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CAMP LEJEUNE: CONTAMINATION AND COMPENSATION, LOOKING BACK, MOVING FORWARD

HEARING

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

COMMITTEE ON SCIENCE AND TECHNOLOGY
HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

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SEPTEMBER 16, 2010

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September 16, 2010

Opening Statements

CAMP LEJEUNE: CONTAMINATION AND COMPENSATION, LOOKING BACK, MOVING FORWARD

THURSDAY, SEPTEMBER 16, 2010

House of Representatives,
Subcommittee on Investigations and Oversight,
Committee on Science and Technology,
Washington, DC.

The Subcommittee met, pursuant to call, at 10:07 a.m., in Room 2318 of the Rayburn House Office Building, Hon. Brad Miller [Chairman of the Subcommittee] presiding.

[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

hearing charter

COMMITTEE ON SCIENCE AND TECHNOLOGY

SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

U.S. HOUSE OF REPRESENTATIVES

Camp Lejeune: Contamination and Compensation,

Looking Back, Moving Forward

september 16, 2010
10:00 a.m. to 12:00 p.m.
2318 rayburn house office building

The Investigations and Oversight Subcommittee of the House Committee on Science and Technology will convene a hearing at 10:00 a.m. on Thursday, September 16, 2010, to examine the toxic legacy of drinking water contamination at Marine Corps Base Camp Lejeune in North Carolina. The hearing will examine the Department of the Navy and U.S. Marine Corps' knowledge of past contamination at Camp Lejeune, as well as prior and current analyses by the Agency for Toxic Substances and Disease Registry (ATSDR), a sister agency of the Centers for Disease Control and Prevention (CDC), regarding toxic exposures at Camp Lejeune. The hearing will also review current cooperative efforts by the U.S. Navy and ATSDR concerning the identification and access to records required to complete these studies. In addition, the hearing will examine the process by which veterans have been compensated for illnesses due to environmental exposures at Camp Lejeune and what steps the Department of Veterans Affairs (VA) and U.S. Navy are currently taking to ensure that Camp Lejeune veterans and their dependents are quickly and appropriately compensated for any illnesses or health issues related to toxic exposures while serving at the Camp Lejeune Marine Corps Base.

Key Issues.

1. U.S. Marine Corps (USMC). For thirty years, Marines and their dependents serving at Camp LeJeune were exposed to toxic chemicals in their drinking water. It took the USMC more than four years to shut down drinking water wells they knew to be contaminated with toxic chemicals and another 24 years and an act of Congress to force them to inform veterans about this contamination of potential health problems. For two decades the U.S. Marine Corps prevented full disclosure regarding the true extent of contamination at Camp Lejeune. In the past, ATSDR has struggled to obtain complete cooperation and support from the Navy in providing them with records necessary to conduct accurate and comprehensive public health assessments of Camp Lejeune's toxic hazards. The U.S. Marine Corps continue to view past environmental contamination at Camp Lejeune as a public

relations battle rather than a public health hazard. In July 2010, for instance, they released a glossy booklet on Camp Lejeune's Historic Drinking Water which excludes critical information and misrepresents scientific conclusions about the health impact of past toxic exposures on Camp Lejeune residents.

2. Agency for Toxic Substances and Disease Registry (ATSDR). In 1997 ATSDR published a Public Health Assessment (PHA) on Camp Lejeune that concluded exposures to volatile organic compounds (VOCs) in the tap water, including trichloroethylene (TCE), tetrachloroethylene (PCE), and 1,2-dichloroethylene (DCE), were a past public health hazard. But ATSDR failed to adequately investigate exposures to another toxic contaminant found in the Camp Lejeune water supply: benzene. The final PHA included a single reference to benzene in an appendix despite the fact the agency had records indicating high levels of benzene contamination in wells on the base. Last year ATSDR withdrew that Public Health Assessment, partly because they claimed that in the intervening years since it was published in 1997 they discovered additional records about the extent of toxic contamination at Camp Lejeune. Indeed, the recent discovery of Navy records drastically alters previous conclusions about the extent of benzene contamination at Camp Lejeune. However, even the information ATSDR had in 1997 should have sparked a much more aggressive investigation of the benzene exposures at the time.

3. Department of Veterans Affairs (VA). The VA currently has 191 claims from Camp Lejeune veterans. They have reviewed 15-16 of those cases and granted claims to 5-6 veterans determining that their illnesses are `more likely than not' tied to toxic chemical exposures from Camp Lejeune's drinking water. Two of those six veterans who received claims will be testifying at the Subcommittee's hearing. Currently the VA handles disability claims based on exposure to contaminated water at Camp Lejeune on a case-by-case basis. However, the Secretary of the VA is currently weighing a decision regarding the establishment of specific presumptive health conditions tied to environmental exposures at Camp Lejeune. Subcommittee Chairman Miller introduced a bill last year called the Janey Ensminger Act that would have the VA provide health care services to both veterans and their family members who have experienced adverse health effects as a result of exposures to contaminated drinking water at Camp Lejeune.

Background

Marine Corps Base (MCB) Camp Lejeune covers approximately 233 square miles in Onslow County, North Carolina. The base and surrounding area is home to an active duty, dependant, retiree and civilian population of approximately 170,000. Camp Lejeune's mission is to maintain combat ready units for expeditionary deployment. Since MCB Camp Lejeune began operations in 1941, environmental contamination has occurred in many areas due to the use, handling, and disposal of hazardous chemicals. Contaminated areas are scattered within the industrial, training and residential areas on the base. As many as one million individuals have been exposed to these contaminants.

Warnings of the base's contaminated drinking water problems first surfaced in 1980. The laboratory of the U.S. Army Environmental Hygiene Agency collected water samples at Camp Lejeune on October 21, 1980, and ran tests on those samples ten days later. A handwritten surveillance report form noted:

> WATER IS HIGHLY CONTAMINATED WITH LOW MOLECULAR WEIGHT HALO-GENERATED HYDROCARBONS.\1\

\1\ William C. Neal, Jr., Chief, Laboratory Services, TTHM (trihalomethane) Surveillance Report Form, Installation: MCB--LA JEUNE (sic)--HADNOT POINT, Date Collected: 21 Oct. 1980, Date Received: 30 Oct. 1980, Data Analyzed: 31 Oct. 1980.

The Army ran follow-up tests in January, February and March 1981.

Both the January and February 1981 surveillance report forms said:

> YOU NEED TO ANALYZE FOR CHLORINATED ORGANICS . . . .\2\

\2\ William C. Neal, Jr., Chief, Laboratory Services, TTHM (trihalomethane) Surveillance Report Form, Installation: CAMP LA JEUNE (sic) HADNOT POINT, Date Collected: 29 Jan., 1981, Date Received: 30 Jan., 1981, Data Analyzed: 9 Feb. 1981.

Each report carried similar warnings about contamination and showed there was strong interference in getting accurate test results due to unidentified chemicals. The Chief of Laboratory Services again offered warnings on his remarks regarding the results of the March 1981 test

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data:

> WATER HIGHLY CONTAMINATED WITH OTHER CHLORINATED HYDROCARBONS (SOLVENTS)! \3\

\3\ William C. Neal, Jr., Chief, Laboratory Services, TTHM (trihalomethane) Surveillance Report Form, Installation: CAMP LA JEUNE (sic) HADNOT POINT, Date Collected: 26 Feb. 1981, Date Received: 9 Mar. 1981, Data Analyzed: 9 Mar. 1981.

On August 10, 1982, Bruce A. Babson, a chemist at Grainger Laboratories who had been contracted by the Marine Corps to conduct environmental sampling at Camp Lejeune wrote to the Commanding General

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of the Camp Lejeune Marine Corps Base:

> Interferences which were thought to be chlorinated hydrocarbons hindered the quantitation (sic) of certain Trihalomethanes. These appeared to be at high levels and hence more important from a health standpoint than the total Trihalomethane content. For these reasons we called the situation to the attention of Camp Lejeune personnel.\4\

\4\ Bruce A. Babson, Chemist, Grainger Laboratories to Commanding General, Marine Corps Base, Camp Lejeune, NC, Attention: AC/S Facilities, August 10, 1982, Subject: Analyses of samples 206 and 207 from site coded ``TT'' and samples 208 and 209 from site coded ``HP''. Samples received July 29, 1982.

Nine days later, Elizabeth A. Betz, the Supervisory Chemist in the Quality Control Lab at Camp Lejeune wrote a memorandum to one of her colleagues regarding the August 10, 1982 letter from Grainger Labs chemist Bruce Babson and previous conversations she had had with Grainger Lab co-owner Mike Hargett. The lab had identified the chemicals that had been interfering with previous test results. In the Tarawa Terrace water treatment plant and system the interfering chlorinated hydrocarbon was determined to be tetrachloroethylene, otherwise known as perchloroethylene, wrote Betz. An analysis of the Hadnot Point water treatment plant and system showed trichloroethylene and low levels of tetrachloroethylene. Betz indicated that neither of these chemicals were regulated under the Safe Drinking Water Act at the

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time. Nevertheless, Betz noted that they were still harmful to humans:

> Trichloroethylene, like tetrachloroethylene and other halogenated hydrocarbons (ie Trihalomethanes), at high levels, has been reported to produce liver and kidney damage and central nervous system disturbances in humans.\5\

\5\ Memorandum, Subj: Grainger Laboratories Letter of 10 August 1982, From: Ms. Betz, Quality Control Lab., Environmental Section, NREAB, BMaintDiv; To: Mr. Sharpe, Supervisory Ecologist, Environmental Section, NREAB, BMaintDiv, Date: 19 August 1982.

Despite these warnings it took more than two more years, and the discovery of another more sinister contaminant, benzene, before Department of the Navy or the U.S. Marine Corps took steps to actually close the contaminated wells. In July 1984 test data from another contractor indicated that well #602 in the Hadnot Point Industrial Area had a benzene level of 380-parts per billion (ppb). The current maximum contaminant limit for benzene exposure set by the Environmental Protection Agency (EPA) is 5-ppb.

The Marine Corps claim they did not receive this disturbing test data until November 1984 and took immediate actions to shut down the well. One record from Camp Lejeune's supervisory chemist, Elizabeth Betz, in April 1989 suggests that base officials were not informed of the benzene contamination in Well #602 at the Hadnot Point Fuel Farm until November 30, 1984, when they received a call about the test results from the Naval Facilities Engineering Command, Atlantic Division (LANTDIV) based in Norfolk, Virginia. It has remained unclear, however, when Navy officials at LANTDIV were made aware of the July 1984 benzene test results. Finally, however, after more than four years after Camp Lejeune officials first learned of toxic contamination in some of the base's drinking water wells they took action to shut these wells down. Between November 1984 and February 1985, ten potable water wells at Camp Lejeune, including Hadnot Point's well #602 were finally shut down and taken out of service due to contamination with volatile organic chemicals (VOCs).

ATSDR Steps In.

In December 1988, the Department of the Navy issued a letter to ATSDR requesting that the agency perform a health assessment at Camp Lejeune. In October 1989, Camp Lejeune was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL). In 1991 ATSDR began a Public Health

Assessment (PHA) of toxic contamination at Camp Lejeune. In October 1994 ATSDR published an ``Initial Release'' version of its assessment and in 1997 it released the final version of the report.

The ATSDR assessment found three past public health hazards: 1) exposure to lead in the tap water in on-base buildings containing lead plumbing; 2) past exposure to VOCs in three drinking water systems on base (Tarawa Terrace, Hadnot Point, and Holcombe Boulevard); and 3) past exposure to pesticides in the soil at a former day-care center. It also considered three issues to be of no apparent hazard: 1) groundwater contamination on base; 2) exposure from eating fish from Wallace Creek, Bear Head Creek, Cogdels Creek, Orde Pond, Everett Creek, and the New River near Sites 28, 69, and 48 and; 3) Soil Contamination at Site 69.

The 1997 Public Health Assessment stated:

> ``Volatile organic compound (VOC) levels in three base drinking water systems (Tarawa Terrace, Hadnot Point, and Holcombe Boulevard) were a health concern until 1985 when use of contaminated wells stopped. Well contamination was caused from leaks in off-base and on-base underground tanks that were installed in the 1940s and 1950s. Human exposure to trichloroethylene (TCE), tetrachloroethylene (PCE), and 1,2-dichloroethylene (DCE) in drinking water systems at MCB Camp Lejeune have been documented over a period of 34 months, but likely occurred for a longer period of time, perhaps as long as 30 years.'' \6\

\6\ ``Public Health Assessment for U.S. Marine Corps Camp LeJeune Military Reservation Camp LeJeune, Onslow County, North Carolina, August 4, 1997, Agency for Toxic Substances and Disease Registry (ATSDR), U.S. Department of Health and Human Services, p.2.

But the ATSDR Public Health Assessment (PHA) had a critical omission. It failed to address the issue of known benzene contamination in Camp Lejeune's drinking water supply. The report contained a single reference to benzene in a chart in the appendix of the publication regarding well 602 at the Hadnot Point Industrial Area Tank Farm. ``Groundwater contamination (benzene, etc.) was detected in base drinking water supply well 602,'' said the assessment. ``That well has not been used since 1984.'' Yet, references in the final 1997 and the previous two drafts of the document released by ATSDR in 1994 and 1995 all contained references to a May 1988 ``confirmation study'' by Environmental Science and Engineering, Inc. that highlighted extremely elevated levels of benzene in the water supply wells at Camp Lejeune.

ATSDR scientists involved in the PHA say they did not pursue the benzene issue further at the time because there was no evidence benzene was detected ``at the tap.'' This justification for not evaluating the likelihood of benzene exposure at the base was cited in a 1994 draft of ATSDR's Public Health Assessment, but was removed from the final version. However, an August 1998 publication by ATSDR on ``Adverse Pregnancy Outcomes'' at Camp Lejeune says that while benzene was not detected in the ``Hadnot Point tap water,'' ``Nonetheless, low level exposure (an estimated 35 ppb) would have been expected among women receiving Hadnot Point water before December 1984.'' The contaminated well was shut down in November 1984, four months after the benzene was first discovered in well #602 in July 1984.

In addition, at some point between 1995 and the publication of the final ATSDR Public Health Assessment on Camp Lejeune in 1997, the

agency's entire file on Camp Lejeune was mistakenly thrown out--tossed in the trash--by a contractor. It is still unclear how ATSDR published a final version of the Public Health Assessment without the supporting documents, but ATSDR says they knew where to go to retrieve the scientific references in the 1997 Public Health Assessment even if they did not actually have the data on hand.

