adequately explain and hopefully solve these medical problems.

At this time, the only available therapeutic modality which I have and give to them is a regular follow-up in my clinic of Persian Gulf; standard medical treatment for individual symptoms, whatever symptoms can be treated; spending unlimited time with these veterans and listening to their personal and family concerns. I encourage them to join the veteran outreach programs. I advise the veterans to be enrolled in the Boston Environmental Hazards Re-

search Center Study for Gulf War Syndrome. A few individuals are referred to the VA Medical Center in Washington and Houston, TX, which are referral centers for Gulf war illnesses. Many veterans are referred to various specialists.

Health problems of the Persian Gulf war veterans' families. The following health problems were reported to me: Children with birth defects and developmental problems, 25; miscarriages, 21 in 15 spouses; similar symptoms experienced by family members, 27; sexual partners experiencing skin and systemic reaction upon contact with sperm, 14; frequent ear and respiratory infection of Persian Gulf veterans' children, but I don't have accurate statistical information on this.

I would like to conclude my testimony with a quotation from Dr. Kenneth Kizer's letter to the VA employees, September/October 1996, which says, "Persian Gulf veterans are a special group. They deserve our special attention."

And I will add my own statement to this quotation. The multiple unexplained illnesses I see in these veterans represent war injuries. The VA's primary mission is to take care of these war injuries.

Thank you for listening to me, and I am open to questions.

Mr. SHAYS. Thank you. Both of your statements were very short but very powerful. Thank you.

[The prepared statement of Dr. Gordan follows:]

STATEMENT OF

VICTOR GORDAN, M.D., F.A.C.P.

MANCHESTER VA MEDICAL CENTER

BEFORE THE

HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT

SUBCOMMITTEE ON HUMAN RESOURCES AND

INTERGOVERNMENTAL RELATIONS

DECEMBER 11, 1996

My name is Victor Gordan and I am a full-time physician at the VA Medical Center in Manchester, New Hampshire. I am board certified in Internal Medicine, Pulmonary Diseases and Critical Care Medicine.

I joined the VA health system as a full-time physician in 1978.

Thank you for inviting me to testify on the health problems that Persian Gulf War veterans have experienced since their return home from the Gulf War.

I have been evaluating and taking care of the Persian Gulf War veterans since November 1991 at the VA Medical Center in Manchester, New Hampshire.

Let me start with describing the demographics of these veterans:

Total number of veterans evaluated by me and under my medical care: 544

Gender of these veterans: Male - 529

Female - 15

Age when first evaluated: 21 to 30 years of age - 83 percent

Over 30 years of age - 17 percent

(Very few were older than 50 years of age)

Military Branches: US Army, Navy, Airforce, Marines, Army Reserves and National Guard.

Residence of the veterans: New England states and very few from other states including New York, Florida, South Carolina, North Carolina, California, Texas and one from Montreal, Canada.

Veterans with symptoms: 93 percent

Veterans without symptoms: 7 percent

The average number of symptoms per person is 6 to 8.

This last finding was, for the first time, communicated by me, on my Poster Presentation Course No. 96-N.P. Long Beach, California, August 27, 1996. The average number of symptoms per person in the British and Canadian Coalition Forces is 8. These

communications were made by the Group Captain, Bill Cocker, M.D., FRCP, London, UK and the Lieutenant Colonel, Kenneth S. Scott, M.D., Canada, during the conference for Current Concepts of Persian Gulf Veterans' Illnesses, August 27-28, 1996, Long Beach, California.

These two physicians and I have a common approach in evaluating these veterans. We meet these veterans face-to-face, for an unlimited period of time.

What is strikingly consistent in these veterans' stories are:

1) The drastic changes in their health status from very good to perfect, as it was before deployment to the Gulf War, to poor to fair after their return from the Gulf War.

2) The large variety and number of symptoms suggesting dysfunction of more than one organ or system in their body.

3) The very consistent history of being exposed to chemicals in the gulf, including the strong belief of being exposed to chemical warfare.

These consistent stories, in my opinion, point very strongly toward the physical environmental hazards as the cause or causes of these so called unexplained illnesses. Unless the science addresses these environmental hazards, we will never be able to adequately explain and hopefully solve these medical illnesses.

Treatment - At this time, I offer to these veterans the following therapeutic modalities which are available to me:

1) Regular follow-up on an as needed basis in the Persian Gulf Return Clinic.
2) Standard medical treatment for the individual symptoms and illnesses.
3) Spending unlimited time with these veterans and listening to their personal and family concerns.
4) I encourage them to join the Veteran Outreach Programs.
5) I support the participation of veterans in the Boston Environmental Hazards Research Center Study of "Neuropsychological Functioning in Persian Gulf Era Veterans."
6) Selected cases are referred to the Persian Gulf Referral Centers at the VA Medical Centers in Washington, DC or Houston, Texas.
7) Many veterans are referred to various medical specialists for consultation and care.

Health Problems of the Persian Gulf War Veterans' Family Members - The following health problems were reported to me:

1) Children with birth defects and developmental problems: 25
2) Miscarriages in 15 spouses: 21
3) Similar symptoms experienced by family members: 27
4) Sexual partners experiencing skin and systemic reaction upon contact with sperm: 14

I would like to conclude my testimony with a quotation from Dr. Kenneth Kizer's letter to the VA employees, September/October 1996 (Attachment 1): "Persian Gulf veterans are a special group. They deserve our special attention."

I will add my own statement to this quotation: In my opinion, the multiple unexplained illnesses in Gulf War veterans I have evaluated represent war injuries. The VA's primary mission is to take care of these war injuries.

Thank you for listening to my testimony and I would be glad to answer your questions.

Attachment 1

September/October 1996
A periodic letter to Veterans Health Administration employees

From the Under Secretary

Dear VHA Employees:

More than five years after American and coalition forces liberated Kuwait, the Persian Gulf War is still very much in the news and on our minds — especially those returning from the Middle East suffering symptoms that defy definitive diagnosis.

Although VA has designated services to Persian Gulf veterans as a special emphasis program, and our specialized national referral enters for Persian Gulf veterans have considerable expertise, these affected men and women are often angry and fearful. They are looking to VA for answers, and for support and services. Unfortunately, answers are not always available. Nonetheless, it is our duty and our privilege to serve and support them compassionately, courteously and conveniently.

VA's Office of Environmental Health is actively working to strengthen services to Persian Gulf veterans, to promote outreach activities and to ensure research finds answers about the source of their illnesses. The office is doing an exemplary job in this regard, but they need your assistance.

You are the frontline personnel who interact with Persian Gulf veterans on a daily basis. We need you to be especially sensitive and compassionate to these special people. Further, each VHA employee should have a basic knowledge about the services available to Persian Gulf veterans, and an understanding of their concerns. All staff should know the name and number of their facility's Persian Gulf coordinator.

In addition, treatment facilities should be reaching out to Persian Gulf veterans, making sure they know about their benefits and their eligibility for services. Brochures, newsletters and other materials are available for distributing to Persian Gulf veterans who need more information. A special toll-free number has also been set up for them — 1-800-PGW-VETS. This number should be widely broadcast in your facility and throughout your service area.

Some Persian Gulf veterans are particularly concerned with the impact of their service in the Middle East on their ability to have children. Early research does not show an increased risk of birth defects in the children of Persian Gulf veterans, but not enough research has been done to provide unequivocal answers about the impact of military service on reproduction. Since up to 20 percent of active duty personnel are now women, this is of heightened concern. To help meet these concerns, VA is establishing a special Environmental Hazards Research Center for Reproductive Outcomes.

Persian Gulf veterans are a special group. They deserve our special attention.

Kenneth W. Kizer, M.D.

Mr. SHAYS. Mr. Sanders.

Mr. SANDERS. Thank you very much, Mr. Chairman. And thank you both very much for joining us today.

Dr. Van Gordan—Victor Gordan, you list information about children with birth defects and developmental problems, miscarriages, and so on and so forth. In your judgment, is—from what you have seen with your own eyes and what you perceive to be the case among Persian Gulf vets, are these numbers unusual, or are they consistent with a number of folks that you are seeing for that age and background?

Dr. GORDAN. This is the whole problem we have. In order to see whether this is significantly different than in general population, we have to compare these incidents with the general population, which is the common denominator. To my knowledge, we don't have information on general population on birth defects, because I learned in California that we don't have a national registry on birth defects. We have some State registries on birth defects.

Mr. SANDERS. As I mentioned earlier, we passed the National Cancer Registry to begin to deal with this information. So you are saying you can't even make good comparisons as to whether——

Dr. GORDAN. No.

Mr. SANDERS. We see on television, you know, there are cases, a wife of a Persian Gulf veteran gives birth to a deformed baby, and you can't make the judgment—you don't have the information to make the judgment whether——

Dr. GORDAN. Exactly, yes.

Mr. SANDERS. That's very unfortunate.

What about miscarriages, do we have information on that? Are we seeing inordinate numbers among——

Dr. GORDAN. There might be some information, but I am not aware of it.

Mr. SANDERS. We can't make that.

Dr. GORDAN. I can't make it.

Mr. SANDERS. Isn't that a sad state of affairs for American medicine that we can't make those judgments?

Dr. GORDAN. It is frustrating for a physician who practices medicine and is a clinician, very frustrating.

Mr. SANDERS. Well, then, my general question then, I guess, and maybe you can't give me a scientific answer, is—and, Dr. Jackson, if you wanted to jump into this as well—we see on television programs where people come forward and they say, everybody I knew who was in the Persian Gulf is suffering from one thing or another, babies are being deformed, and what you are saying—and, Dr. Jackson, if you want to jump into this—you don't know whether that's true or not? You don't have the evidence to suggest whether that's true or not; is that correct?

Dr. GORDAN. No. I am referring specifically to birth defects.

Mr. SANDERS. Yes.

Dr. GORDAN. Because we don't have a national registry for birth defects. But I am not saying that the very medical problems I see are not related to the Gulf. I have my statement here.

Mr. SANDERS. Right. I see that. We appreciate that.

Dr. GORDAN. Yes.

Mr. SANDERS. You know, I was just thinking a moment ago that 40 or 50 years ago, doctors were doing advertisements on television and the radio talking about the cigarette brands that they smoked. You remember that. Forty or 50 years ago, women were being told that breast feeding was the worst thing that they could do for their child; there was something wrong with them if they wanted to breast feed. We were told that homosexuality was a disease, and psychiatrists told us. That's been changed.

I can remember not so many years ago when there was no cause of cancer, was there? People just came down with cancer, and that's the way it was.

Harvard recently came out with a study that suggested 70 percent of the causes of cancer were related to either diet, exercise or smoking. So the world changes pretty rapidly, right?

Dr. GORDAN. Exactly, yes.

Mr. SANDERS. What concerns me, and the chairman raised this point a few moments ago, is are we—and, again, I am not here to lay blame or to criticize. Obviously everybody wants to do everything that we can to address the problem. But is the bureaucracy behind the times?

Fifty years from now people are going to be laughing at what we are discussing today and are going to say, of course, they should have known this. Chemicals are enormously powerful and potent agents, and they cause problems. They should have known it.

Dr. GORDAN. This is not the first time in medicine, this phenomenon is occurring. When Pasteur came with his theory, he was practically kicked out from the French Academy. OK? Because they—those academicians, the big academicians, said that probably he might be off the hoof or off of—out of his mind. So, to find out he was right, and we laugh now at those academicians. These things which we are dealing now with the chemicals can evolve toward the same—through the same path as Pasteur's theory did. So probably 50 years from now, those who are going to follow us are going to laugh at us because we didn't pay too much attention or we gave low priority to this real problem.

I will tell you, chemicals, in my opinion, at this time, are the greatest masquerader in the modern medicine. Syphilis was the greatest masquerader in the last century and the first half of this century's medicine. And why the chemicals can be the great masquerader is because they penetrate into all sorts of systems and organs, and those organs get dysfunctional, and those dysfunctions bypass symptoms, and the symptoms can mimic so-called codifiable diseases, including arthritis, even PTSD.

Mr. SANDERS. OK. Thank you. I think I know the answer you are going to give me, but I would like you to give it anyhow.

From the beginning of this problem, the concern that many of us have had is that for a start, in the beginning, these guys and women were not even taken seriously in the first place, right?

Dr. GORDAN. That's right.

Mr. SANDERS. They were walking into hospitals. It must be in your head.

Dr. GORDAN. That's right.

Mr. SANDERS. Five years later, after the war, in your judgment, is the VA giving adequate—what's the word that I want?—ade-

quate attention to the role that a highly chemical environment in the Persian Gulf may have—that it may have caused so many of the problems we are facing?

Dr. GORDAN. I can give you a historical fact. The VA is giving greater importance and priority to chemicals since the congressional hearings of June 9, 1993, where I testified. OK? When DOD accepted for the first time that, well, it might be stress, it might be PTSD, but we also have to look into chemicals and so on, so this opened the gate of other thinking or larger thinking, broader mind, to look into various environmental hazards. And I think since that particular time, I felt—I might be wrong—that the VA is giving higher priority to this.

Mr. SANDERS. Are we learning enough—I have got to tell you I am a little bit prejudiced on this issue because I have worked on this issue. A woman walked into my office 4 years ago with an astounding story. She had bought a new carpet, a rug. She opened it up. There were vapors coming out. She was ill. Her children became ill. I found out this was a problem going on all over America. We now have little labels on those carpets.

But when I first heard this, I could not believe that a carpet was a very highly chemical substance which could cause health problems. It apparently did. That's a little carpet. God knows what people are exposed to in the theater of a war.

Are we working, is the VA working, effectively with other cutting-edge research in this area? Are we doing a good enough job to be finding out what's going on around the rest of the world, in your judgment?

Dr. GORDAN. In my judgment, the number of research projects which are underway is certainly very great as compared to, let's say, 3 or 4 years ago. So that's a sign that the VA is doing really a great job in this respect.

OK. We are talking about chemicals. See, chemicals are not good for anybody's health, but that's a common, absolutely understood agreement between scientists. The scientists—what is wrong, the scientists are divided. Some say, well, chemicals can affect somebody's health only through direct toxic effect. Some groups say, well, that is not necessary for the chemical to reach the toxic level. It's just a minor exposure, one-time exposure, and those people are—those people who believe in chemical sensitivities. I think we have to get those two groups together, and if we can get those two groups together to cooperate and run research, I think we are going to be very close to solving this debate on Persian Gulf environment.

Mr. SANDERS. Is it your judgment, your professional judgment, that low level exposure to chemical agents, in fact, can cause some of the problems that our Persian Gulf vets are now experiencing?

Dr. GORDAN. Yes, because I read literature—see, when I saw my first veteran—I am a pulmonologist. He came with asthma. The vet came down with asthma. When he told me, I had no idea what was going on with the Persian Gulf. He gave me the history, the horrifying history. He was from the Marines, and he lived practically among those burning oil fields. So I said even my dog could have gotten sick. And now there is a syndrome in pulmonary medicine, which is described as hyperreactive airway disease syndrome.

So I said, listen, you have asthma because you are hurt by those chemicals. But later on I could not explain other symptoms like memory loss and joint pain and disorientation while driving.

Can I comment on disorientation while driving? Can I comment on that?

Mr. SANDERS. Sure.