Last year ATSDR withdrew its 1997 PHA, partly because they claimed that in the intervening years since its publication new material was discovered about the extent of toxic benzene contamination at Camp Lejeune. It is true that new data ATSDR has obtained from a Department of Navy database in the past year regarding the degree of benzene contamination at Camp Lejeune significantly alters the evaluation of the public health impact of exposures to this toxic chemical at Camp Lejeune. ATSDR did, however, acknowledge the flaws in the 1997 assessment when they publicly removed it from their web-site. ``Also, at the Camp Lejeune site, benzene was present in one drinking-water supply well in the Hadnot Point drinking water system,'' ATSDR said. ``That well was shut down sometime prior to 1985. This information should have been included in the PHA but was not. The PHA should have mentioned the contamination and stated that the extent of exposure to benzene from that well was unknown.''

ATSDR has struggled to obtain full access to U.S. Marine Corps and Department of Navy records regarding Camp Lejeune's environmental contamination for years. As early as 1994 ATSDR began writing letters to the U.S. Marine Corps complaining that they were not receiving the cooperation or access to vital records regarding the full extent of toxic contamination on Camp Lejeune or the potential health impact. These issues have flared up sporadically ever since. In 2005 ATSDR informed investigators at the Government Accountability Office (GAO) that it had learned there were a ``substantial number of additional documents that had not been previously provided to them by Camp Lejeune officials.''

It is difficult to provide clear scientific analyses when you cannot be certain that the records you are relying on for that analysis are complete. In the past most estimates assumed between 20,000 to 30,000 gallons of fuel had leaked from the underground storage tanks at Camp Lejeune, for instance. The newly discovered Navy documents, however, estimate that between 1988 and 1991 there was as much as 1.1 million gallons of gasoline floating on top of the groundwater table at Camp Lejeune. The report noted: ``While this estimated volume seems incredibly large, it must be remembered that this took place over 50 years, yielding an average loss of over 21,200 gallons/year (or 58 gallons/day.)'' Benzene is a key component of gasoline. ATSDR officials say they had never been informed of these records previously and stumbled upon them without any direction from the U.S. Marine Corps or Department of the Navy.

Despite this, it is also clear from the Subcommittee's review of records that ATSDR had significant information about benzene contamination at Camp Lejeune when they conducted their health assessment in 1997 and should have been more diligent in investigating the public health implications of the benzene contamination at the time. To help resolve issues regarding identification and access to Camp Lejeune environmental documents necessary for ATSDR to complete its ongoing health studies and analyses regarding toxic exposures at the base ATSDR and the Department of the Navy have formed a datamining work group that is attempting to resolve these access issues quickly.

ATSDR currently has five separate health investigations regarding Camp Lejeune in the works. Some of these projects have been ongoing for

years and four of the five studies will not be completed until at least spring 2012. The last one is expected in 2013. Considering these studies have taken years already to complete ATSDR should make every effort to finalize them as soon as possible without jeopardizing the scientific integrity of the products they deliver.

National Research Council (NRC) report.

In 2009 the National Research Council (NRC) of the National Academies published Contaminated Water Supplies at Camp Lejeune--Assessing the Potential Health Effects. The NRC study was mandated at the direction of Congress in the National Defense Authorization Act for Fiscal Year 2007 (Public Law 109-364, 109th Congress). The legislation specifically called for the Secretary of the Navy to enter into an agreement with the National Academy of Sciences to conduct a comprehensive review and evaluation of the available scientific and medical evidence regarding associations of human exposure to drinking water contaminated with trichloroethylene (TCE) and tetrachloroethylene (PCE) at Camp Lejeune, North Carolina. The legislation never directed the NRC to evaluate exposures to benzene and they did not do so.

The committee divided its review into two major categories: (1) evaluating the exposures of former residents and workers to the contamination of the Tarawa Terrace and Hadnot Point water-supply systems, and (2) evaluating the potential health effects associated with the water contaminants TCE and PCE. The assessments were then considered together to ascertain whether conclusions could be drawn about whether any adverse health outcomes could be attributed to the water contaminants. The report's main conclusion:

> It cannot be determined reliably whether diseases and disorders experienced by former residents and workers at Camp Lejeune are associated with their exposure to contaminants in the water supply because of data shortcomings and methodological limitations, and these limitations cannot be overcome with additional study. Thus, the committee concludes that there is no scientific justification for the Navy and Marine Corps to wait for the results of additional health studies before making decisions about how to follow up on the evident solvent exposures on the base and their possible health consequences. The services should undertake the assessments they deem appropriate to determine how to respond in light of the available information.<SUP>[1]

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[1]</SUP> NRC report, page 13

``Camp Lejeune: Historic Drinking Water, Questions and Answers,'' U.S. Marine Corps, July 2010

The U.S. Marine Corps has attempted to mischaracterize the National Research Council (NRC) report as well as ATSDR's past health studies in their most recent public relations document regarding contaminated drinking water at Camp Lejeune. In July, the U.S. Marine Corps published a glossy booklet that sought to provide ``questions and answers'' regarding Camp Lejeune's drinking water history. But the booklet is misleading in several regards.

The Marine Corps booklet asserts:

> Since 1991, several health initiatives have been conducted to

identify the possible effects of exposure to contaminated water at Camp Lejeune. The studies conducted to date have not shown any causal link between exposure to contaminated water at Camp Lejeune and illnesses.\7\

\7\ ``Camp Lejeune: Historic Drinking Water, Questions and Answers,'' U.S. Marine Corps, July 2010, p. 10.

In fact, in at least three separate places in the short Marine Corps booklet they claim that no studies have shown an ``association between exposure to the contaminated water and health conditions reported by former residents of Camp Lejeune.'' However, ATSDR informed the Marine Corps on September 10, 2010, that these statements are incorrect and said the only completed health study at Camp Lejeune which was conducted by ATSDR did, in fact, find an association between adverse health effects and exposures to PCE on the base.

ATSDR reminded the Marine Corps that in their report ``associations were found with Small for Gestational Age (SGA) and specific sub-groupings of PCE-exposed mothers. SGA was not a health condition ``reported by former residents'' but instead was an adverse outcome that has been found in other studies at other sites to be associated with environmental exposures including exposures to chemical drinking water contaminants,'' wrote ATSDR. ``Evidence exists, based mostly on occupational studies, of associations between these chemical contaminants and cancers and other adverse health outcomes.'' ATSDR recommended that the Marine Corps ``booklet should report these findings and state that research on other illnesses is still underway.''

In addition, the Marine Corps booklet uses several arguments to explain why they did not immediately shut down water wells they knew were contaminated with toxic chemicals. They have argued that they immediately shut down the wells once they identified the ``source'' of the contamination. But this response fails to answer the question why they did not shut the wells down once they first learned that they were contaminated with hazardous chemicals.

The Marine pamphlet suggests that the chemicals in the drinking water, at the time, were not regulated by the Safe Drinking Water Act so they had no obligation or legal responsibility to close them. ``In 1982, the interfering chemicals in the base water system were identified as trichloroethylene (TCE) and perchloroethylene (PCE), which were not regulated by the Safe Drinking Water Act at the time,'' the Marine Corps booklet states. ``When contaminants were subsequently discovered in certain wells, these wells were promptly removed from service.''

But back in 1982 when Navy chemist Elizabeth Betz wrote her memorandum on Grainger Laboratories' discovery of high levels of trichloroethylene (TCE) in the Camp Lejeune water supply she also noted that it was not regulated by the Safe Drinking Water Act at the time. Still, this did not obscure her knowledge that it was still hazardous to human health in spite of the lack of regulations governing human exposures to it. Even before TCE, PCE and benzene were added to the list of chemicals that were regulated by the Safe Drinking Water Act between 1989 and 1992, it was well established these chemicals were hazardous. It is important to remember that in 1982 when Betz wrote that memo warning of the health implications of exposures to these chemicals they were not regulated by the Safe Drinking Water Act, but were clearly dangerous to human health nonetheless. Betz warned:

Trichloroethylene, like tetrachloroethylene and other halogenated hyudrocarbons (ie Trihalomethands), at high levels, has been reported to produce liver and kidney damage and central nervous system disturbances in humans.\8\

\8\ Memorandum, Subj: Grainger Laboratories Letter of 10 August 1982, From: Ms. Betz, Quality Control Lab., Environmental Section, NREAB, BMaintDiv; To: Mr. Sharpe, Supervisory Ecologist, Environmental Section, NREAB, BMaintDiv, Date: 19 August 1982.

Today, the Department of Veterans Affairs is beginning to provide benefits to Camp Lejeune veterans who were exposed to TCE, for instance, and developed kidney cancer as a result. One of the witnesses at the Subcommittee hearing, Jim Watters, is a Camp Lejeune vet who developed kidney cancer from his exposures to these chemicals at Camp Lejeune and received a 100-percent disability award from the VA last year.

The unofficial motto of the U.S. Marine Corps is to ``never leave a Marine behind.'' This should be applied not just to the brave Marines that have fought for our nation around the world but for those at home as well. And Camp Lejeune veterans should be no exception.

Witnesses:

Panel I

Dr. Richard Clapp, Professor Emeritus, Department of Environmental Health, Boston University School of Public Health, environmental health policy consultant and member of the ATSDR Camp Lejeune Community Assistance Panel (CAP)

Mr. Mike Partain, Member, ATSDR Camp Lejeune Community Assistance Panel (CAP) and breast cancer survivor born on Camp Lejeune

Mr. Peter Devereaux, Former Marine Corps Corporal and Camp Lejeune veteran diagnosed with breast cancer

Mr. Jim Watters, Director, Graduate Medical Education, Texas Tech University Health Sciences Center, former Navy Lieutenant, retired Commander, Navy Reserve, Medical Service Corps and Camp Lejeune veteran diagnosed with kidney cancer

Mr. Michael Hargett, General Director, Anchimeric Associates and former co-owner of Grainger Laboratories

Panel II

Dr. Chris Portier, Director, Agency for Toxic Substances and Disease Registry (ATSDR)

Mr. Thomas J. Pamperin, Associate Deputy Under Secretary for Policy and Program Management, Veterans Benefits Administration, U.S. Department of Veterans Affairs

Major General Eugene G. Payne, Jr., Assistant Deputy Commandant for Installations and Logistics (Facilities), Headquarters, United States Marine Corps

10:00a.m. - 12:00p.m.
2318 Rayburn House Office Building (WEBCAST)

Chairman Miller. This hearing will now come to order.

Just a quick word on pronunciation. The Marines properly honored General Lejeune by naming an installation after him but they placed the installation in eastern North Carolina, where North Carolinians immediately called it Camp Lejeune. I suspect if they had located it in rural Georgia, Georgians would have said Camp Lejeune as well, and all of my life I have heard it called Camp Lejeune by North Carolinians and by Marines alike. I understand recently the Marines have decided that it would more appropriately honor General Lejeune if they called the base named after him Camp Lejeune. That is the way he pronounced his own name. He was from Louisiana. That is the proper French Creole pronunciation. That is the way his family pronounces his name. But I think the view of most North Carolinians is that if the Navy wanted to name a base Camp Lejeune, they should have put it in Louisiana. And just as soon as South Dakotans start calling their state capital Pierre instead of Pierre we would start saying Camp Lejeune. So it is with no disrespect to General Lejeune that I will say Camp Lejeune today because it would be changing the habits of a lifetime which would be difficult to do for today's hearing.

Good morning, and welcome to today's hearing entitled ``Camp Lejeune: Contamination and Compensation, Looking Back, Moving Forward.''

For 30 years, as many as one million Marines and their families training and living on the base at Camp Lejeune were exposed to toxic chemicals in their drinking water. Solvents such as trichloroethylene (TCE) and perchloroethylene (PCE) and byproducts of fuel such as benzene leeched into the base water supply and were consumed by Marines, their wives, their children and by members of the community who worked on the base.

We will never be certain about all the adverse health consequences that come from consuming that toxic cocktail, but we can be certain that some Marines and their dependants will develop cancers that will shorten their lives. In fact, that has already happened. We are certain that the Marine Corps failed to close the wells promptly when they were informed of the presence of TCE and PCE in their water. Instead, they provided that water to their people for two more years.

The wells were shut down in the mid-1980s. For the two decades, the Marine Corps leadership and the Department of the Navy have denied that they had a water problem at Camp Lejeune. Because no law was broken and the contaminated wells were eventually shut down, the Navy continues to deny that they bear responsibility for taking care of those veterans, for those Marines and their families. Children have died from rare forms of leukemia, but the Navy says they are not responsible for that. Marines and their dependants have developed male breast cancer, but the Navy says it is not their problem. While the Department of Veterans Affairs has begun to extend benefits for cancers that they view as more likely than not caused by exposure to the toxic water, to drinking the toxic water, the Navy continues to wait for scientific certainty of causation. The Navy expresses deep concern, and waits on science to answer with certainty the question of whether the toxic chemicals they

admit contaminated the water at Camp Lejeune are responsible for any adverse health conditions.

As anyone who has followed science in public health should know, there will never be scientific certainty that any particular disease in any particular person is tied to any particular exposure. Toxic chemicals and human health tends to be about probabilities, not certainties. Science will never give the Navy certainty and so long as they wait, no veteran and no family member will ever receive their due from the Navy.

The Marine Corps has recently put out a glossy booklet regarding the history of Camp Lejeune's drinking water and their response to the toxic contamination at the base. It is their side of the story, but it is not a complete factual history of what happened at Camp Lejeune, what happened to Camp Lejeune's drinking water supply, nor does it accurately portray when the Marines became aware of those hazards, those known hazards, how they responded to that information or the actual public health implications of those toxic chemicals on those exposed to them.

Relying on the advice of lawyers, hiding behind science that is slow and uncertain, and spending more energy on public relations than on helping Marines and their families, the leadership of the Marine Corps and Navy appears to have qualified their sense of service and obligation by concerns about possible legal liability. They are faithful only to the point that their attorneys tell them not to admit responsibility or accept liability.

The facts are these: The U.S. Marine Corps failed to act quickly or forcefully enough in the 1980s to close down water supply wells it knew were contaminated with toxic chemicals that were endangering the health and safety of its Marines and their families at Camp Lejeune.

I would like to understand why it took so long for the Marine Corps to respond because they have so far failed to provide any adequate explanation to the public, Congress or the Marines who served at Camp Lejeune and their families. I hope that U.S. Marine Corps Major General Payne can address those issues today. He will be on the second panel.