Dr. GORDAN. OK. The study on mortality showed that mortality is higher in Persian Gulf veterans mainly from car accidents. Let me tell you my conversation 2 or 3 days ago with Scott, my boy from Marines, who lives in Boston. He came to see me. He grew up in Brighton, and he went to the bank. He got out from the bank, and he did not know where he was for half an hour, could not find his car. OK? Now those people who, if they get on the highway, I am not surprised that they get in a car accident.

Another of my boys from North Carolina, he came to me with his dad. He went to work in the same neighborhood where he grew up, and the boy called his father and said, Dad, come to pick me up because I don't know how to come home.

Mr. SANDERS. Doctor, let me ask you, do you believe in a phenomenon—not a phenomenon, but an illness—called multiple chemical sensitivity?

Dr. GORDAN. See, I don't have expertise in multiple chemical sensitivity, but I tell you one thing, multiple chemical sensitivity can explain better than any other theory what we see in those Persian Gulf veterans. I am not saying that I believe in chemical sensitivity, but I have to admit that chemical sensitivity theory opened my mind when I started to read literature and talk to environmentalists and, you know, going over all these things.

So it is the best theory which explains those weird disease and variety of symptoms.

Mr. SANDERS. Several years ago, I spoke to some physicians in Dallas, actually several hundred of them who work in this area, and they are kind of on the fringe, if you like. And what they do is they do a lot of detoxification for over—not just overdoses, but where people are absorbing far too many chemicals.

Is that something that—does the VA look at that at all? Is that any kind of treatment that we have?

Dr. GORDAN. I don't think I can answer this question. Probably Dr. Mather or Dr. Murphy can. But let me give you an anecdotal example. One of my patients, sick, colonel from Marines, I don't know how he got into some center in California which is funded, got some money for research, he couldn't pay—he did not pay. Got into that research, stayed 17 days. And I didn't know what he was doing. He went on his own. And he came to me, smiling through the door, hey, Doc, how do I look?

Well, I think you are looking great.

Do you know why? I went to California, and I went to some detoxification process, including sauna.

And he described to me what he saw in his sweat, a black colored sweat.

Mr. SANDERS. Right. Right.

Dr. GORDAN. So that means probably, according to chemical sensitivity specialists, who feel that it is some chemical load in their body and that—we should get rid of that.

Mr. SANDERS. I was at the—I am not sure—I am not familiar with the facility in California. I was at the facility in Texas, and they say that when people sweat this stuff out, the color of the towels actually undergo radical changes.

Are we—you know, I guess what concerns me, getting back to the very first point that I made, 50 years ago doctors were selling cigarettes. No one thought that they were selling cancer. They didn't know better.

Is the mainstream thinking now just too far behind the times in terms of the impact of chemicals? Are we reaching out to some of the vanguard researchers, some of the cutting-edge researchers, perhaps like the people that fellow went to in California?

Dr. GORDAN. I don't know if I can answer this question, but the trend is going to that way. Chemicals are going to become a major problem for the next century. That's the only thing I can tell you. And people will be forced to look into chemicals, to understand and to accept the concept.

Mr. SANDERS. And you think it would be foolish not to acknowledge that as a major cause of Persian Gulf problems?

Dr. GORDAN. Absolutely, absolutely foolish.

Mr. SANDERS. Dr. Jackson, did you want to add anything to that line of questioning?

Dr. JACKSON. No.

Mr. SANDERS. OK. Mr. Chairman.

Mr. SHAYS. Dr. Jackson, I appreciate your point of expressing discomfort with putting a doctor on the spot as it related to my concern of chemical weapons. I just want to respond to your comment that what I really wrestle with is that the DOD was this gigantic organization that fought the war and, in my judgment, thought its job was complete. And then you started to have veterans who had very serious complaints, not feeling well, wife not even feeling well or husband not feeling well, their spouse, their children. Some of the concerns may have been legitimate, and some wouldn't have been legitimate. They are talking. They gave specific symptoms.

I understand that you are going to respond to their symptoms. But when a veteran says, I went into a bunker because a siren went off, and then the all clear sign and I went out of the bunker, and then I spit up blood, or I started to throw up, or I tasted something, wouldn't the doctor who is treating, say, hey, we have got a disconnect between the veteran who was there and the VA that said, no, no problem?

And all I was asking was, why weren't we also listening to the veteran, not just in terms of their symptoms, but in terms of their experience. And why wouldn't that have alerted us sooner than 1995, before—and 1996, to Khamisiyah? Why wouldn't it have? That's what I wrestle with.

Dr. JACKSON. At our institution, we have always listened to the veterans, and our institution is part of the VA.

Mr. SHAYS. All right. Now—and so in your institution, you accepted the fact that our troops may have been exposed to chemicals?

Dr. JACKSON. Yes, sir, we did.

Mr. SHAYS. OK.

Dr. JACKSON. And we have gone—people at our institution have—Dr. Reber, in particular, besides myself, we have gone on record as saying that we believe this is a significant factor.

Mr. SHAYS. OK. You did. How do you think that filtered through the system?

Dr. JACKSON. To be honest with you, it was not——

Mr. SHAYS. I have a——

Dr. JACKSON. It was not a popular opinion, nor was it the official opinion of the VA. But I must also say that in the VA there was diversity of opinion, and I was allowed to express my opinion. I cannot think of any instance where someone said, you cannot talk about this, you cannot express your opinion.

Mr. SHAYS. Well, you are here.

Dr. JACKSON. That's right.

Mr. SHAYS. Let me ask a number of different questions.

But, Doctor, my point to you is, though, you did.

Dr. JACKSON. My wife says I'm crazy.

Mr. SHAYS. Well, all wives think their husbands are crazy.

But you were in the minority in terms of that decision.

Dr. JACKSON. We didn't want another Agent Orange. And Dr. Reber and Dr. Kahane, who is the chief of staff, reiterated to me that on many occasions—I was not the only one in our institution who believed that and was very suspicious of chemical exposure for whatever reason, or however it came about. Dr. Reber always told me, you want to practice good medicine. We will not exclude any ideas, and we will not restrict certain things, and that's the reason we explained in our protocol and we did a lot of different tests, and we have been doing it for years.

Mr. SHAYS. Has the VA, either by policy or practice, revised its uniform case assessment protocol since the DOD has acknowledged chemical warfare exposures to the troops? I am asking that to both of you.

Dr. JACKSON. Well, it's—my understanding is, yes. As Dr. Murphy mentioned before, we have an expanded questionnaire, and we also have a secondary and tertiary system of tests. The initial protocol that was used from August 1992 until approximately 1995 was basically chest x-rays, CBC, urinalysis, and a SMACK 20, and a history and physical exam. But in this expanded protocol that she discusses, they have extended the testing. And interestingly, the tests that are on the secondary level are the same tests we have been doing for the last 4 years.

Mr. SHAYS. Dr. Gordan.

Dr. GORDAN. Would you like to repeat that question?

Mr. SHAYS. I just asked, has the VA, either by policy or practice, revised its uniform case assessment protocol since the DOD has acknowledged chemical warfare exposures to the troops?

Dr. GORDAN. The VA recommended this protocol, and I am going by protocol. But what is very frustrating, going by this protocol, is that most—majority, most of the time the tests are negative, and they do not tell us an exact diagnosis.

So my personal explanation to this is—for this is that if we are dealing with chemical injury, the tests which are part of the protocol are not sensitive to detect chemical injury which occurs deep

into the cells; for instance, at the level of DNA or so. So this is the problem I see.

Now, what to do. The protocol is going to be reviewed, and I think we have to accept a lot of input from experts, toxicologists, and see how we can solve this problem. Particularly now looking at DNA breaking down, this is not a routine test which is done. This is a research tool.

So this is what the problem is. But the protocol is seen—it's comprehensive, I would say.

Mr. SHAYS. You say it's comprehensive, but I was going to ask this question—you have answered it, I think, in the negative. And so I will ask you, Dr. Jackson, is the uniform case assessment protocol for the evaluation of Gulf war veterans sensitive enough to detect chemical injuries to sick veterans? Is it adequate?

Dr. JACKSON. I think there's a bigger problem, and I think that problem is—and I know from my institution, I was given the liberty, in consultation with my supervisors, to do what I thought was indicated, and I didn't—I couldn't find—I don't know of any testing—as they have stated before, I don't know of any test that we can do to say, yes, you were exposed to a chemical agent 3 years ago. On a number of our veterans we did cholinesterase levels, but from my research in the literature and the results that we got on it, and we probably did about 30 different people at least, the tests were back to normal 3, 4 years later. So I don't know what to do.

Mr. SHAYS. So let me put it in my words.

Dr. JACKSON. I don't know how to test for chemical exposure.

Mr. SHAYS. OK.

Dr. JACKSON. I believe that it occurred. I think you people know that I am convinced that it occurred.

Mr. SHAYS. Right.

Dr. JACKSON. But I don't know how to test for it, and I don't know how to treat it.

Mr. SHAYS. So in response to that question, your bottom line is you are not sure; it could be sensitive enough but you don't know how to do it?

Dr. JACKSON. I don't know of anything to do. If I did, I would have done it.

Mr. SHAYS. Do you think that there are people outside the VA who might be able to assist in this that we should be calling on?

Dr. JACKSON. To be honest with you, I have contacted people outside of the VA, and nobody seems to know. I think this is one of the areas we need research on it.

Mr. SHAYS. It really is—even though it can't be of comfort to veterans——

Dr. JACKSON. We are facing something we have never faced before.

Mr. SHAYS. Yes. But that dialog needs to be out more in the open. I mean, basically, you are saying to veterans, we don't know how to diagnosis your—if you believe you have a chemical exposure and have the effects of being exposed to chemicals, that we don't really know how to diagnosis and treat you. Nor does anyone else outside the VA. I mean, that's really what you are saying.

Dr. JACKSON. This is why the history is so important, the fact that, yes, there was the probability or the possibility initially. And without that history, you are——

Mr. SHAYS. Is this just such a new field for the medical community? Or is it simply—is it what I call an orphan type of illness; there's not enough of this kind of problem in the world to encourage people to get into it?

Dr. JACKSON. My own understanding is chronic exposures of combustion fumes, low dose exposure to nerve gas agents, these are all things that we don't commonly—we don't even run into in medical practice. Maybe in occupational practice what you run into are people who are exposed to oil.

Mr. SHAYS. Or if you run into it, you don't know you are running into it?

Dr. JACKSON. Yes.

Mr. SHAYS. Dr. Gordan, would you respond to—do you agree with Dr. Jackson that we don't really know how to diagnosis and treat chemical?

Dr. JACKSON. You need a history.

Dr. GORDAN. Certainly, history is the first step.

Mr. SHAYS. That's all right if you disagree.

Dr. GORDAN. Yes, but it probably is not enough. Again, I think probably toxicologists might help us to come up with certain tests to, let's say, look at the levels and biopsy, like fat tissue biopsy or something like that, level of chemicals. That is one possible test.

Now, if you believe in chemical sensitivities, those people do have challenge tests. After they detoxify the person, they challenge the person with a low level of chemicals. If the person redeveloped the same symptoms, that's the diagnosis of chemical exposure.

So this is where we are now.

So we need research, and we need cooperation, and we need efforts.

Mr. SHAYS. OK. Based on both of your medical experience, do you believe that exposures to low level chemical agents can cause delayed and chronic health problems without first showing immediate or acute symptoms?

Dr. JACKSON. Yes, I do.

Dr. GORDAN. Yes, I do.

Mr. SHAYS. Are you aware of any scientific studies on the subject of chronic symptoms from exposure to low level chemicals?

Dr. GORDAN. Yes, I am.

Dr. JACKSON. Yes.

Mr. SHAYS. Can you disclose one or two of them?

Dr. GORDAN. Yes. One study which I came across is a study which was conducted by Stockholm International Peace Research Institute in the early 1970's. What they did, they described two groups of veterans; one group of veterans from the First World War, when Germany attacked the first time with chemicals in 1915, and those people did not die, did not experience any symptoms, who were at the periphery of the German attack target. But those people were studied in this country between 1928 and 1940, and believe me, I was appalled, looking at the list of the symptoms which are similar to the symptoms which I see in the Persian Gulf.

And another group in this Institute's study were the German workers who worked in the German chemical weapon industry, which at that time was the most developed and most perfect in the world. And the hypothesis was—those people started having symptoms, but the hypothesis was that those people, more than not, more likely than not, were exposed to daily, when they were going to do their job, to leakage, minor leakage from that plant, chemical plant. But they couldn't feel it. They couldn't smell it. Probably they didn't have any detection or good detection. And those people were studied between 1950 and 1960, and those people were found to have the same symptoms like the veterans from 1915, and their symptoms also are similar to what I see in my Persian Gulf veterans.

Mr. SHAYS. I don't know whether I just want to believe it, but it just seems so logical to me that it's hard to understand why you all would be considered so much in the minority in this field.

Let me just pursue one or two more questions here.

Could exposure to chemical agents in low concentrations cause a variety of symptoms or illnesses as reported by many Gulf veterans?

Dr. JACKSON. Yes.

Dr. GORDAN. Yes.

Mr. SHAYS. What policies or practices would you recommend be changed in light of DOD's admission that troops were, "presumed exposed," to chemical warfare agents?

Do you want to start, Dr. Gordan?

Maybe, Dr. Jackson, you have a shorter answer, and we will let you go first.

Dr. GORDAN. Dr. Jackson, yes.

Dr. JACKSON. Yes, I have a couple of thoughts, and these are my own personal opinions and not representative of the VA.

Mr. SHAYS. I understand that you are here at our request and that you are not speaking for the VA, and the record should note that.

Dr. JACKSON. OK.

Mr. SHAYS. I am also aware that the VA has no problem with either of you being here.

Dr. JACKSON. In my mind, the problem of whether it's pyridoxamine, sarin, combinations thereof, oil, combinations of the three, that is of less importance than to say it happened between the time you were activated or signed the paper and went to the Gulf and the time that you came back. This, in my opinion, is of prime importance.

We need to recognize the fact that this is service-connected. That has always been my primary impetus and will be in the future, until I retire, which hopefully will be pretty soon.

But this, to me, is the most important thing, for the Congress and the VA to say that you are ill; we will accept and give you the benefit of the doubt that your illness is related to your combat duty. And in my opinion, everybody who has symptoms should be service-connected even if it's only at zero percentage. And a new rating system should be set up, based upon the symptomatology, for gradations related to employability, et cetera. This is my pri-

mary goal. This has always been my primary goal, and I don't think I have anything more to say other than that.

Mr. SHAYS. Thank you, Dr. Jackson.

Dr. Gordan.

Dr. GORDAN. I agree with Dr. Jackson, so I don't have anything additional.

Mr. SANDERS. Mr. Chairman, I have to catch a plane soon, so I do apologize for having to leave early.

And I really want to thank both of you for coming very much.

I have one question—a story, a brief story, and then a question. As I mentioned earlier, we dealt with this carpet thing, and we dealt with the EPA, and we asked the EPA if they were in contact with one physician, one physician, who was treating people who were overdosed by carpets. Their answer was none, they had not spoken to one. Meanwhile, there are hundreds of people in this country who are doing that work.

My question to you is: You mentioned this fellow who went to California earlier. I personally know of people in Texas—there's a whole area of science which deals with chemical detoxification. You are suggesting that you believe one of the major causes, perhaps, of so-called Persian Gulf war syndrome is overdoses of chemicals, no matter what they may be.