For its part, the Agency for Toxic Substances and Disease Registry (ATSDR), a sister agency of the Centers for Disease Control and Prevention (CDC), produced a public health assessment of human health hazards posed by Camp Lejeune's drinking water supply in 1997 that was inadequate. I am glad to see that the agency has acknowledged that inadequacy and had withdrawn this publication last year. The 1997 health assessment evaluated the public health impact from exposures to TCE and PCE that infiltrated the drinking water supply at Camp Lejeune up through the 1980s, but it failed to investigate and evaluate the effect of benzene contamination at the base at that time. It is critically important that ATSDR carry out its slate of proposed studies as quickly as possible. These studies will not provide the certainty regarding exposure and disease that some expect, but they should help identify the range of possible cancers and other conditions that could be produced from exposure to the polluted drinking water at Camp Lejeune.

We will hear today from the Department of Veterans Affairs. I am pleased that the VA has begun to award some Camp Lejeune veterans for illnesses they developed that the VA has found

were more likely than not caused by exposures to toxic chemicals in the drinking water at Camp Lejeune. Two of our witnesses are among the half dozen awards the VA has already granted. But that leaves dependants of Marine veterans who have been harmed by these exposures, like Mike Partain, to fall through the cracks.

I introduced a bill last year called the Janey Ensminger Act that would have the VA provide health care services to both veterans and their family members who have experienced adverse health effects as a result of exposure to contaminated drinking water at Camp Lejeune. The bill is named for Janey Ensminger, a nine-year-old girl who died from childhood Leukemia in 1985 after being exposed to the drinking water while her mother was pregnant with her. Her father is 24-year Marine veteran, Jerry Ensminger, who is here today, who has testified powerfully before this Committee in the past, and Jerry has been a tireless advocate for military families exposed to the contamination at Camp Lejeune.

I believe the VA has begun to move in the right direction by awarding this small pool of veterans the compensation they need and deserve. I believe it is time that the Department of the Navy and U.S. Marine Corps stop fighting those efforts and focus their energies on taking care of their own now and in the future. It is time that the leadership of the Navy and Marine Corp lived up to the motto of the Corps. They could learn from the example of Jerry Ensminger, who has been faithful always to the memory of his daughter and to all the victims of the toxic drinking water at Camp Lejeune.

[The prepared statement of Chairman Miller follows:]

Prepared Statement of Chairman Brad Miller

The title of today's hearing is: ``Camp Lejeune: Contamination and Compensation, Looking Back, Moving Forward.''

For thirty years, as many as one million Marines and their families training and living on the base at Camp LeJeune were exposed to toxic chemicals in their drinking water. Solvents such as trichloroethylene (TCE) and perchloroethylene (PCE) and by-products of fuel such as benzene leeched into the base water supply and were consumed by Marines, their wives, their children and by members of the community who worked on the base.

We will never be certain about all the adverse health consequences that come from consuming that toxic cocktail, but we can be certain that some Marines and some dependents will develop cancers that will shorten their lives. We are certain that the Marine Corp failed to close the wells promptly when they were informed of the presence of TCE and PCE in their water. Instead, they provided that water to their people for two more years.

The wells were shut down in the mid-1980s. For the two decades since, the Marine Corp leadership and the Department of the Navy have denied that they have a water problem. Because ``no law was broken'' and the contaminated wells were, eventually, shut down, the Navy continues to deny that they bear responsibility for taking care of these veterans and their families. Children have died from rare forms of leukemia, but the Navy says they are not responsible. Marines and dependents have developed male breast cancer, but the Navy says, ``not our problem''. While the Department of Veterans Affairs has begun to extend benefits for cancers that they view as ``more likely than not'' caused by drinking the toxic water, the Navy continues to wait for scientific certainty of causation.

The Navy expresses deep concern, and waits on science to answer with certainty the question of whether the toxic chemicals they admit contaminated the water at LeJeune are responsible for any adverse health conditions. As anyone who has followed science in public health should know, there will never be scientific certainty that any particular disease in any particular person is tied to any particular exposure. Toxic chemicals and human health tends to be about probabilities, not certainties. Science will never give the Navy certainty and so long as they wait, no veteran and no family members will ever receive their due from the Navy.

The Marine Corps has recently put out a glossy booklet regarding the history of Camp Lejeune's drinking water and their response to the toxic contamination at the base. It may be their side of the story, but it is not the complete factual history of what happened to Camp Lejeune's drinking water supply, nor does it accurately portray when the Marines became aware of these known hazards, how they responded to this information or the actual public health implications of these toxic chemicals on those exposed to them.

Relying on the advice of lawyers, hiding behind science that is slow and uncertain, and spending more energy on public relations than on helping Marines and their families, the leadership of the Marine Corps and Navy appears to have qualified their sense of service and obligation by concerns about possible legal liability. They are faithful only to the point where their attorneys tell them not to admit responsibility or accept liability.

The facts are these: The U.S. Marine Corps failed to act quickly or forcefully enough in the 1980s to close down water supply wells it knew were contaminated with toxic chemicals that were endangering the health and safety of its Marines and their families on Camp Lejeune.

I would like to understand why it took so long for the Marine Corps to respond because they have so far failed to provide an adequate explanation to the public, Congress or the Marines who served at Camp Lejeune and their families. I hope that U.S. Marine Corps Major General Payne can help address those issues today.

For its part, the Agency for Toxic Substances and Disease Registry (ATSDR), a sister agency of the Centers for Disease Control and Prevention (CDC), produced a Public Health Assessment of human health hazards posed by Camp Lejeune's drinking water supply in 1997 that was inadequate. I am glad to see that the agency has acknowledged that inadequacy and withdrew this publication last year. The 1997 health assessment evaluated the public health impact from exposures to TCE and PCE that infiltrated the drinking water supply at Camp Lejeune up through the 1980s, but it failed to investigate and evaluate the effect of benzene contamination at the base at that time. It is critically important that ATSDR carry out its slate of promised studies as quickly as possible. These studies will not provide the certainty regarding exposure and disease that some expect, but they should help identify the range of possible cancers and other conditions that could be produced from exposure to the polluted drinking water at Camp LeJeune.

We will also hear from the Department of Veterans Affairs today. I am pleased that the VA has begun to award some Camp Lejeune veterans for illnesses they developed that the VA has found were ``more likely than not'' caused by exposures to toxic chemical contamination in the drinking water at Camp Lejeune. Two of our witnesses are among the half dozen awards the VA has already granted. But that leaves dependents of Marine veterans who have been harmed by these exposures, like Mike Partain, to fall through the cracks.

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would have the VA provide health care services to both veterans and their family members who have experienced adverse health effects as a result of exposure to contaminated drinking water at Camp Lejeune. The bill is named for Janey Ensminger, a 9-year old girl who died from childhood Leukemia in 1985 after being exposed to the water at Camp Lejeune while in utero. Her father is 24-year Marine Corps veteran Jerry Ensminger who has been a tireless advocate for military families exposed to contamination at Camp Lejeune.

I believe the VA has begun to move in the right direction by awarding this small pool of veterans the compensation they need and deserve. I believe it is time that the Department of the Navy and U.S. Marine Corps stop fighting these efforts, and focus their energies on taking care of their own now and in the future. It is time that the leadership of the Navy and Marine Corp lived up to the motto of the Corps.

They could learn from the example of Jerry Ensminger, who has been faithful always to the memory of his daughter and to all the victims of the toxic drinking water at Camp Lejeune.

Chairman Miller. The Chair now recognizes our ranking member from Georgia, Dr. Broun, for an opening statement.

Mr. Broun. Thank you, Mr. Chairman. Speculating how people in Georgia would pronounce General Lejeune's name is just speculation. We have a city called Cairo, Georgia. Most people would pronounce that Cairo. We have the University of Georgia in Albany, Georgia, where General Payne admirably served down there. But as a Marine, I know it as Camp Lejeune.

Good morning. I want to thank our witnesses for appearing today and also want to thank the chairman for holding this hearing. As a Marine, a family doctor and a legislator, I am very sensitive to the health of our service members and our veterans and to their families. We owe them a debt of gratitude for their service, a debt that must include vigilance in caring for them after leaving the military. It's a sacred obligation of this government to take care of our troops not only while they are on active duty but as well after they leave active duty.

Camp Lejeune has a proud history of training Marines to defend our Nation. Unfortunately, throughout that history the drinking water consumed on Camp Lejeune was contaminated by numerous chemicals such as TCE, DCE, PCE and benzene. Since the early 1990s, there have been multiple agencies that have looked into this issue including ATSDR, EPA, GAO and the National Academies, just to name a few. In 1997, ATSDR issued a public health assessment required under the Superfund statute. This assessment was eventually retracted in 2009 because of new information on the amount of benzene contamination that may challenge the results of that study. However, since that initial report was issued, ATSDR has initiated several other studies related to the effect of these chemicals on fetuses and the subsequent health problems of children born to mothers living and working on the base.

ATSDR is the principal investigator of the health effects related to the contamination at Camp Lejeune and there are positive steps being taken to ensure that the agency has all the information it needs to evaluate the exposures and potential health impacts but all parties must continue to cooperate. The Navy and Marine Corps have become more

forthcoming with documents and data, and I applaud that. ATSDR is working to improve their processes and I hope their document retention protocols.

While I am pleased that ATSDR is continuing to look into this issue and that the VA seems to be moving in a proactive manner to ensure that veterans and their families are taken care of, this issue simply will not go away. Progress needs to continue to a successful conclusion.

When the chemicals were discovered in the water supply, the Navy and the Marine Corps shut down the contaminated wells. Whether or not this reaction was immediate or permanent is not as important as the fact that we now know that possibly hundreds of thousands may have been exposed to harmful chemicals that could have lasting impacts upon their health and their lives.

When our service members provide a blanket of security for us abroad, they reasonably expect us to ensure their safety as well as the safety of their families here at home even if the threat is from environmental hazards. Fulfilling that expectation is the least we can do.

I look forward to hearing from our witnesses.

Mr. Chairman, I yield back the balance of my time. Thank you, sir.

[The prepared statement of Mr. Broun follows:]

Prepared Statement of Representative Paul C. Broun

Good morning. I want to thank our witnesses for appearing today. I also want to thank the Chairman for holding this hearing. As a Marine, family doctor, and a legislator, I am very sensitive to the health of our service members, our veterans, and their families. We owe them a debt of gratitude for their service, a debt that must include vigilance in caring for them after leaving the military.

Camp Lejeune has a proud history of training Marines to defend our nation. Unfortunately, throughout that history, the drinking water consumed on Camp Lejeune was contaminated with numerous chemicals such as TCE, DCE, PCE, and benzene. Since the early 1990s, there have been multiple agencies that have looked into this issue, including ATSDR, EPA, GAO, and the National Academies--to name just a few.

In 1997, ATSDR issued a Public Health Assessment required under the Superfund statute. This Assessment was eventually retracted in 2009 because of new information on the amount of benzene contamination that may challenge the results of the 1997 study. However, since that initial report was issued, ATSDR has initiated several other studies related to the effects of these chemicals on fetuses and the subsequent health problems of children born to mothers living and working on the base.

ATSDR is the principle investigator of the health effects related to the contamination at Camp Lejeune, and there are positive steps being taken to ensure that the agency has all the information it needs to evaluate the exposures and potential health impacts, but all parties must continue to cooperate.

The Navy and Marine Corps have become more forthcoming with documents and data, and ATSDR is working to improve their processes and--I hope--their document retention protocols. While I am pleased that ATSDR is continuing to look at the issue, and that the VA seems to be moving in a proactive manner to ensure veterans and their families are taken care of, this issue won't simply go away. Progress needs to continue to a successful conclusion.

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and the Marine Corps shut down the contaminated wells. Whether or not this reaction was immediate or permanent is not as important as the fact that we now know that possibly hundreds of thousands may have been exposed to harmful chemicals that could have lasting impacts on their health. When our service members provide a blanket of security for us abroad, they reasonably expect us to ensure their safety, as well as the safety of their families, at home--even if the threat is from environmental hazards. Fulfilling that expectation is the LEAST we can do.

I look forward to hearing from our witnesses and yield back the balance of my time.

Thank you.

Chairman Miller. Thank you, Dr. Broun.

There is one inexcusable error in my printed statement that I did correct orally but I cannot believe I let go through in editing the statement. There is a reference to soldiers. Please strike that word and insert instead the word ``Marines.''

Thank you, sir.

Any additional opening statements submitted by members will be included in the record.

We do have a set of documents to be included in the record. Without objection, they will be ordered included.\1\

\1\ Please see Appendix 2: Additional Material for the Record.

Panel I

Chairman Miller. It is now my pleasure to introduce our first panel of witnesses. Mr. Mike Partain was diagnosed with male breast cancer in 2007 and he has since become a community advocate and representative of the ATSDR Camp Lejeune Community Assistance Panel. Mr. Jim Watters is the Assistant Dean for Graduate Medical Education at Texas Tech University Health Sciences Center School of Medicine. As a former Navy lieutenant and retired commander, Mr. Watters also served in the U.S. Army, U.S. Navy and the U.S. Naval Reserve and is a Camp Lejeune veteran diagnosed with kidney cancer. Mr. Peter Devereux is a former Marine Corps corporal who was diagnosed with male breast cancer in 2008. In August of this year, the Department of Veterans Affairs granted him 100 percent disability linking Mr. Devereux's breast cancer to his exposure to toxic chemicals in Camp Lejeune's drinking water during his military service. Dr. Richard Clapp is Professor Emeritus of the Department of Environmental Health at Boston University's School of Public Health. He is an environmental health policy consultant and a member of the ATSDR Camp Lejeune Community Advisory Panel. And Mr. Michael Hargett, who I have not had a chance to greet, is the General Director of Anchimeric Associates and former co-owner of Grainger Laboratories, which performed tests for Lejeune drinking water in the 1980s.

As our witnesses should know, you have five minutes for your spoken testimony. Your written testimony will be included in its entirety in the record for the hearing. When you all have completed your spoken testimony, we will begin with questions. Each member will have five minutes to question the panel. It is the practice of the Subcommittee on Investigations and Oversight to receive testimony under oath. Do any of you have any objection to taking an oath? Okay. The record should

show, should reflect that all the witnesses were willing to take an oath. You may also be represented by counsel. Do any of you have counsel here? The record should reflect that none of the witnesses have counsel.