Do we have an effort within the VA to be referring people who are sick to those folks or to other experts who are involved in chemical detoxification?

You mentioned kind of by chance somebody came into your office. Apparently that therapy worked; is that correct?

Dr. GORDAN. Yes.

Mr. SANDERS. Are we learning from that and following through on that?

Dr. GORDAN. When I testified at congressional hearings in June 9, 1993, one of my statements, and certainly it is in the Congressional Record hearing records, I said, right now we don't have technology to handle this chemical injury or so, but the private sector has this capability, and then we should send our people to the private sector to get benefit.

Mr. SANDERS. Are we doing that?

Dr. GORDAN. I——

Mr. SANDERS. To your knowledge?

Dr. GORDAN. I am not aware of that.

Mr. SANDERS. I would respectfully suggest, and certainly, Mr. Chairman, I would hope that we can pursue this, we know the people at the VA from the top down are working as hard as they can to address the issue. No one argues with that. But if you have some people who are doing, "experimental work," you gave us an example of the type of therapy that may have worked for one of your patients. Common sense would dictate that we would like to follow through on that. Would you agree with or think it would be a good idea that we at least have a pilot program directing some of our sick veterans to new approaches in terms of chemical detoxification? Would that make sense to you?

Dr. GORDAN. It makes a lot of sense, but instead of referring those people to the private sector, I think we can build our technology within the VA system.

Mr. SANDERS. Fine. All right. But that is an area of work and if it doesn't work, it doesn't work. But certainly——

Dr. GORDAN. Yes.

Mr. SANDERS [continuing]. We should be exploring all avenues.

Dr. GORDAN. Yes.

Mr. SANDERS. All right. Mr. Chairman, I would hope, because I have had contact with some of those physicians and some of that work, that in the future we might want to be bringing in some of those people to look at alternative-type health treatments. Does that make sense to you?

Mr. SHAYS. Yes.

Mr. SANDERS. OK.

Mr. Chairman, I apologize for having to go and leave. I will turn it over to my good friend, Mr. Towns.

Mr. SHAYS. I would like to recognize Mr. Towns, and before calling on him, I would just point out that as the ranking member of this committee, he has been right in the center of this issue, and we have truly been partners in this undertaking, and I consider whatever successes we may have in large measure to his work. And I would just recognize the gentleman from New York.

Mr. TOWNS. Thank you very much, Mr. Chairman. Let me commend you for carrying on and making certain that we get to the bottom of this issue. And I apologize for the fact that I could not be with you yesterday, but a longstanding commitment is the only reason that I was not here. You know my commitment to this particular issue in terms of trying to find out as much information as possible, as soon as possible.

It appears to me that a number of vets developed symptoms after 2 years—after the 2-year limit for service-related compensation. Let me ask both of you: Should consideration be given to extending this limit to take into account a longer latency period for illnesses that may be related to chemical exposure?

Dr. GORDAN. Let me answer this question. When you are talking about the onset of these symptoms, if you ask me whether I believe that the onset of symptoms occurred when the veteran tells me it occurred, I am inclined not to believe it. Those symptoms could have been—could have occurred during the Gulf war, but at that time there was not time to think of chemicals. At that time it was the time to think of war, and they were tired, and they are—had headaches and so on and so forth. They came home. They felt the same thing. Well, I have to adapt myself. And then they went on and on.

And I will tell you, you don't know—I know how much macho is in those young guys. Because of this macho, they went on and on, and they denied, and they went from denial to denial, and only when they realized, hey, something is wrong, OK, they came to the doctor. Certainly that should be expanded, but I believe very strongly that those symptoms and many of them started while they were in the Persian Gulf war.

Mr. TOWNS. Thank you.

Dr. Jackson.

Dr. JACKSON. Yes, I agree. My thinking is in terms of 7 years.

Mr. TOWNS. Mr. Chairman, it looks like we might have to look at—once we get some more information, look at possible legislation

at some point. It would seem to me that this might help address the matter.

Let me just move along. What is your reaction to the VA's position that in the absence of a definitive diagnostic test and a lack of specific treatment, clinical care of Persian Gulf veterans will not immediately change?

And I think there was a letter written by the Secretary to the chairman indicating that. What are your comments on that?

Dr. GORDAN. I am not sure if I understand it.

Mr. TOWNS. Basically the letter says that the treatment method would not change in any way; that whatever they have been doing, they would continue to do it. What's your reaction?

Dr. GORDAN. Really, the only thing I can tell you is that we did not explore every single avenue in order to come to this conclusion. We have more avenues to explore, like chemical sensitivities, chemical toxicity. We have research going on by prestigious persons in the VA and universities, and their results are not out.

How can we draw this conclusion before we have those results out, before we explore every single avenue which we can?

So this is my opinion on this. I would not—I cannot draw any conclusion that it would not have made any difference had we started 2 years ago or 5 years ago.

Mr. TOWNS. Dr. Jackson, do you have anything to add?

Dr. JACKSON. I think that when we have more research that is specifically on particular problems involved with the veterans and we get more information, then I am sure that the treatment will change, hopefully. I would like to see treatment change because what we have been doing in the past has not been efficacious to most of our veterans. So I think it will change in the future.

Mr. TOWNS. Mr. Chairman, I have to leave, but you can count on me to hang in here until we get some answers. I think that a lot of people out there, as we know, are giving information and saying that certain things have happened. I think that we cannot ignore that. I think we have to address it.

We appreciate your coming and sharing your views with us. I think that is very important for physicians to share what you are seeing and your experiences out there, because when we get all the information, maybe we can begin to address this in a way that we can protect the lives of folks who have put their lives on the line for this country. I think that is what we are talking about, and I think that to stick our heads in the sand and say nothing happened is not the proper way to deal with it. So thank you for coming forward.

Mr. Chairman, thank you for making certain that this issue is not pushed to the back burner.

Mr. SHAYS. This hearing will be closing with one last question. Do you both feel that you have gotten the full cooperation that you need to present your what might be contrary view throughout the VA?

Dr. GORDAN. Yes.

Dr. JACKSON. Yes.

Mr. SHAYS. You have gotten full cooperation?

Dr. JACKSON. Especially from my institution, yes.

Dr. GORDAN. Yes; the same thing, very full cooperation. They paid for my expenses.

Mr. SHAYS. Thank you. I would want to point out for the record that Dr. Murphy at the last hearing corrected me for my assumption that they had not had the full names, so not only did she do it in today's hearing, but on page 170 of our September 19th hearing she said, I think the chairman was a little confused about what information VA has also. So let me start out by saying that we do have a roster of every single individual who was deployed to the Persian Gulf theater of operation, so we have almost 697 names and identifiers of people who were in Operation Desert Shield and Desert Storm. So not only did she correct me properly last time, but this time as well. The record will show that, Dr. Murphy, and I apologize.

This hearing has concluded. I will thank you again. Both of you had very succinct and very helpful testimony. It is not reassuring that we don't really have the ability to properly detect or treat chemical exposure, but I think you have both made it clear there is a lot more we can be doing. I hope your view is given more attention at the VA because I think that ultimately our veterans will benefit from that.

With that, I close this hearing and thank our court reporters for their diligent work, Bill Odom, Mindi Colchico and Marcia Stein. I thank our court reporters. You can put that in the record, court reporters. You have been duly thanked.

With that, the hearing is adjourned.

[Whereupon, at 2:12 p.m., the subcommittee was adjourned.]

[Additional information submitted for the hearing record follows:]

Statement By

Jim Brown

Director of

"Gulfwatch"

An international Veteran's
Information/Support Network

Before The

Subcommittee On Human Resources And Intergovernmental Relations

Christopher Shays, Conneticut
Chairman

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11 December 1996
Washington, D.C.