If would now please stand and raise your right hand. Do you swear to tell the truth and nothing but the truth? The record should reflect that all those witnesses, all the witnesses participating have taken the oath. We will start with Mr. Partain. Mr. Partain, you are recognized for five minutes.

STATEMENT OF MICHAEL PARTAIN, MEMBER, ATSDR CAMP LEJEUNE COMMUNITY ASSISTANCE PANEL (CAP) AND BREAST CANCER SURVIVOR BORN ON CAMP LEJEUNE

Mr. Partain. Thank you, Mr. Chairman and Ranking Member.

``You have male breast cancer'' were the words which greeted me and my wife on our 18th wedding anniversary. My name is Michael Partain and I am the son and grandson of United States Marine Corps officers. My parents were stationed aboard Marine Corps Base Camp Lejeune shortly after my father graduated from the United States Naval Academy. I was conceived, carried and then born at the base Naval Hospital during the drinking water contamination period at Camp Lejeune.

Three years ago, I was diagnosed with male breast cancer at the age of 39. In fact, I am one of 64 men who share the unique commonality of male breast cancer and exposure to the contaminated water aboard Camp Lejeune. There is no history of the disease in my family, and I have tested negative for the hereditary breast cancer markers BRCA1 and BRCA2. I do not drink nor do I smoke.

The history of the Camp Lejeune drinking water contamination has been chronicled in many forms over the past 26 years. Currently, the Department of the Navy and the Marine Corps constantly beat a drum that the health, safety and welfare of their Marines, sailors and families has been and always will be a top priority for the Marine Corps. Two months ago, the Marine Corps distributed an informational booklet detailing their version of the Camp Lejeune drinking water contamination to every Member of Congress. This booklet is a written testament to the mountain of lies and years of open deceit that the servicemen, the servicewomen and their families have endured since the drinking water contamination was first announced in December of 1984.

The initial warnings that Camp Lejeune's drinking water contamination began in October of 1980. A representative from the Navy's Atlantic Division, LantDiv, arrived at Camp Lejeune to collect composite samples to ensure there was no Love Canal present aboard the base. TCE and PCE were specifically detected in this base-wide composite sample. No further action was taken.

Later that month, an Army laboratory base out of Fort McPherson, Georgia, tested the tap water for Hadnot Point's water distribution system. The laboratory was unable to obtain accurate readings because of interferences in the samples and was apparently concerned enough to handwrite ``water is highly contaminated with low molecular weight halogenated carbons.'' A series of warnings then ensued: ``Heavy organic interference. You need to analyze for chlorinated organics'' by GCMS,

December 1980. ``You need to analyze for chlorinated organics'' by GCMS February 1981. ``Your water is highly contaminated with chlorinated hydrocarbons,'' and then they put in parentheses in capital letters the word ``solvents'' with an exclamation point, March 1981. ``Interferences on this peak'' December 1981. No further action was taken.

Concurrently with the warnings from the Army lab, another problem was discovered at the base's rifle range water treatment plant. Something different occurred at the rifle range that did not happen at Hadnot Point. The rifle range water treatment plant and well fields were tested. The offending well was identified and action taken to eliminate the problem. Why the different standard of care?

Grainger Laboratory was the third laboratory to test Camp Lejeune's water. With their very first sample, the VOC contamination was again confirmed. The owner of the laboratory, who will testify later, informed the base chemist, Elizabeth Betz, that PCE and TCE were contaminating the tap water samples. The findings were reported up the chain of command, and 8 days later Mrs. Betz was summoned to a briefing with the Assistant Chief of Staff, Facilities, and his assistant. Ms. Betz stated in her memorandum for the record, ``It appeared to me that they had not been informed about the findings. I did not inform them.''

As a result of Mr. Hargett's efforts, the respective well fields for Tarawa Terrance were identified as the source of the contamination. Despite the immediate danger of exposure to the personnel on the base, no further action was taken.

Furthermore, a change order for the Navy environmental program was executed in December of 1982. Grainger's findings were not included in this change order. Nowhere in the 1983 initial assessment study for Camp Lejeune was there any discussion concerning the VOCs found by the three laboratories. Instead, the report concluded, ``that while none of these sites pose an immediate threat to human health or the environment, 22 warrant further investigation on the Navy Assessment and Control of Installation Pollutants Program.''

The leadership of the United States Navy and Marine Corps repeatedly assert that the chemicals found in the tap water at Camp Lejeune were not specifically regulated in the Safe Drinking Water Act. While this may be true, they consistently failed to recognize their own naval potable water regulation BUMED 6240.3b and 6240.3c which date back to 1963. These regulations contain a set of definitions to clearly specify the meaning of key terms used within the document. Three key terms illustrate and provide a clear understanding that the Marine Corps had the ability to protect their Marines and sailors and their families as early as 1963.

Health hazards as defined in the instructions means any conditions, devices or practices in the water supply system and its operation which create or may create a danger to the health and well-being of the water consumer. An example of a health hazard is a defect in the water supply system whether of location, design or construction which may regularly or occasionally prevent satisfactory purification of the water supply or cause it to be polluted from extraneous sources, as is the case at Camp Lejeune. Pollution is defined in the standards means the presence of any foreign substance organic,

inorganic, radiological or biological in water which tends to degrade its quality so as to constitute a hazard to impair the users of the water. Chemical characteristics: substances which may have a deleterious physiological effect or for which the effects are not known shall not be introduced into the water system in a manner which would permit them to reach the consumer.

During the course of our research, we discovered an order issued by the commanding general of Camp Lejeune regarding organic solvents. Base Order 5100.13b was written to inform the general's command about the safe disposal of contaminants or hazardous waste. The order declared organic solvents as hazardous and that improper disposal of hazardous materials could lead to drinking water contamination.

Last year, the Marine Corps was asked by Senators Burr and Hagan from North Carolina whether the Marine Corps agreed that base order 5100.13b declared organic solvents hazardous. The official Marine Corps response signed by Brigadier General Regner was: ``The 1974 Base Order speaks for itself.''

Why the leadership of the United States Marine Corps failed to follow these orders and protect our health remains a mystery. Whatever happened to, we take care of our own. If the United States Marine Corps is so concerned about the health and safety and welfare of their Marine Corps family, then why is it so hard for them to tell the truth?

This quote appeared in a June 1984 article announcing the commencement of the confirmation study: ``While contractors will routinely wear personal protective equipment such as chemical resistant overalls, we do not expect to expose anyone to contaminants. The results of the survey are due in August 1984. If any contaminations are discovered, a review of alternatives will determine action necessary to meet the health and environmental standards.'' What the article didn't tell the personnel on the base was that they were already exposed.

July 6, 1984, Hadnot Point well 602 was tested by a Navy contractor. Many of this contractor's subsequent reports are missing. However, their final report concluded that of extreme importance is the high level of benzenes, 380 parts per billion, detected in the sample collected from the deepwater well number 602. This benzene--I am sorry. The use of this well should be discontinued immediately. The well was closed in November of 1984. To date, the Marine Corps cannot produce any documentation, written documentation to show their notification that the well was contaminated.

December 1984, the first article appeared in the press about the announcement of the contamination. As a result of the water samples taken on December 3rd, not July 6th, four wells in the Hadnot Point industrial area were found to contain some traces of organic contamination. None of the compounds noted in the test samples are listed in the regulations under the Safe Drinking Water Act. Daily water samples are being taken from the water treatment plant to ensure drinking water remains within prescribed federal and state regulations established by the Safe Drinking Water Act. Every effort will be made to maintain the excellent quality of water supply provided to the residents of Camp Lejeune.

April 1985, notice from the commanding general to the residents of Tarawa Terrace. Two of the wells that supplied

Tarawa Terrace have been taken offline because of minute trace amounts of organic solvents--sorry--organic chemicals have been detected in the water.

May 1985, a Marine Corps public affairs spokesman, Gunnery Sergeant Simmons, said he had no information on whether the well water was dangerous to humans. Simmons stated that while there were no State or Federal regulations that maintained an acceptable level of such contaminants in the drinking water, ``we ordered the closure of all wells that showed even a trace amount.''

September 1985, the base Environmental Engineer, Robert Alexander, was quoted in the paper as saying, ``We sampled nearly wells and one near the fuel farm. We did not detect fuel but we detected organic solvents.'' And then he went on to say that no one had been harmed.

Chairman Miller. I am sorry. Can you begin to wrap up?

Mr. Partain. Okay. Also in September 1985, Mr. Alexander advised the residents of the base that no one had been exposed, directly exposed to the pollutants.

Is this how the leadership of the United States Marine Corps demonstrates their concern for the Marine Corps family?

Last year the ATSDR withdrew their flawed Public Health Assessment for Camp Lejeune due to benzene contamination. Prior to 2010, the United States Marine Corps admitted to losing up to 50,000 gallons at the Hadnot Point fuel farm during the 49-year history of the facility. That number has now changed to 1.1 million gallons of fuel released into the groundwater at Hadnot Point. Shortly afterwards--sorry. That number has now changed to 1.1 million gallons of fuel released into the groundwater at Hadnot Point. Last year, ATSDR stumbled across a previously undisclosed Navy electronic library. Also within this portal were documents detailing the former fleet refueling and service area with seven underground storage tanks located within 300 feet of well 602. We would like to know when the leadership of the United States Marine Corps and Navy were planning to inform ATSDR of these vital facts. Where was their written notification to ATSDR that 1 million gallons of fuel were released into the groundwater and the existence of the new fuel contamination at building 1115? As the old adage goes, actions speak louder than words. Trying to pin down the truth with the leadership of the Marine Corps is like trying to nail Jell-O to the wall.

In conclusion, our country has seen a renewed appreciation for our volunteer military and the sacrifices made by our fighting men, women and their families. It is hard to drive down the road without seeing a ``Support the Troops'' ribbon on someone's car. How can we profess a respect for our military personnel and families when in their time of need this country not only abandoned them but abandoned their families. We trusted the Marine Corps would do the right thing for the Marines and their families.

The subtitle of this hearing is ``Looking Back, Moving Forward.'' We looked back and found the Marine Corps statements do not match the historical documents. We cannot move forward with understanding Camp Lejeune's drinking water contamination unless there is a full disclosure from the Navy Marine Corps. Congress is where this issue must be resolved. Our exposures are established and well documented. The negligence of the

Marine Corps is clear. There are thousands of Marines, sailors, family members and base employees who were sickened by the foul water at Camp Lejeune. When will our country fulfill our commitment to support the troops?

Thank you, sir.

[The prepared statement of Mr. Partain follows:]

Prepared Statement of Michael Partain

My Name is Michael Partain and I am the son and grandson of United States Marine Corps Officers. My parents were stationed aboard Marine Corps Base Camp Lejeune shortly after my father graduated from the United States Naval Academy. I was conceived, carried and then born at the base Naval Hospital while my parents lived in base housing. During the time of my mother's pregnancy, we were exposed to high levels of tetrachloroethylene (PCE), trichloroethylene (TCE), dichloroethylene (DCE), benzene and vinyl chloride in the tap water provided to my family by the Marine Corps. Three years ago, I was diagnosed with male breast cancer at the age of thirty nine. In fact, I am one of about sixty four men who share this unique commonality of male breast cancer and exposure to contaminated tap water aboard Camp Lejeune. There is no history of the disease in my family and I tested negative for the hereditary breast cancer markers BRCA 1 and 2. I do not drink nor do I smoke.

The history of the Camp Lejeune drinking water contamination has been chronicled in many forms over the past twenty six years since the first announcement made by the United States Marine Corps revealing the existence of drinking contamination problem aboard the base. Currently, the Department of the Navy and the Marine Corps beat a constant drum that the health, safety and welfare of their Marines, Sailors and their families has been and always will be a top priority for the Marine Corps \1\. In July of this year, the USMC distributed an informational booklet on the Camp Lejeune drinking water contamination to every member of Congress. This booklet is a testament to the mountain of lies and years of open deceit the service men, women and their families have endured since the drinking water contamination was first revealed.

\1\ USMC Camp Lejeune Historic Drinking Water Q&A Booklet, USMC July 2010.

Discovery of Camp Lejeune's Drinking Water Contamination.

The recent Marine Corps informational booklet first describes the discovery of the Volatile Organic Compound (VOC) problem at the base in the Executive Timeline by stating that ``unidentified VOC's interfered with total trihalomethane (TTHM) testing between 1980-1982.\2\ A few pages later, the reader then discovers that ``targeted'' sampling in August 1982 identified the contaminants as tetrachloroethylene (PCE) and trichloroethylene (TCE). The reader is then told the chemicals were unregulated by the Safe Drinking Water Act at the time.\3\ A careful examination of Marine Corps and Navy documents reveal a totally different scenario unfolded at Naval Facilities and Engineering Command (LantDiv) and the base after the initial warnings about the contamination poisoning the drinking water surfaced.

\2\ USMC CL Booklet page 4.

\3\ USMC CL Booklet page 6.

On 1 October 1980 a representative from LantDiv arrived at Camp Lejeune to collect a composite sample from all eight water treatment

plants in an effort to ensure there was no ``Love Canal'' present aboard the base.\4\ Seven months prior to this visit, the State of North Carolina assumed primacy for the enforcement of the Safe Drinking Water Act.\5\ Officials at LantDiv were worried that the State might find a problem with Camp Lejeune's water that the Navy had not previously uncovered. If a problem was discovered, then further analysis of the eight individual systems would be done to locate the source of the problem.\6\ The results from the composite sample were released to LantDiv on 31 October 1980 and the composite samples showed contamination of the drinking water from PCE, TCE, dichloroethylene (DCE), and vinyl chloride just under the detection limits set for the laboratory.\7\ According to the Base Supervisory Chemist, Elizabeth Betz, these results were not received at Camp Lejeune until June 1982. Ms. Betz documented in her memorandum for the record that she did not know how LantDiv determined the amount of water to take from each system to comprise the volume used in making the composite sample. Betz also recognized the percentage of total volume did not accurately reflect the corresponding usage for each system sampled or the daily flow of each system. Ms. Betz ominously noted that the 1980 analysis showed no problems for the priority pollutants listed for the eight water treatment systems aboard Camp Lejeune as a whole, but the same may not necessarily be true for each individual water treatment system aboard the base.\8\ No further investigation was initiated.

\4\ Camp Lejeune Water (CLW) USMC document 1818, Pdf page 2, April 1989. These documents are found on an electronic library from ATSDR in the form of DVD discs accompanying the release of the Tarawa Terrace Water Model in 2007.

\5\ CLW 425, March 1980.

\6\ CLW 613, August 1982.

\7\ 430 October 1980 and CLW 613 August 1982.

\8\ CLW 613 August 1982.

The second laboratory to find contamination in Camp Lejeune's drinking water was the U.S. Army Environmental Hygiene Agency (USAEHA lab) located in Ft. McPherson, Georgia. The laboratory was tasked by LantDiv to sample Camp Lejeune's treated water for an upcoming EPA regulation concerning dangerous compounds formed during the treatment of potable water known as trihalomethanes (TTHMs). The initial samples were collected on 21 October of 1980 and the sample was read on 31 October 1980. The water system sampled was Hadnot Point and the sampling included a sample collected from the Naval Hospital's emergency room sink. The Laboratory Chief, William Neal, was apparently concerned enough to take the time to hand write:

> ``Water is highly contaminated with low molecular weight halogenated hydrocarbons''

upon the analytical sheet delivered to LantDiv.\9\ This initial warning began a series from the USAEHA laboratory about the treated water produced by the Hadnot Point water treatment plant (WTP). These warnings took place between October 1980 through December 1981.

\9\ CLW 436, October 1980.

1. ``Heavy Organic Interference at CHCL2BR, You Need to Analyze for Chlorinated Organics by GCMS.'' \10\

\10\ CLW 438, January 1981

2. ``You need to Analyze for Chlorinated Organics by GC/MC.'' \11\

\11\ CLW 441, February 1981

3. ``Water Highly Contaminated with other Chlorinated Hydrocarbons (SOLVENTS)!'' \12\

\12\ CLW 443, March 1981

4. ``Interferences on this Peak (CHCL2BR).'' \13\

\13\ CLW 5739, December 1981, PDF page 2.

Concurrently with the warnings from the USAEHA lab, another problem was discovered at the base's Rifle Range water treatment plant (WTP). Potable water sampling was initiated at the Rifle Range WTP in 1981 at the request of LantDiv. The tests were ordered in response to concerns about the water system's location to a nearby chemical dump.\14\ This chemical dump was registered with the EPA and had been in operation from sometime in 1959 until 1976.\15\ Between March and May of 1981 a series of potable water sampling revealed a similar organic contamination within the Rifle Range water distribution system. The findings precipitated a letter from LantDiv in July of 1981 which stated that Rifle Range well RR-97 contained low levels of organic contamination and two other wells were to be operated in preference to well RR-97.\16\ The Commanding General of Camp Lejeune then wrote the State of North Carolina and informed the state regulators that:

\14\ CLW 5791, July 1981.

\15\ Comprehensive Environmental Response, Compensation and Liability Act (Cercla) document 226, Pdf page 13, March 1982. These documents are found on an electronic library from ATSDR in the form of DVD discs accompanying the release of the Tarawa Terrace Water Model in 2007.

\16\ CLW 3757, Pdf page 3, July 1981.

``based on the laboratory analyses mentioned above and on-site inspections of the landfill and the Rifle Range system, LANTNAVFACENGCOM (LantDiv) officials have concluded that the Rifle Range drinking water meets current drinking water

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standards.''

There was no mention to the State of the organic contamination found at the Rifle Range potable water system between March 1981 and May 1981.\17\ During this time, no known testing was performed on any of the 35 Hadnot Point potable water supply wells despite concurrent warnings from the USAEHA laboratory that Hadnot Point treated water was highly contaminated with (SOLVENTS)! Surprisingly, LantDiv did have prior experience with VOC/organic contamination problems within Naval owned and operated water distribution systems. One year prior to the discovery of VOCs in Camp Lejeune drinking water systems, two Naval installations experienced PCE and TCE contamination. However, something different occurred at Warminster Naval Air Warfare Center and Willow Grove Naval Air Station. The contaminated wells producing PCE and TCE

in the base's drinking water were identified and closed.\18\ Why did the Navy fail to implement testing of the potable water wells for each water distribution system aboard Camp Lejeune after the first indication of contamination was discovered? Why was the Rifle Range potable water distribution system treated differently from the Hadnot Point potable water distribution system? At the time of the testing in 1981, the Rifle Range WTP served only a few permanent houses and Marines temporarily training at the range. During this same time, the Hadnot Point WTP served the what is known as Main-side which included the base barracks, the Naval Hospital, and with that thousands of Marines, Sailors and their families. Where was the Marine Corps' concern for the health, safety and welfare for their Marines, Sailors and their families?

\17\ CLW 6124, Pdf page 1, August 1981.

\18\ Public Health Assessments for Willow Grove NAS and Warminster Naval Air Warfare Center, The Agency for Toxic Substance and Disease Registry, 2002.

By the Fall of 1981, the USAEHA laboratory experienced an equipment breakdown which resulted in a back log of work from Camp Lejeune and other Department of Defense installations.\19\ A replacement laboratory was needed and a state certified laboratory was selected to continue Camp Lejeune's mandated TTHM testing. Grainger Laboratory was owned by Fred Grainger and Mike Hargett. The laboratory entered into a contract with Camp Lejeune to test the Tarawa Terrace and Hadnot point WTPs for TTHMs. This testing did not include testing for VOCs. The first sample for each of the distribution systems was collected in late April of 1982. The samples were analyzed for TTHMs, and as was the case with the USAEHA lab, solvents were found not only in the Hadnot Point samples but also in the newly tested Tarawa Terrace water distribution system. Mr. Hargett then contacted Camp Lejeune's Base Supervisory Chemist, Elizabeth Betz, and informed her that the synthetic organic cleaning solvents PCE and TCE were found in both samples submitted for both Handot Point and Tarawa Terrace. Ms. Betz then reported the findings to her supervisor, Danny Sharpe who then pushed them up the chain of command which included the base Utilities director Fred Cone. Eight days later, Ms. Betz briefed Col Millice, Assistant Chief of Staff, Facilities, and LtCol. Fitzgerald about the April TTHM test results. Ms Betz stated in her memorandum for the record that:

\19\ CLW 468, Pdf page 2, February 1982.

> ``It Appeared to me that they had not been informed about the findings, I didn't inform them.'' \20\

\20\ CLW 5176, Pdf page 5, May 1982.

Later that same month, a second series of samples were taken from the Hadnot Point and Tarawa Terrace water distributions systems. This time there was a problem with the caps for the samples taken. However, Mr. Hargett advised Ms. Betz the solvents noted on the 6 May phone call were still present.\21\ A second Grainger contract was written in July 1982 for additional testing of four samples taken from the water treatment plants for Tarawa Terrace and Hadnot Point. The first set of samples were collected from the raw water line which fed each plant from a distinct well field. The second set of samples were collected from the respective plant's reservoir containing treated water.\22\ The

results of this special testing for the Hadnot Point and Tarawa Terrace WTPs were compiled in a formal letter to the base on 10 August 1982 by Grainger Laboratory chemist Bruce Babson. Mr. Babson wrote the Assistant Chief of Staff, Facilities:

\21\ CLW 564, June 1982.
\22\ CLW 589, July 1982.

> ``Interferences which were thought to be chlorinated hydrocarbons hindered the quantification of certain Trihalomethanes. These appeared to be at high levels and hence more important from a health standpoint than the total Trihalomethane content. For these reasons we called the situation to the attention of Camp Lejeune personnel.'' \23\

\23\ CLW 592, August 1982.

Mr. Babson also concluded that the well fields for the WTPs were the source of the contamination found in the water treatment plants. He identified the contaminants as PCE and TCE.\24\ Disturbingly, Grainger Laboratory quantified TCE in a sample taken from the Camp Lejeune Naval Hospital at 1,400 ppb. Instead of immediate action to test each and every potable water well for VOCs/organic and ensure the health, safety and welfare of the service personnel and their families aboard Camp Lejeune was protected, an excuse was given to explain away Grainger's confirmation of what the USAEHA and Jennings Laboratories both found in the potable water samplings from October of 1980.

\24\ CLW 592, August 1982.

According to the recent USMC informational booklet for the Camp Lejeune Historic Drinking Water problem:

> ``Base officials compared these results against EPA recommended levels and found the average levels of TCE and PCE were within those levels and thus not thought to be a health concern.'' \25\

\25\ USMC CL Booklet, Page 7, July 2010.

The immediate problem with the current Marine Corps rendition of why no further action was taken after Grainger's warnings is that their assertion that the TCE and PCE levels were within the EPA's recommended levels is not true. The Base Supervisory Chemist, Elizabeth Betz noted in her findings that the levels of PCE at Tarawa Terrace exceeded the EPA's recommended level of 40 ppb for long term exposures. Furthermore, the May TCE reading of 1,400 ppb taken from the Emergency Room sink of the base Naval Hospital was summarily dismissed with no explanation offered to explain the existence of the extreme levels of the chemical found in the sample or why the levels dropped to 20 ppb in subsequent testing. Only by arbitrarily dismissing the May 1,400 ppb TCE value does the Hadnot Point sampling fall into line with the EPA's recommended values for chronic exposure to TCE.\26\ Three months after Betz's August 1982 memorandum for the record, the base performed the quarterly testing for TTHMs and sent the samples to Grainger Laboratory. Once again the analytical data sheets noted interference in the samples from Tarawa Terrace and Hadnot Point.\27\ Ms. Betz then called the Grainger Chemist, Bruce Babson to discuss a typographical

error on his report. Mr. Babson then expressed his concern that the solvents which interfered in Hadnot Point's testing which had previously dropped were relatively high again.\28\ Ms. Betz memorandum was forwarded to the Assistant Chief of Staff, Facilities and then on to the newly hired base Environmental Engineer, Robert Alexander.\29\ From that point on, the prolific note keeping and memorandums written by Elizabeth Betz inexplicably cease.

\26\ CLW 606, Pdf page 2, August 1982.
\27\ CLW 5183. Pdf page 25, December 1982.
\28\ CLW 698, December 1982.
\29\ CLW 703, January 1983.

A prior flawed Government Accountability Office (GAO) sponsored investigation into the Camp Lejeune drinking water contamination cited entirely different reasons why the base failed to act after Grainger's warnings in August 1982:

> ``they had limited knowledge of these chemicals; second there were no regulations establishing enforceable limits for these chemicals in the drinking water; and third they made assumptions about why the levels of TCE and PCE varied and about the possible sources of the TCE and PCE.''

> ``Specifically, because the levels of TCE and PCE varied, they attributed the higher levels to short term environmental exposures, such as spilled paint inside a water treatment plant, or to laboratory or sampling errors. Additionally, in an August 1982 memorandum, a Camp Lejeune official suggested that, based on the sampling results provided by the private laboratory, the levels of PCE detected could be the result of using coated pipes in the untreated water lines at Tarawa Terrace.\30\

\30\ Report Defense Health Care: Activities related to Past Drinking Water Contamination at Marine Corps Base Camp Lejeune, Government Accountability Office, Pdf Page 30, May 2007.

Missing from the GAO's limited review of the Camp Lejeune document inventory are two key documents which undermine the validity of the GAO investigation. The first document is an unusual Base Order written in 1974. Unlike most military orders, there are no references indicating on what authority or guidance the general issued the order. Base Order 5100.13B was written to inform the general's command about the ``Safe Disposal of Contaminants or Hazardous Waste.'' What is significant about this order was that it clearly demonstrated that the Marine Corps knew at least by 1974, or perhaps earlier if the prior copies of this

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order are ever found:

<bullet> Organic solvents were hazardous materials, and

<bullet> Improper disposal practices create hazards such as the contamination of drinking water.

The designated disposal sites were the dumps located at the Rifle Range.\31\ Last year the Marine was asked by Senators Burr and Hagan from North Carolina whether the Marine Corps agreed that Base Order

5100.13B declared organic solvents hazardous. The official Marine Corps reply signed by Brigadier General Regner was:

\31\ CLW 5996, Pdf page 2, June 1974.

``The 1974 Base Order Speaks for itself.'' \32\

\32\ USMC Response to Senator Burr and Hagan Queries on Camp Lejeune, Pdf page 3, July 2009.

The second document was a set of potable water instructions dating back to 1963. The instructions are known as BUMED 6240.3B (1963) and revision 3C (1972). The Bureau of Medicine and Surgery (BUMED) was the entity within the Department of the Navy responsible for setting potable water standards for the Navy. While there were no set specific standards for VOCs/organic solvents within the instruction, there were preventive measures and requirements that if followed should have led to the disqualification for use, of most if not all, of the contaminated wells found at Camp Lejeune. The regulations contained a set of definitions to clearly specify the meaning of terms used within the document. Three key terms illustrate and provide a clear understanding that the Marine Corps had the ability to protect their

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Marines, Sailors, and families as early as 1963.

> Health Hazards means any conditions, devices or practices in the water supply system and its operation which create, or may create, a danger to the health and well-being of the water consumer. An example of a health hazard is a structural defect in the water supply system whether of location, design, or construction, which may regularly or occasionally prevent satisfactory purification of the water supply or cause it to be polluted from extraneous sources.
>
> Pollution as used in these standards, means the presence of any foreign substance (organic, inorganic, radiological, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness of the water.
> Chemical Characteristics Drinking water shall not contain impurities in concentrations which may be hazardous to the health of the consumers. It should not be excessively corrosive to the water supply system. Substances used in its treatment shall not remain in the water in concentrations greater than required by good practice. Substances which may have deleterious physiological effect or for which physiological effects are not known, shall not be introduced into the system in a manner which would permit them to reach the consumer.\33\

\33\ CLW 144, December 1972

To date, the Marine Corps has failed to provide Congress, the media and their Marines, Sailors and their families with a clear answer as to why these orders were not reviewed in the Commandant's Blue Ribbon panel and why the Navy's BUMED 6240.3B and 3C regulations were not followed. Four years after the closure of Hadnot Point well HP 602, the BUMED 6240.3C order was canceled and revised with NAVMEDCOMIST 6240.1. Missing from the new instructions were the definitions for Health Hazards, Pollution and the strong language found within the Chemical

Characteristics section of BUMED 6240.3B and C. The new regulations replaced what was then a more advance and comprehensive potable water standard with a new standard which was in agreement with the Safe Drinking Water Act.\34\ The existence of Base Order 5100.13B married with BUMED 6240.3B and C meant that the Marine Corps possessed at least an operational knowledge that organic solvents and other hazardous materials could and did contaminate the groundwater aboard Camp Lejeune as early as 1974 and as such their groundwater wells were vulnerable. Another word for this type of knowledge and lack of due care is called gross negligence.