APPRECIATION:

First, I wish to give a statement of appreciation to the members of this committee for having this hearing, and for inviting me to testify today. It is through events like this that the truth can be told, and changes can be made. Due to recent statements and news releases made by the Department of Defense, Central Intelligence Agency and Veteran's Affairs, finally, some actions may be forthcoming that will help to save lives, which is the highest calling of them all.

In my testimony, I will refer to many events, some recent, some historical. But all having a bearing on the state of mind of the institutions I just mentioned. This mentality is one of denial, ignorance, and abuse of power given not as a right, but as a gift. The need to defend one's home and family is a basic one. However, when the responsibility of that defense is given over to another, there is a basic trust passed on which, once broken, may never mend. This broken trust is the real, basic reason we are here today.

Also, my testimony will be divided in 2 parts. Due to the length of this document, I have decided to do this. The first part deals with the events I experienced in the D.O.D./ V.A. registries and systems attempting to gain aid for the problems I and my family encountered. The second will give a background on my experiences in the persian gulf war, and the health related problems my deployment involved.

INTRODUCTION:

My name is Jim Brown, and I am 32 years old. I was a U. S. Army soldier, rank of specialist E-4, assigned to the 514th Maintenance Company, 548th S & S Battalion, 10th Mountain Division, Ft. Drum, New York from 09/jun/89 to 10/apr/91. I served proudly. My primary job was to fix generators, and to run the computer system for the shop office, and the 1st Sgt. As such, I had an appropriate clearance for sensitive materials, as well as training.

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HEALTH HAZARDS AND EXPOSURES

Shots received before leaving the U.S.

1) Immune gamma globulin (IGG)
2) Menningacoccal (MGC)
3) Typhoid II
4) Botulinum toxoid
5) Anthrax

Environmental exposures in Saudi Arabia

6) Leaded deisel, in vehicles and poured on roads to reduce dust.
7) Powdered, microscopic dust
8) Lack of acclimation from cold to hot extreme environments.
9) Drinking highly chlorinated water from a local source.
10) Pesticide laden living environment/compound (cement city).
11) Infrequent showers, with oil-contaminated local water.
12) Sand fleas.
13) Sand flies.
14) Basic unsanitary conditions.
15) Leaded fuels used in improperly vented interior heaters for tents.
16) Work environment (vehicles/parts saturating clothing with oil, etc.)
17) Lack of bottled water to remain hydrated.
18) Rodents.
19) Smoke from waste disposal descending over camp.
20) smoke from first oil well fires, started 12/feb/91.

Other hazards

21) Fallout from bombed chemical storage/production facilities.
22) Fallout from bombed biological storage/production facilities.
23) Scud attacks that resulted in chemical alarms sounding.
24) D. U. on tanks worked on/around, and used by returning A-10's flying overhead after firing rounds in Iraq, trailing dust.

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MEDICAL HISTORY

(See attached medical files)

I deployed to Saudi Arabia on 25/Sep/90, and returned on 18/Feb/91 to the U.S. I was ill during my deployment, and was seen at sick call soon after the air war started on 17/jan/91 with numerous complaints of nausea, vomiting, cramps, night sweats, and headaches. The doctors who saw me said to "stick it out" and sent me back to my unit.

After my return to the U.S., i became increasingly more ill. I finally went to the hospital on Ft. Jackson, S.C., on 27/mar/91, and complained of fatigue, sleeplessness, inability to concentrate, headaches, rashes, dizziness, abdominal pain, blood in my stool and urine, and short-term memory loss. Soon after, my wife began having the same illnesses.

The doctors examined me thoroughly, and agreed that my symptoms were real, and that I did have blood in my stool and urine. They then told me they could do nothing for me, and sent me home. The assessment and diagnosis they gave me was "benign physical examination; stress syndrome". In other words, a P.T.S.D.

Even though they found physical signs of what could have been internal bleeding, I was sent away with no idea what was wrong with me, no treatment, and no follow up in the near future. This was a potentially life- threatening situation. To this day, I still occasionally have the same blood in my stool and urine, and have no idea why.

After a few months I received a compasionate reassignment to Ft. Gordon, Ga. During my time there, I progressively became worse, and tried to be evaluated by the doctors there. I had a series of tests done on 02/Sep/92 by the doctors at Eisenhower medical center, and the results showed that I had a tendency towards anemia, and abnormally high glucose levels. The doctors dismissed the findings, and told me to go back to duty, with, again, no idea what was causing the fainting and nausea I constantly experienced.

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On 04/Nov/93, I ended up in the army post's emergency room, after having passed out standing up while outside doing common task training. Nothing strenuous was involved to induce this reaction. I was taken to the hospital, and put in an area far from any other patients, and left to sit on a curtained-off bed. Soon, several doctors pushed into the cramped space, and began talking excitedly among themselves about toxicology, poisoning, and the effects usually seen in victims of it.

This was said directly about me and my problem. They talked about me as if I would not understand the jargon, yet I understood all too well that these people were connecting an exposure to a toxin to my condition. I sat up to look at them, and began asking questions that left no doubt that I did understand them. The conversations stopped, and all eyes turned to me.

With "hand-in-the-jar" looks, the doctors (who now numbered about 10) looked suddenly about for somewhere else to be. I asked if there was some kind of a problem with intelligent patients coming in this hospital, and was told to lie down, and be quiet, and wait for another doctor. I asked why the change, and was again told to be quiet. So I waited.

I stayed in the hospital for 2 days, hooked up to an I.V. of fluids mixed with antibiotics of a type I had not heard of. Since I am not a doctor, no surprise there. The surprise came when the doctors told me I could leave, and I was not to tell anyone that I had been given antibiotics at all. Again, I asked why. I was again told to be quiet.

When I asked what was wrong with me, I was told it was pharyngitis. I asked how they knew so fast, since cultures take a little while to be really sure of the micro-organism responsible. As expected, I was told to leave well enough alone, and it seemed to anger the doctor alot to be put on the spot. It seemed to be the trend in the hospital when dealing with normal questions about abnormal situations.

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The nurse that had attended most of the "be quiet" sessions let me know some of what had happened to me. She pointed out that alot of the returning Saudi vets were coming in sick, same symptoms, and especially right after the flu shots had been given out on the post. She also said that I had gotten mine 2 days before I showed up sick.

The doctors were all worried that I had a toxic/shock reaction to the shot, and that it "...was to be expected in the Saudi vets, as opposed to healthy folks...". It seemed that there was alot more to this than I had first thought, especially if it was treated as if it were a common thing by the doctors. And that the doctors were making a connection where they were publically saying there was not one. No surprise there either. After looking at the test results from this hospital stay, I was seeing a trend of values that were high or low, rather than normal, that the doctors were dismissing, yet were cropping up in every lab report I had. A pattern was forming.

After all of this, I was forced out of the military because I wanted medical treatment. Repeatedly I was denied it, and got worse as time went by. Eventually, I finished my time allowed, and transfered to the reserves to finish my 8 year obligation on 08/Feb/94 (I had 7 months left). On 01/Sep/94, I went to the V.A. hospital in Augusta, Ga., for my registry examination. I already was aware of the C.C.E.P. and the 3 phases involved. I and other veterans had met in support groups we had formed, and were sharing information we had gathered. I had secured a copy of the 3 phases of examination done by the V.A., and knew mostly what to expect.

Prior to coming to the V.A., I had done several t.v. interviews with local stations, and was known as being outspoken. Since there was a large amount of veterans close to the hospital at Ft. Gordon (2 full battalions had deployed from there to Saudi Arabia, and I knew many vets that were sick there) I thought it would be a good idea to invite a member of the media to interview me as I went through the program, to let the vets know they had somewhere to go for testing and maybe treatment.

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I asked the press representative at the V.A. if this was okay with them. The reaction was not a good one. I felt that it was best for me to leave it to the professionals, and called the reporter to tell him what had happened. He informed me that when he had tried to call earlier to talk to the press officer, he was told that "...he and I would be forcibly ejected from the hospital grounds..." if any reporters showed up. So, we crossed the street, and did the interview with the hospital in the background. Not a good way to start off.

When I went back into the hospital after the interview, everything seemed to have changed, in a weird way. All the people who would not even look at me before were asking if they could get me things like coffee, and since I was accompanied by my mother (who drove me there, since I had travelled all night to attend the testing, and assumed they would draw alot of blood, making me unfit to drive) as well as another vet, they also got the "royal treatment".

It all seemed like things might be turning for the better when the other vet noted that he had been followed when going to the bathroom. Looking around, I and my mother noted the same thing happening when one of us moved anywhere. We began to test this, just to knock the paranoia theory down, and, sure enough, every time we would move, the people at the front desk would send someone to see where we went.

I finally surprised one of them, and asked what was happening. I was told that it was for security reasons, to keep the reporters out of the hospital. I said that was odd, since neither I, my mother, or the vet were reporters, and the interview was already over. She said it was the administrators decision, not hers, and went back to her desk.

After all this happened, I finally was seen by the "environmental physician". Having an interest in medicine, I asked what particular disciplines he had studied to gain so lofty a title, and was met with a blank stare, as if he did not get the joke, yet felt it was one. I began to feel a little more ill at ease.

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I had filled out the paperwork with care, attending to all the formalities I knew of, in order to "test" the system for other vets who may not be as well informed as I was. I let the physician see the LARGE package of medical files I was carrying, and asked where he wanted them. He answered "outside the office". I said that they would help establish a pattern of illness for him. He said that was what he was for. I began to see an old pattern forming again.

I held onto my copy of the protocol phases, and asked him to describe the testing he was going to do today. He said it would be really exstensive. Alot of stuff. Then he rattled off the basic tests listed on the phase 1 protocol. Simple stuff that wouldn't really even tell if you were alive when the test was given, much less live up to the new name "environmental physician".

I mentioned this, and was told it was the very best they had to offer, and this would be all the V.A. could do for me. Period. Ever. He said this as the protocol papers roiled in my hand. I knew better. And had proof. So. After he said this I asked again if he would not like to increase the testing scope, since the tests I had from other physicians told a real patterned story. He said I should forget those tests, since the ones I was about to get were so good.

We proceeded to go through the tests he had outlined. When he was done with what any first day medical student would have passed over as useless, I showed him the protocol sheets, with the 3 phases on them. He turned a very interesting shade of white, and asked me "where the &$@& did I get those from.....I was not supposed to have those...." and so on.

He really did get rather irate then. I showed the 3 phases to him, and asked him what we were going to do now. He stammered something about having to go get more paper so he could do the tests I requested, since he only had 25 pages in his office at the time!! Phase 1 consists of only 5 tests, if you include the x-ray. It seemed that a little pressure had worked.

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While he was gone to get "the extra paper", I stuck my head out of the room to inform the others of what had happened. I was informed of the return of the "watch-dogs" on the vet and my mother again. The doctor returned, a little more composed looking, and began filling out paperwork that ended up being about an inch thick. Big difference from before. Funny problem; none of these seem to be in my records now.

I went to all the labs, had 8 tubes of blood drawn, a urine specimen taken, an x-ray, and was asked if I wanted any coffee or tea. I then told the doctors gathered outside the exam room that from now on, I would be coming back to the hospital with every vet I knew who needed testing, and would personally see to it that they received proper testing and treatment. If a babysitter was what they needed, that was what they would get. I also saw the administrator, to tell him the same thing.

I went back home to S.C., and I tried to make my drill weekend duties, but was unable due to repeated illnesses. I was told by my commander that I had to have a doctor's excuse to be allowed to miss time, so I went to a doctor in S.C. where I was living then.

This was on 10/Sep/94. As I talked to the doctor, he asked me my symptoms. He said he could nail down, medically, what was wrong with me with 2 blood tests. I looked at him a little skeptically, but said okay. He drew 2 tubes of blood, and told me he would call me in a few days with the results. I was billed $113.00 for the tests.

I received the results of my testing from these tests on 19/Sep/94, and was told that they revealed that I had been dangerously anemic for years (which I knew) and that I had an active infection of the epstein-barr virus (which I didn't) and it could be the source of the fatigue I was feeling. The doctor told me that with the test results he had and the earlier ones I had shown him, he was able to back-track the earliest stages of the illness to having begun about the same time-frame as when I was in the gulf war. The doctor did not know at the time of the exam that I had been in the gulf war. I wanted an un-biased opinion.

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After having found all this out, and gotten at least a partial answer for the reasons why I was ill, it came as quite a surprise when I received a letter in the mail, dated 23/Sep/94, only a few days after hearing from the doctor about my illness. This letter was from the V.A., and it said that "The results of your physical examination indicates no problem with your labs or x-rays.....". I was, to say the least frustrated. And angry. In the V.A.'s phase 3 testing there is a simple test, for the epstein-barr virus, that, if done, would show at least that I was ill as defined by modern medicine, not just imagining it as some doctors seem to feel. The V.A. dropped the ball totally, since I received the test, yet it failed to show the problem. Tests, started days apart, yeilding totally different diagnoses, was a bit much to take.

I had researched the epstein-barr virus, and found out several things about it, none good. The fact that the V.A. could miss so fundamental a thing is also not good. From the test results I have seen from my visit to the V.A., I have been able to determine that they yeilded the same results that the many earlier D.O.D. tests had shown for years; anemia, and a chronic infection of the e.b.v. at the very least.

So. What are the lessons learned here ? That over-sight is invaluable. That if I had not been informed as well as I had been, I would have gotten a bums-rush out of the hospital, and been added to the tally of "served customers" that had been given a bill of goods that was rotten.

What happens to the vet who does not have the protocol sheets, or just is not up to the fight that day because of being ill ? Will they suffer, and die, rather than getting the help they need ? Yes. It is already happening now. Too many have died needlessly, when the answers are there; we just need someone competent enough to know that when a test says "high" or "low" that it warrants someones attention. The "h" is for high, the "l" is for low. Simple. Like the "picture of fries" is for "fries" on the cash register nowadays. Simple. If these doctors are that bad off, they could not even work at a fast-food resturaunt, much less be in charge of a human beings life and health. How simple does it have to be ?

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This committee has the power to affect the outcome of these tragedies. Please help us to put an end to the ignorance and needless deaths. With the recent admissions by the D.O.D. and C.I.A. regarding chem/bio exposures, the testing will have to change to reflect these facts. Since V.A. officials admit they were on hold, waiting for D.O>D. to give them the word, let us say "the word is given", and get the ball rolling.

This concludes the first part of my written testimony. The second follows after.

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This begins the second part of my testimony.

PREPARATION

My battalion received notice of alert on 05/Aug/90, and readied to deploy to Saudi Arabia in support of an airborne unit unknown to us at the time. Being a light infantry support unit, we were able to attach to any unit in the military. We received our P.O.R. (point of release) orders on the following day, and were told we would soon be leaving. In preparation, we were told to find our paperwork regarding shots and personal affairs and bring them.

My unit was told to report to the battalion classroom on 20/aug/90, where we received our P.O.R. briefing, and first shots. As we were herded through the stations, we were told that we were eventually to receive something unusual. Unusual. Well, Considering where we were supposed to be going, to the desert, this announcement did not really surprise us. At Ft. Drum, we are considered cold weather troops, trained specifically in light fighter warfare tactics in arctic climates, with combat skills useful against the soviets as the main study subject. This includes extensive training in their doctrine. I saw signs of this doctrine in the war.