\34\ Naval Medical Command Instruction 6240.1, Naval Military Personnel Command, December 1988.

The other fallacy cited above and contained in the GAO report was the assertion that vinyl lined asbestos coated pipes were the possible source for PCE contamination for the base. The basis for this fallacy is contained in a memorandum written by Elizabeth Betz asserting her opinion that she believed the contamination was possibly the result of vinyl line asbestos coated pipes in the raw water lines at Tarawa Terrace.\35\ The basis for this assumption was apparently due to a 9 April 1980 EPA bulletin which cited vinyl lined asbestos coated pipes as a source for drinking water contamination. The EPA also noted that their suggested action guidance did not condone the presence of any level of PCE contamination in drinking water.\36\ The problem with Betz's conclusion was that according to base construction records, no vinyl lined asbestos coated pipes were ever used in any of the base's potable water distribution systems.\37\

\35\ CLW 5176, Pdf page7, August 1982.
\36\ CLW 391, April 1980.
\37\ CLW 3884, Pdf page 4, September 1982

Shortly after the Bruce Babson's August Grainger Laboratory report arrived on the desk of the Assistant Chief of Staff, Facilities, a draft copy of the Navy's Naval Assessment and Control of Installation Pollutants (NACIP) Initial Assessment Study (IAS) for Camp Lejeune arrived as an attachment to a 5 August 1982 letter from Wallace Eakes of LantDiv to Col Marshall at Camp Lejeune. Mr. Eakes requested Col. J. T Marshall, Assistant Chief of Staff, Facilities to review the Draft IAS for completeness, accuracy and concurrence for recommendations no later than 25 August 1982.\38\ Col. Marshall completed his assigned task and replied on 25 August 1982. Contained in his comments for the Draft IAS:

\38\ CLW 6332, Pdf page 3, August 1982.

> ``It is important to note that accuracy of the data provided by U.S. Army Laboratory is questionable. It is recommended that TTHM information be de-emphasized throughout the report.'' \39\

\39\ CLW 6332, Pdf page 2, August 1982.

There was no mention of the August 1982 Grainger letter confirming the U.S. Army laboratory's findings from October 1980 and warning him that the potable water for Hadnot Point and Tarawa Terrace was highly contaminated with VOCs/Organic solvents in the Colonel's 25 August reply to LantDiv. Four months later a change order to the IAS was

executed to include two new disposal sites located on the base after the IAS team departed in March 1982. The base's potable water contamination was not mentioned in the change order, nor were there any requests made to test the wells for Hadnot Point and Tarawa Terrace to locate the specific wells with VOC/Organic solvent contamination.\40\

\40\ Cercla 2059, December 1982.

The Initial Assessment Study for Camp Lejeune was released in April of 1983 and listed 76 potentially contaminated sites aboard the base and 22 of these sites warranted further investigation in the form of a Confirmation Study phase of the NACIP program.

> ``The Study concludes that, while none of the sites pose an immediate threat to human health or the environment, 22 warrant further investigation under the Navy Assessment and Control of Installation Pollutants (NACIP) Program to assess potential long-term impacts. A confirmation study is recommended to confirm or deny the existence of the suspected contamination and quantify the extent of any problems which may exist.'' \41\

\41\ CLW 709, Pdf page 3, April 1983.

Nowhere in the 221 page document were there any recommendations to test any of the potable water wells for Tarawa Terrace and only 2 out of 35 wells were recommended for testing at Hadnot Point.\42\ How could the official Navy environmental (NACIP IAS) study for Camp Lejeune conclude there was no immediate threat to human health aboard the base if the report failed to address the Army and Grainger laboratory's findings of VOC/Organic solvents in two of the base's potable water system? A month after the release of the IAS, LantDiv Environmental Engineer and Engineer in charge of the Confirmation study for Camp Lejeune wrote a letter apparently addressing the ongoing VOC/Organic solvent contamination aboard the base. Unfortunately, that letter has since vanished. Sixteen years later the Wallmeyer letter, as it has since come to be known, was the subject of a four week document search at LantDiv.\43\ The letter was reportedly never found. According to a subsequent reference in a message from April of 1985, the Wallmeyer letter attempted to address the VOC/Organic Solvent contamination problem with the base's potable water system.\44\ The problem was that the official Confirmation Study did not include any of the measures described in the message referencing the Wallmeyer letter. Was LantDiv attempting to quietly remediate the VOC/Organic solvent drinking water contamination without full disclosure of the problem to the State and Federal agencies?

\42\ CLW 709. Pdf page 29, April 1983.
\43\ CLW 3039, Pdf pp 5&6, February 1999.
\44\ CLW 1195, April 1985.

As part of our investigation into what transpired aboard Camp Lejeune prior to the official announcement of the drinking water contamination in December 1984, we located and interviewed Mike Hargett and Bruce Babson, both formerly of Grainger Laboratory. Curiously, neither of them were ever contacted by either the GAO or the Commandant's investigations into the Camp Lejeune drinking water contamination. Mr. Hargett informed me that he had been asked by the Base Supervisory Chemist to accompany her in a meeting to explain the

significance of Grainger's findings. Mr. Hargett stated that the meeting lasted less than five minutes before they were dismissed. Frustrated by the Marine Corps' recalcitrance, Mr. Hargett then tipped off the State of North Carolina about the problems with the base's potable water system. In June of 1983, a letter from the State's environmental engineer, Mr. Elmore, arrived on Col. Marshall's desk requesting the original copies of Grainger's analytical data sheets instead of the tables summarizing them previously submitted by the Marine Corps.\45\ The analytical data sheets were exclusive property of the Marine Corps and written upon them were Bruce Babson's warnings that PCE and TCE were interfering with the TTHM testing. Six months later this request was formally denied by the new Assistant Chief of Staff, Facilities, Col. Lilley. Col. Lilley advised Mr. Elmore that the original reports were not required and thus not submitted to the state.\46\ Sadly, the State of North Carolina agreed with the Marine Corps assertion and another opportunity to stop the drinking water contamination aboard Camp Lejeune slipped by and was forgotten. Bruce Babson's notations and warnings were toned down but the asterisk notating interferences with the TTHM testing remained on almost every known Grainger Laboratory analytical data sheet through the Summer of 1984. Ironically, it was another contamination problem with a different chemical which forced the VOC/Organic solvent drinking water contamination issue to the surface. When it did surface, the VOC/ Organic solvent drinking water contamination was subsequently used to hide a more sinister contaminant, benzene.

\45\ CLW 940, June 1983.
\46\ CLW 6348, December 1983.

Massive fuel leaks at the Hadnot Point Fuel Farm.

The Hadnot Point Fuel Farm (HPFF) was constructed on the Southeast corner of Holcomb Blvd and Ash Street sometime in 1941. The fuel farm was comprised of fourteen fuel tanks buried in the ground and one large 600,000 gallon tank located above ground. The fuel farm was located in what is now known as the Hadnot Point Industrial area and within 1,200 feet from potable water well HP-602 which was also constructed in 1941.\47\ The first documented fuel leak at the HPFF occurred in 1979 when an estimated 20,000 to 30,000 gallons of fuel leaked from an underground valve.\48\ A condition survey for the HPFF was scheduled the following year and other problems were found at the HPFF. The LantDiv engineer concluded that because of age, failure to clean the tanks, and lack of maintenance, there had been a general condition of corrosion and deterioration of the tanks and connecting pipelines. Many of the interconnecting valves and flanges could not be inspected because they were buried and/or could not be located. The engineer recommended replacing the connecting piping, the inspection of all of the tanks for leaks and repair existing leaks.\49\ The Condition Survey was followed in 1981 with a Military Construction Data project number LE201M to repair the HPFF facilities and $537,200 was then allocated to clean and repair the petroleum tanks.\50\ By March of 1983, Navy and Marine Corps officials determined that piece meal rehabilitation of the HPFF was not cost effective and in 1985, the recommendation was made to replace the HPFF with a new facility.\51\ The fuel farm was finally replaced in 1990.

\47\ Cerlca 417, Pdf page 5, December 1988.
\48\ CLW 709. Pdf page 133, April 1983.

\49\ Cercla 96, Pdf pp 11-16, June 1980
\50\ Cerlca 96, Pdf page 17, March 1981.
\51\ Cerlca 96, Pdf page 29, August 1989.

There are no known records indicating that the Marine Corps made any attempt to remediate the 20,000 to 30,000 gallon 1979 fuel leak between 1980 and 1988. In May 1988 correspondence, the Assistant Chief of Staff, Facilities finally notified the State of North Carolina that a 15 foot thick fuel plume was contaminating the groundwater underlying the bulk fuel facility.\52\ The base Staff Judge Advocate, Col. Tokarz, noted that the fuel farm was losing fuel into the groundwater at the rate of 1,500 gallons per month. The colonel also warned that delays will result in an indefensible waste of money and a continuing threat to human health and the environment.\53\

\52\ Cercla 96, Pdf page 30, August 1989.
\53\ Cercla 96 Pdf page 34, March 1988

Knowing the existence of a massive 20,000-30,000 gallon fuel leak in 1979 which drained into the ground at the Hadnot Point Industrial area with no attempts to remediate or recover the lost fuel until at least 1989, leads a rational, prudent person to speculate why it took the Marine Corps five years to sample the nearest potable water well (HP-602) to ensure the well was free of fuel contamination. After all, BUMED 6240.3B and version C carried an obligation for the Marine Corps to make sure potable water was obtained from the most desirable source feasible and efforts be made to prevent or control pollution of the source.\54\ Where are the documents detailing these required efforts? Instead, the Marine Corps relies on their assertion that VOCs, including the SVOC benzene, were not regulated by the Safe Drinking Water Act until the late 1980's and early 1990's to avoid addressing the issue.\55\ Does there have to be a set standard or maximum containment level for a polluter to be negligent in their duties to protect human health? Where does common sense enter into the equation? Prior to 1984, there are no known records indicating that the Marine Corps took any action to protect the water supply for well HP-602 from fuel contamination and consequently the entire Hadnot Point water distribution system.

\54\ CLW 144, Pdf page 3, August 1972.
\55\ USMC CL Booklet, page 8, July 2010.

One of the few potable water wells selected for sampling by the Navy's NACIP program was well HP-602. The 1982 draft copy of the IAS report stated that well HP-602 was designated for sampling in the Confirmation study because it was located 1,100 feet down-gradient from the HPFF and actively pumping.\56\ The final IAS report released in April 1983 detailed the fuel losses for the HPFF totaled somewhere between 20,000 to 50,000 gallons of fuel. This figure became the basis for the fuel loss estimates for the public, Congress and more importantly, the Agency for Toxic Substances and Disease Registry (ATSDR), the agency tasked with studying the health effects resulting from the potential exposures at Camp Lejeune. This misconception remained until 2010 when it was discovered that the fuel losses at the HPFF amounted to much more than what was previously disclosed by the Navy and the Marine Corps. Once again a reference from the current Camp Lejeune informational brochure is appropriate. According to the Marine Corps:

\56\ Cercla 332, Pdf page 52, June 1982.

``Question: Has the Marine Corps intentionally withheld

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information from ATSDR in order to delay their studies?

Answer: No. The Marine Corps has made extraordinary efforts to provide ATSDR access to any potentially relevant information we control. We recognize that this issue deals with complex science, and we have been working with ATSDR to get our former residents the answers they deserve in a timely manner.

The Marine Corps does not benefit in any way from delays to ATSDR's work. The people who were exposed are our family members and fellow Marines. We are much as anyone, want to be able to give them accurate answers in a timely manner.'' \57\

\57\ USMC CL Booklet, page 18, July 2010.

In March of last year, the ATSDR stumbled across a previously undisclosed web portal belonging to the Navy. A sub contractor to ATSDR was inadvertently given access to this portal by a Marine Corps' librarian. Contained within the NavFacEngCom's Underground Storage Tank (UST) web portal were documents previously withheld from the ATSDR including details on the size and scope of the fuel loss from the Hadnot Point Fuel Farm underground storage tanks. According to documents discovered in the portal, the Marine Corps lost 1.1 million gallons of fuel at the HPFF over the course of the 49 year operational history of the facility. Much of this fuel was located within 300-1,100 feet away from well HP-602. The fuel was found at all levels in the aquifer including the deep aquifer.\58\ Where is the Navy's notification to ATSDR advising them of the existence of this portal and the 1.1 million gallons of fuel trapped in the ground at Hadnot Point? What does the Navy and the Marine Corps stand to gain if the public, the scientists and Congress were not aware of the extreme nature of the loss fuel at the HPFF?

\58\ Excerpt from Document #1185. This document was found by ATSDR within the recently discovered limited access web portal for the Navy's Underground Storage Tank Program, NavFacEngCom.

The Confirmation Study for Camp Lejeune commenced in May of 1984 with the release of the Work and Safety Plan. The work plan detailed how and where the sampling for the Confirmation Study was executed. The plan also detailed the schedule of the project and what reports were required by the contractor. The contractor was an Environmental Engineering firm from Gainesville, Florida known as Environmental Sciences Engineering (ESE). A monthly progress report was required by the 15th day of each month for the duration of the contract. The tests results were scheduled to be evaluated between June and August and a draft report prepared by the end of August. The Final report was scheduled to be completed by 10 September 1984 and the presentation made on the same date.\59\ According to the May/June progress report, work was underway and 14 ground water monitoring wells were installed. The engineer noted a one week delay due to decontamination of equipment.\60\ The June/July progress report advised the LantDiv engineer in charge of the Confirmation study that 36 of 75 wells (this number included monitoring wells drilled for the study) were sampled.

The sampling included site 22, the Hadnot Point Fuel Farm and well HP-602 (sampled 6 July 1984). A two week delay was noted due to equipment problems and the re-drilling of five new wells to replace wells inadvertently contaminated by an ESE subcontractor. The project was scheduled for completion on 4 August 1984. The samples were shipped to ESE laboratory in Gainesville, Florida for analysis.\61\ After the 15 July progress report all documentation regarding ESE's efforts on the Confirmation Study ceased until January of 1985. The August progress report and all subsequent progress reports are missing, as is the draft report summarizing the evaluation of data from the sampling.

\59\ Cerlca 337, Pdf page 33, May 1984.
\60\ Cercla 3428, June 1984.
\61\ Cercla 3429, July 1984.

The only clue to what transpired during the missing months between July 1984 and December 1984 recently surfaced a few months ago when we located a State of North Carolina document written by Rick Shiver, N.C. Regional Hydrologist. The document was titled Groundwater Pollution Source Inventory and discussed the HPFF and the multiple leaking underground storage tanks (UST). The inventory is dated 1 August 1984 and located in the groundwater pollution box is a handwritten circle indicating that the groundwater pollution was confirmed.\62\ At the time of this report, the State of North Carolina was supposedly not privy to the details of the Confirmation Study then underway at Camp Lejeune. The contractor was not required and did not report their findings to anyone else but the Navy personnel at LantDiv. What basis did Mr. Shiver have to conclude that the groundwater at the HPFF was contaminated with gasoline three months before the Marine Corps allegedly received ESE's Confirmation Study report revealing fuel contamination at the HPFF and potable well HP-602.

\62\ North Carolina Groundwater Pollution Inventory, Rick Shiver, August 1980

Last year Senators Burr and Hagan posed a series of questions about Camp Lejeune to the Marine Corps. One of these questions asked why the Navy and Marine Corps waited until 30 November 1984 to close well HP-602. The Navy/Marine Corps replied:

> ``According to the record, the Marine Corps did not ``wait'' to shut down well HP-602. Well HP-602 was taken out of service as of 21 November 1984 as part of the normal rotation of well (CLW 1089). Records indicate that the results from the 6 July 1984 sample were received by the base on 30 November 1984 (CLW 4546). Upon receipt of the sample results, well HP-602 was never reactivated and was permanently taken out of service.'' \63\

\63\ USMC Response to Senator Burr and Hagan Queries on Camp Lejeune, Pdf page 11, July 2009.

The document titled CLW 1089 is a Question and Answer sheet prepared for the base Environmental Engineer, Robert Alexander in advance of a media interview concerning the contamination found at Camp Lejeune. Judging from the context of the document, mainly the omission of well HP-651 discovered contaminated in February 1985, the document was most likely written in December 1984. Mr. Alexander stated that

benzene and industrial solvents were found in well HP-602 and then cited test results implying they were the results which closed well HP-602 in November of 1984. In fact, the test results on the Q&A sheet were collected on 3 December 1984, after the 30 November 1984 date in which the Marine Corps states that the base was allegedly notified that well HP-602 was contaminated and then closed. This mischaracterization of why well HP-602 was closed remained a fact until 2009. Mr. Alexander then wove a false sense of security for those potentially exposed by informing the community that all of the wells were located in the industrial area approximately 1 mile from the barracks.\64\ Did this mean that the wells only served the shops and offices in the industrial area and not the barracks? If well 602 was closed as a result of the receipt of ESE's Confirmation Study results, then why was the July 1984 380 ppb finding omitted from the Q&A sheet? If well HP-602 was taken off line due to a normal rotation, then where are the well and plant production log books to support the Navy/USMC position? To date, the log books are all missing from the historical record for Camp Lejeune. The Navy and Marine Corps also cite CLW 4546 as evidence that they closed well HP-602 upon receipt of the ESE Confirmation Study. The document was written after the Bob Alexander Q&A sheet and at least three months after well HP-602 was closed.\65\ The lack of primary supporting evidence on how the contamination at Hadnot Point was discovered is extremely disturbing. Why is everyone trusting the very entity who polluted the drinking water aboard Camp Lejeune to tell and not show us how it happened? Where is the November transmittal sheet for the ESE Confirmation Study? Where is the draft ESE Confirmation Study due in August 1984? Where is the telephone record log or memorandum to the base ordering them to close well HP-602 on 30 November 1984? Why was the Hadnot Point WTP tested for benzene only after the contaminated well was closed? Where are the missing progress reports from ESE? Where are the missing well and plant production log books? Every shred of evidence which would either condemn the Navy and Marine Corps or exonerate them is missing. Why?

\64\ CLW 1089, December 1984.
\65\ CLW 4546, February 1985.

A December 1984 base news paper article assured their readers that none of the organic compounds found in the base's water were listed under the Safe Drinking Water Act. The article ended with a chilling quote from the base environmental engineer, Robert Alexander:

> ``Every effort will be made to maintain the excellent quality water supply traditionally provided to the residents of Camp Lejeune.'' \66\

\66\ Cercla, 523, December 1984.

Finally on 8 January 1985 a memo from LantDiv indicated that the Navy agreed to officially look at the other systems on the base for possible drinking water contamination. ESE, the Confirmation Study contractor was then assigned the task to sample all of the wells on the base for VOCs.\67\ The ESE Evaluation of Data Report was released a week later. According to the project schedule previously discussed, the report was due in September 1984 and was four months late. Within the report, ESE indicated that there was extensive fuel contamination at the HPFF. The contractor wrote in their report:

\67\ CLW 1105, January 1985.

> ``Of extreme importance is the high level of benzene (380 ppb) detected in the sample collected from the deep water supply well No. 602 (Well 22GW3). This benzene concentration far exceeds the 10 to minus 5 human health risk limit of 6.6 ppb; therefore, the use of this well should be discontinued immediately.''

On the margin a curious handwritten from an unknown LantDiv official note reads:

> ``We must send them our (1141's) report on well data, what it means and what wells to keep shut down.''
>
> ``The absence of contamination at Well 22GW2 indicates that the migration pathway is deep and not shallow.'' \68\

\68\ Cercla 388, Pdf pp 48-52, January 1985.

The Evaluation of Data report did not discuss the VOCs found in Tarawa Terrace beginning in 1982 and no wells in that system were sampled during the July 1984 testing period. The report also noted that subsequent to the July 1984 testing, well HP 602 experienced a dramatic increase in organic solvents after further testing by LantDiv. They concluded that the main industrial area was a logical source of the solvents.\69\ This industrial area included the HPFF, the base maintenance shops, and building 1115 (the former Fleet Refueling and Service area). Also included in the industrial area were several water supply wells, among them was well HP-602. These wells all served the Hadnot Point WTP and were a source of drinking water for the service men, women and their families living within the treatment plant's service area. Later that year, when the State of North Carolina asked for copies of the ESE report, the Marine Corps refused:

\69\ Cercla 388, Pdf page 52, January 1985.

> ``as the Marine Corps disagrees with the conclusions in this report, it will not release a copy of it to any outside agency.'' \70\

\70\ CLW 4869, Pdf page 5, October 1985.

VOC contamination in well HP-651 and Tarawa Terrace

By then end of January 1985 it appeared that LantDiv and base officials had a handle on the VOC contamination found at Hadnot Point. They had closed 10 supply wells for the system and the water treatment plant appeared to be free of benzene and TCE. Two phone calls from residents in Paradise and Berkley manner set off a series of events which ultimately changed the course of the contamination story. The calls were concerning a gasoline smell in the drinking water provided by the Holcomb Boulevard WTP. The calls resulted in the discovery of a leaking generator fuel line at the treatment plant allowing gasoline to collect in the plant's reservoir. The plant was shut down and two connecting transfer valves were opened allowing Hadnot Point to supply water to the service area served by Holcomb Boulevard.\71\ Prior to

1972, the Holcomb Blvd area was serviced by the Hadnot Point WTP and the intra-connection was preserved when the new plant began production. From January 27th through February 4th, Hadnot Point supplied all the treated water for Hadnot Point and the Holcomb Blvd systems. During this time, the Holcomb Blvd system was repeatedly flushed and cleaned. The state was brought in and split water samples were taken after the plant was cleaned.\72\ However, unbeknownst to Navy and Marine Corps officials, one contaminated well had been missed in earlier testing for VOCs.

\71\ CLW 4514, February 1985.
\72\ CLW 4546, February 1985.

Well HP-651 was located along Piney Green Road and immediately adjacent to Lots 201 and 203, the base junkyard. Lots 201 and 203 was one of the 22 sites targeted for additional study but for some reason, well HP-651 was not selected to be sampled in July 1984.\73\ The well site selected in 1971 by LantDiv engineers and installed in 1972. It is not known whether the engineers involved in selecting the site for well HP-651were knew of BUMED 6240.3c and the preventive measures built into the Navy's potable water regulations. It was their job to know and comply with these regulations. How could they possibly begin to justify the selection of a potable water supply well site less than 300 feet from the base junk yard and the base VOC disposal area (site 82).\74\ This one well was the sole source for the horrific VOC readings found in the January 1985 samples taken from the Holcomb and Hadnot Point WTP service areas received in February of 1985.\75\

\73\ CLW 709, Pdf page 18, April 1983.
\74\ Cercla 429, Pdf page 43, August 1991.
\75\ CLW 2253, Pdf page 2, May 1993.
⁷⁶ CLW 5594, Pdf page 34, February 1985.
⁷⁷ CLW 5237, Pdf page 23, February 1985.

[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

Well 651 was sampled and closed on 4 February 1985. The tests were completed on 8 February 1985. Both the January and February samples taken from well HP-651 were contaminated with extreme amounts of organic solvents.

[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

In their apparent attempt to demonstrate to the State of North Carolina their good stewardship of the environment, the Navy and Marine Corps inadvertently and independently documented the worst VOC contaminated supply well on the base and its corresponding affect on the finished water supplied to the residents of Camp Lejeune.

The Tarawa Terrace (TT) water distribution system test results for VOCs were received on the heels of the confirmation of contamination in well HP-651. Just as Mike Hargett and Bruce Babson had warned the base in 1982, The Tarawa Terrace well field was highly contaminated with VOCs, Specifically wells TT-26 and TT-23.\78\

\78\ CLW 5570, Pdf pp 18& 24, February 1985.
<GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT>

A subsequent test found the finished water provided to the families at Tarawa Terrace contained 215 ppb of PCE.\79\ The contaminated wells were then immediately closed, almost three years after the initial warning from Mike Hargett and Grainger Laboratory.

\79\ CLW 5237, Pdf page 33, February 1985.

The water supply problems at Tarawa Terrace presented the Navy and Marine Corps a different and more complex problem than with the Hadnot Point and Holcomb Blvd WTPs. Like the other treatment plants, the TT system served a large residential population with treated water. Unlike the other two systems on main-side, there was not intra-connection in the advent of an emergency. To further complicate the issue, the availability of raw water for the TT well fields was limited. Even before the closure of wells TT-26 and 23, TT was experiencing trouble with the availability of raw water for the treatment plant. A memo from W. R. Price, the Utility System Operator General Foreman, warned that the existing well field was unable to keep with the demands placed on the TT system and that continued over use of the wells in the system without periodic rest could lead to well failures.\80\ With the closure of wells TT-26 and TT-23, Tarawa Terrace was expected to experience a 300,000 gallon per day shortfall of water for the residents of TT.

\80\ CLW 707, March 1983.

On 1 March 1985, a staff meeting for the Assistant Chief of Staff, Facilities was held on the base. The purpose of the meeting was to discuss water alternatives for Tarawa Terrace. A list of seven alternatives was developed by Colonel Lilley, Assistant Chief of Staff, Facilities.

1. Install a new well at Tarawa Terrace. The problem with a newer well was that water, in significant quantities was difficult to locate at Tarawa Terrace. Estimate cost: $80,000.

2. Transport water via tanker trucks from other water plants. However, the logistic of hauling 300,000 gallons per day was questionable. Estimated cost: $2,000 per day.

3. Tap into existing City of Jacksonville water line under Lejeune Blvd. There was a concern that the city may not be able to provide the water and there was a fear that the city would request reciprocating favors to the Marine Corps. Estimated cost: Unknown.

4. Change the existing contract for Holcomb Blvd to construct a water line to Tarawa Terrace immediately. The contractor was thought to be unable to perform this option in the time frame required. Estimate cost: Unknown.

5. Construction of a 8inch raw water line from Brewster Blvd to Tarawa Terrace across the railroad trestle on Northeast Creek. At the time, it was unknown if the state would approve the measure. Estimated Cost: $75,000.

6. Modify Tarawa Terrace plant to include aeration or granular

activated carbon unit capable of removing VOCs. The alternative was rejected because of they felt the modifications could not be made in the time frame required. Estimated Cost: $300,000.

7. Re-activate and use contaminated well(s) that have been closed if required to maintain adequate water levels and pressure. Lack of Federal MCLs for VOCs or restrictions for using VOC contaminated water is used to justify this measure. However, the brief also reads ``the potential health hazards must be weighed against the need and cost of providing water from other sources.'' (Please see entry for BUMED 6240.3B and 6240.3C and note the language concerning chemicals in the water: ``substances which may have a deleterious (harmful) physiological effect or for which the physiological effects are not known, shall not be introduced into the water system in a manner which would permit them to reach the consumer.'' Estimated Cost: zero.

Alternative 5 was selected for implementation but the estimated completion date was 5 June 1985 and state approval for the project was needed. There was no discussion concerning how to provide for the impending water shortage during while the auxiliary line was under construction.\81\ Two days prior to the meeting, a letter from the Calgon Activated Carbon Division in response to a LantDiv inquiry about emergency potable water treatment systems for VOCs arrived at LantDiv. Calgon advised LantDiv that based on the organic solvent and its corresponding concentration supplied by LantDiv, they could deliver as system capable of treating the potable water within 24-48 hours.\82\ The Calgon system was never ordered According to Marine Corps documents, VOC contaminated well TT-23 was operated and supplied water to the residents of Tarawa Terrace on at least three different occasions until the temporary water line was completed in June of 1985.\83\ The Tarawa Terrace WTP was finally closed on 1 March 1987. According to the water model completed by ATSDR in 2007, Tarawa Terrace remained contaminated with VOCs throughout this time period.

\81\ CLW 1129, March 1985.
\82\ CLW 6520, February 1985.
\83\ CLW 1237, May 1985.

The USMC's Camp Lejeune contaminated drinking water media and public relations campaign.

At no point between the first warning of a problem with the base water supply discovered in October 1980 and the appearance of the first announcement informing the residents of the base that their drinking water was contaminated in December 1984, were any of the residents and the State of North Carolina informed about the contaminants found in the Hadnot Point and Tarawa Terrace drinking water systems. The first indication of a problem from the Marine Corps was an article announcing the commencement of the Confirmation Study. The article appeared in the base newspaper and was titled ``Environmental Study kicks-off'' Col. Lilley advised the residents of the base that''

``while contractors will routinely wear personal protective equipment such as chemical resistant overalls, we do not expect to expose anyone to any contaminants. The results of the survey are due in August 1984. If any contaminants are discovered, a

review of alternatives will determine action necessary to meet health and environmental standards.'' \84\

\84\ Cercla 132, Pdf page 6, June 1984

What the Colonel failed to inform the residents was that they were already being exposed. The survey referenced in the article was the Confirmation Study.