In this round of shots, we received our immune gamma globulin, or "gg" shots, as well as a shot listed as "mgc", which I have found out is a shot for mennigococcal vaccinations. The "gg" shot was injected as fast as was possible, since there were alot of people. This action went against common medical practice and rules. The shot was 5 cc's, and was injected in under a minute. In every medical journal I have read on the subject, there is a clear warning not to exceed 1 cc per minute.

This warning was not heeded on any of us. The effect is a shock to your immune system that would require rest and avoidance of further insults to the immune system to be corrected naturally by the body. considering what was going on at the time, there was no way for this to

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happen. This was the first damage to our immune systems, which required time for recovery. There were many more in the next few days.

On 12/Sep/90, we were again herded in for shots. As we went through the stations, we received both the anthrax and the botulinum toxoid shots. We were told what we were getting, and told it was secret, for obvious reasons. If saddam knew what we were ready with, he would change tactics, and we would be vulnerable. And, as trained professionals who deal with doctrine and training every day that fits this same category, this was not unusual. We obeyed.

The shots were annotated on the records of those who had them using lot numbers and a name, conn, in the point of origin slot. No other discussion was warranted, or needed at that point. The odd part was the anthrax shots were annotated in the section reserved for the yellow fever shot. Soon after these shots, many of the soldiers in my unit fell ill with flu-like symptoms and aches in the spots where the shots had been given. We prepared for deployment, and finally left on 25/Sep/90. We landed in Frankfurt, Germany, and stayed overnight in a U.S.O. shelter on the edge of the airport, till our flight left for Saudi Arabia the next day.

MISSION:

Our mission in Saudi Arabia was to assist any units needing support. In our battalion, we had the following companies: 59th Chemical co., 57th Transportation co., 514th Maintenance co., 229th Dustoff, and 511th M.P. We landed in Dharan, and made our way to a temporary site we named after our battalion commander, LTC. Stanley Walker (Camp Walker). We had 2 M88 tracked recovery vehicles, and I was soon attached to one. I was eventually put in charge of it, and, with a crew of 4, set out looking for recovery missions. We also were responsible for the maintenance of the transports the M1A1 tanks went north on, as well as doing repairs on the hydraulic systems on the tanksand the D.U. systems.

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In my travels, I went to Rafha, Hafir Al Batin, Logbase Charlie, Port of Dammam, Al Jubayl, Kafhji, Hofuf, Sarahr, K.F.M.C., and K.K.M.C. As you can see, I and my crew went to quite a few places during our stay.

14/JAN/91

On this day, at about 3 p.m., my commander, a captain, came into my tent, and announced that we were to take a new pill, and again, keep it secret. He was followed by our N.B.C. officer, a sergeant. He had a box and a clipboard with him. In the box were packets of the pyridostigmine bromide nerve agetn pretreatment pill. We were all handed a packet, and told to take only one, while the commander stood and watched, and to store the packet in our gas mask carriers. He said he would tell us if we needed another one. He also said this was in preparation for an attack by Saddam in response to the deadline the next day. after the time was up, what did he have to lose by attacking ? Sound thinking at the time.

I sat on my bunk, waiting for some sign of effects, and felt as if i had only been there for about 10 minutes. My driver came up to me and shook my shoulder, asking what was wrong. I said nothing, why ? He answered that I had been sitting in the same position for over an hour, not moving, and he was ready to go on our next mission. This shocked me, since subjectively I had noticed nothing. Since then, I have learned that blackouts were common after taking the pill.

ALARMS AND ALERTS

During the months of January and February of 1991, the alarms around my camp went off on a constant basis; so much so that our battalion N.B.C. officer instructed our company N.B.C. officer to remove the batteries. This was due to the frustration of having an alarm go off at 2 a.m., and after responding, finding either nothing, or nothing that made sense. If we had been fully informed as to the types of agents available to

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Saddam, I believe that these false-positives would have met more serious concern, rather than being dismissed.

One of the agents I am refering to is "gf", also known as "cyclosarin". It was found in massive quantities in Iraq by the U.N. (more than 100 tons, some in binary form). This agent will register sometimes on our equipment, yet will not result in a positive detection or confirmation because of it's chemical differences to known agents listed for our troops to look for. It also was found at Kamisiyah, in the 122mm rockets, mixed with sarin in a 2 to 1 ratio. This mixture would confuse our alarms, and confirmation gear to the point of not being accurately detectable, unless one knew to look for it. This is the first in a long line of failures on the part of D.O.D./C.I.A.

Also, for the record, the statements from D.O.D./C.I.A. that they "found the paperwork on Kamisiyah" is false. They were presented the video tape of the chemical bunker's interior and the document from the internet site at the same time, in Washington D.C. by the President's Advisory Committee, and were told that if they did not release the information, the committee would do it for them. This was before june.

So, the image that is presented by their statements that they found these things and willingly brought them forward is simply not true. I am the person who released the Kamisiyah document, and should know the chain of events. I and Brian Martin of the 37th Engineering Battalion were the reasons this event occurred. I am not saying this to gain credit, as some have tried to do. This is to point out a pattern of deception on the part of D.O.D./C.I.A. While trying to tell the public to believe them, they are being less than honest about their attempts at being forthcoming with evidence of real events. This must stop. Since these admissions became public knowledge, the D.O.D. and V.A. have been handed an obligation to expand their investigations into what is wrong with the veterans, to include chem/bio contaminations. The testing should reflect that. If it does not, one will have to assume that the answer is not wanted, rather than out of reach.

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CONCLUSION:

In closing, I wish to say this; for the past 5 and a half years, I and other veterans have wanted one thing. Not money. We want for D.O.D. and V.A. to honor the contract they made with the veterans, and to take care of them. Since the V.A. says it is not capable of supporting the large influx of patients, let's try this instead.

When I put on the U.S. Army's uniform, I never received over-time. I was paid a set rate, and that was that. THERE WAS NEVER A FIGHT FOR "FUNDING". If I was needed, I went, and did the job, just as others do. The main excuses given now as to why there is no care given to gulf war veterans is; lack of funding.

Okay; with that in mind, why do we not make use of the facilities at our disposal right now, and use the personnel on them for treating these veterans ? How many military hospitals have empty beds, and staff that sits around, waiting for something to do ? Almost all of the D.O.D. hospitals fit that category. I have seen it, and researched it.

It is a wasted asset, and to prove it can function this way, ask this; what happens when the red cross goes to a military post, and requests a blood drive ? The personnel from the military hospital are sent to take the blood, and to set up the facilities as if to receive casualties. Casualties like the veterans of the gulf war. The system is already in place, and so is the know-how. Make use of what exists, rather than making sure people die simply because these agencies can not tell the truth. Honor the contract. Help save the lives of veterans, spouses, and their children.

Thank you,
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FOR IMMEDIATE RELEASE

VETERAN'S ORGANIZATIONS APPROACH U.N. FOR HELP WITH HUMAN RIGHTS VIOLATIONS.

FRIDAY, 06/DEC/96

Due to the actions of the Department of Defense, Central Intelligence Agency, and Veteran's affairs, international veterans of the Persian Gulf War have recently petitioned the United Nations to act on their behalf in an effort to stop human rights violations, and to allow these veterans and their families to address the general assembly of the U.N.

This was done on behalf of all coalition veterans. Representing the veteran's organizations "O.D.S.S.A.", "I.A.G.W.S.", AND "GULFWATCH", Vic Sylvester, president of O.D.S.S.A. hand-carried this message of request to the U.N. headquarters in New York, and was filmed by CNN handing the documents to officials in the office of the High Commission for Human Rights/ Center for Human Rights in the lobby of the U.N.

This message was transmitted from the offices in New York to Geneva on wednesday, 4/dec/96 at 10:00a.m. est and is officially in the system for immediate response by the U.N. general assembly.

For details, please contact:
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