The first announcement of drinking water contamination occurred in December 1984 when the base newspaper informed the residents of Camp Lejeune that:

> ``Environmental officials here are taking precautionary measures to ensure drinking water is free from possible contamination.''
>
> ``As a result of water sampling taken on 3 December, four wells in the Hadnot Point industrial area were found to contain some traces of organic contamination.''
>
> ``none of the compounds noted in the test samples are listed in the regulations under the Safe Drinking Water Act.''
>
> ``Testing is being conducted as part of a basewide confirmation study which is currently underway to verify whether any groundwater contamination exists.''
>
> ``Daily water samples are being taken from the water treatment plant to ensure drinking water remains within prescribed federal and state guidelines established by the Safe Drinking Water Act.''
>
> ``Every effort will be made to maintain the excellent quality water supply traditionally provided to the residents of Camp Lejeune.'' \85\

\85\ Cercla, 523, December 1984.

On 30 April 1985, the Commanding General of Camp Lejeune issued a Notice to Residents of Tarawa Terrace informing them that two supply wells for TT were taken off line because ``minute (trace) amounts of several organic chemicals have been detected in the water.'' The general then stated there were no definitive State of Federal regulations for the ``compounds'' and that as a ``precaution'' he ordered them closed. The remainder of the memo discussed the impending water shortages expected at Tarawa Terrace. At no point were the residents informed that well TT-23 had been used to supply water to them after its closure.\86\ The next series of newspaper articles appeared in May 1985. The Jacksonville Daily News titled their article ``Chemical discovered in Lejeune water wells.'' The article informed the reader that:

\86\ CLW 1191, April 1985.

> ``Substances found in the wells were described today as volatile organic chemical by Gunnery Sgt John Simmons of Lejeune's Joint Public Affairs Office. He said he had no information on whether the well water was dangerous to

humans.'' \87\

\87\ Cercla 132, Pdf page 7, May 1985.

The Wilmington Morning Star's article was contained more details and false assurances than the Daily News. The State head of the Water Supply Branch which regulates drinking water in North Carolina was

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quoted as stating''

> ``he did not think Camp Lejeune residents need to worry about getting bad drinking water. I think we kind of caught it right at the beginning.''
>
> Another paper expanded this quote to include ``It's not something that has been running for two or three years.'' \88\

\88\ Cercla 132, Pdf page 11, May 1985.

Base Spokesman Gunnery Sergeant John Simmons ended the article with what has become a standard Marine Corps anthem regarding the Camp Lejeune drinking water contamination and then wrapped it in a total

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fabrication.

> ``Simmons stated that while there were no state or federal regulations that mandate an unacceptable level of such contaminants in drinking water, ``we ordered the closure of all wells that showed even a trace amount.'' \89\

\89\ Cercla 132, Pdf page 7, May 1985.

These three articles and the general's notice to Tarawa Terrace constituted the first notifications that personnel and their families aboard Camp Lejeune received for an exposure that they could not touch, taste, see nor hear. They were relying on the Marine Corps to protect them and their families and for their trust they received and continue to receive betrayal.

As time passed between the discovery of the drinking water contamination and the news reports the Marine Corps' story began to change. An important point to remember is that Camp Lejeune, like many military bases, has a large mobile population. Some families spent years at the base while others rotated out over a period from months to years. By September of 1985, the Marine Corps' story became more direct as evidenced by a quote from the base Environmental Engineer, Robert Alexander, the same person who received Betz's memo in January 1983 concerning Grainger's tests performed on the Hadnot Point and Tarawa Terrace WTPs and the water provided to the system's consumers:

> ``Alexander said the 22 sites are not considered dangerous because only trace amounts of contamination have been found to have escaped from the dumps. He said that people had not been directly exposed to the pollutants.''
>
> ``the last thing we want to find is that there is a large piece of Camp Lejeune that can't be used because of toxic waste disposal.''

``Alexander said there is no clear relationship between the closing of the wells and any specific waste site.''

``The way we got onto the well problem was in sampling near one of our fuel farms, or fuel storage facilities. We sampled nearby wells. In one near the fuel farm, we didn't detect fuel but did detect organic solvents.'' \90\

\90\ CLW 4855, September 1985.

The same article also informed the reader that:

``Eight (wells) had been tainted by small amounts of fuel and solvents used to clean weapons and vehicles. Solvents found in two of the wells, in a residential neighborhood at the northern edge of the base, have been tentatively linked to civilian dry-cleaning firms in nearby Jacksonville.''

``No one has been harmed by the wastes.''

``Linton (EPA) said the most serious problem at Camp Lejeune was contamination of the groundwater with solvents that are suspected of causing cancer.''

``Col. Tiebout, Camp Lejeune's assistant chief of staff for facilities characterized all of the actions so far_closing wells, relocating the day care center, and extensive testing_as precautionary measures.'' \91\

\91\ CLW 4855. September 1985.

In the public arena, fact was becoming fiction and the Marine Corps' spin on what transpired at the base between 1980 and 1984 was rapidly solidifying into reality. Behind the scenes, the EPA moved to force Camp Lejeune onto the National Priority List (NPL) also known as the Superfund list. In a meeting which took place at the base in November of 1985, Robert Alexander told the EPA that their contractor's report was in error and resisted the idea of placing the base on the NPL.\92\ Somehow or another, the EPA walked away with the idea that no contamination was detected in treated potable water at the Hadnot Point WTP.\93\ Two weeks after this meeting, the treated water at the Hadnot Point WTP was sampled and found to contain benzene in the extreme amount of 2,500 ppb.\94\ The analytical data sheets for this test and a subsequent benzene finding several weeks later are both missing. There are no known notifications of this finding to the residents at Camp Lejeune and the words ``Not Representative'' were handwritten over the 14 November 1985 test results for the Hadnot Point WTP. The false contention that people were not directly exposed to the pollutants appeared again in a media story detailing the contamination written in January 1986.\95\

\92\ CLW 4903. November 1985.
\93\ CLW 5430, February 1986.
\94\ CLW 1406, January 1986.
\95\ Cercla 132, Pdf page 18, January 1986.

On Christmas Eve 1987, the Jacksonville Daily News again repeated

Robert Alexander's September 1985 assertion that people had not been directly exposed to the pollutants. The paper also informed the public that the EPA was considering Camp Lejeune for the NPL. The contamination steadily devolved into ``traces of TCE, DCE and PCE.'' The fuel found at Hadnot Point had entirely disappeared in the media.\96\

\96\ Cercla 132, Pdf page 20, December 1987.

Colonel Thomas Dalzell, Assistant Chief of Staff, Facilities was designated as the overall coordinator for Camp Lejeune's incorporation onto the National Priorities List. In February 1988, he was featured in a question and answer press release which became the basis for several media news stories on the drinking water contamination aboard the base.

``Q. Is my health or the health of my family in any danger?

A. No it's not. All the wells which we get our raw water out of are continually tested and the wells that were identified as being contaminated have been closed off.''

``Q. What about prior to 1983?

A. At that time we were not aware of any of these particular compounds that might have been in the ground water and we have no information that anyone's health was in any danger at that time.''

``Q. What are the long term effects of exposure to these contaminants?

A. Heavy long term exposure to these chemicals could cause some health hazards, depending on the amount of chemical ingested.''

Q. What was the source of the contamination?

A. Most of the sources of contamination were the motor pools that existed down in the Hadnot Point area. At that time oil, greases, solvents, gasoline and cleaning fluids and other types of chemicals were just being dumped in the ground or dumped in sewers or things like that; and we were really not aware back in the 60's and 70's of the effects on groundwater contamination. Now we are more aware of these things and have taken appropriate precautions to ensure the ground water contamination is not progressing any further.'' \97\

\97\ Cercla 132, Pdf page 28, February 1988.

How could the man placed in charge of coordinating the placement of Camp Lejeune on the NPL be ignorant of the fact that warnings about the contamination began in October of 1980? Was his claim that there was no knowledge of the drinking water contamination prior to 1983? Was this misrepresentation fabricated by design or ignorance?

The massive Hadnot Point Fuel Farm fuel spill surfaced again in late 1988. The attention was more than likely due to the impending release of O'Brien and Gere's Final Report for the Contaminated Ground Water Study at Hadnot Point.\98\ The engineer's report detailed large

losses of fuel from the HPFF and a fuel plume 15ft thick was identified floating in the semi confined aquifer at Hadnot Point. Once again, Marine Corps statements in the media did not match up what was actually known at the time. A Jacksonville Daily News article titled ``Base officials study cleanup of fuel leaks'' appeared in print in October.

\98\ Cercla 417, December 1988.

``leaks from an underground tank system were confined to an

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are two square blocks around the fuel farm.''

``The spill is contained by the section's natural flat terrain and water table conditions.''

``the number of gallons leaked is unknown.''

``Cleanup is expected to start after final design of glue/ recovery system. Recovered gasoline products are expected to be recycled for use on the base.'' \99\

\99\ Cercla 132, Pdf page 36, October 1988.

By the following year, the base was ready for listing on the NPL and the old pattern of ``no single source had been found for the chemicals (solvents) along with the 1983 IAS conclusion that none of the 22 sites selected for further investigation posed an immediate threat to human health were rehashed in the media.\100\ Of the 22 sites, the Hadnot Point Fuel Farm was designated as the first site to be cleaned up once Lejeune was placed on the Superfund list.\101\ Camp Lejeune was officially added to the NPL in October 1989. Shortly before the base was listed on the NPL an article appeared in the base newspaper featuring Base Supervisory Chemist, Elizabeth Betz who had laboriously documented the early stages of the contamination from May 1982 through January 1983.

\100\ Cercla 132, Pdf page 47, August 1989.
\101\ Cercla 132, Pdf page 57, October 1989.

``You'd have to look at each VOC individually, but many of them are carcinogens. That's the main reason we immediately shut the wells down, although the levels we found in the tests

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were not near the EPA limit.''

``We were puzzled when the chemicals showed up. At first, we couldn't figure out how it had gotten into the Tarawa Terrace system. Then we looked across Highway 24. There were dry-cleaning businesses right across the road from the housing area.''

``Once you have identified where the potential for a threat is, you start taking action to correct it. You can not leave a contaminant in the groundwater.'' \102\

\102\ CLW 1854, August 1989.

The Marine Corps controlled the message and information surrounding

the details of the drinking water contamination at Camp Lejeune. With the addition of Camp Lejeune onto the NPL, the Marine Corps was required to establish and administrative record for public use. This repository is located in the Onslow County Public Library. The problem is that a large number of personnel and families exposed at Camp Lejeune no longer live near the base to have access and view the CERCLA library. Beginning in the mid to late 2000's, the Marine Corps placed portions of the administrative record on the internet. The online library is known as the ``Baker website.'' This website is cumbersome and largely unusable. A brief document library appeared on the USMC's website but was removed after the Congressional hearing in 2007. Without access to original sources of information, the affected community is left to the mercy and whim of the Marine Corps. A breakthrough in gathering information occurred in 2007 with the release of ATSDR's water model for Tarawa Terrace. The corresponding discs contained electronic files of the Marine Corps' Camp Lejeune Water document library and the Cercla administrative record. Through these discs the affected community has had the opportunity to educate ourselves and revisit the Marine Corps' version of what happened at Camp Lejeune.

Our advantage is the Corps told their lies up front. The truth is in their documents and they do tell a far different story than what the Marine Corps has asserted to the media and Congress. What is now needed is for an authoritative body such as Congress to work objectively with the Marine Corps and the affected community to ascertain what really happened at Camp Lejeune and what chemicals we were exposed to in our drinking water aboard the base. The stumbling block is that our government is the source and remedy for this issue and there is an inherent conflict of interest in securing the full and objective co-operation of the various agencies capable of providing the answer and ultimate relief from our exposures.

The recent Marine Corps informational brochure proudly boasts that the USMC has investigated three separate times and found to be exonerated of blame in the contamination.\103\ Each of these prior investigations occurred before the release of the initial electronic document library to the public and our subsequent enlightenment of what transpired at Camp Lejeune during the contamination period. Both the Commandant's 2004 Blue Ribbon panel and the Government Accountability Office (GAO) 2007 Report on Camp Lejeune share a common fatal flaw. Each report failed to identify the true extent of the fuel problem at Hadnot Point, the Navy and Marine Corps' own internal directives and standards for potable water systems aboard Naval vessels and facilities, including Camp Lejeune and the Marine Corps's 1974 Base Order identifying Organic Solvents as hazardous materials. Each report failed to locate and interview the owner and lead chemist from Grainger Laboratory concerning the events in 1982. Instead, the reports relied on LantDiv and base employees who, to one degree or another, seemed to suffer a collective form of selective memory. In fact, during the 2007 Congressional ``Poisoned Patriot's'' hearing, Chairman Bart Stupak asked the EPA's Special Agent, Tyler Amon if he had personally recommended that obstruction of justice charges be brought up against the former LantDiv and base personnel who appeared to have been coached and were uncooperative with his investigation. Agent Amon confirmed that he had identified areas of concern for obstruction of justice charges but these recommendations were overruled by the Department of Justice.\104\ This same department is currently tasked with representing the government (the Navy and USMC) for any and all Federal Tort claims filed because of the Camp Lejeune drinking water

contamination. This blatant lack of objectivity by the Department of the Navy continues to this day. Early this summer, the Secretary of the Navy established a Camp Lejeune Assistance Team (CLAT) in response to the pressure placed upon the Navy by Congress, the media and the affected community over the recent discoveries pertaining to the Hadnot Point Fuel Farm and the electronic portal. The CLAT is tasked to provide a report to Secretary Mabus. There is no input whatsoever from the affected community nor is there any shred of independent oversight or objectivity. Members of the CLAT are required not to do anything which may compromise the Navy's legal defense against the families. All in all, the CLAT, as with the prior government investigations into Camp Lejeune's contaminated drinking water, sounds like a classic case of the ``Emperor's New Clothes''

\103\ USMC CL Booklet, Page 13, July 2010.

\104\ Official Transcripts for the ``Poisoned Patriots: Contaminated Drinking Water at Camp Lejeune'' hearing, Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, House of Representatives. Pdf page 144. June 2007.

Perhaps one the most important single recent event in the Camp Lejeune contaminated drinking water story occurred last April when the ATSDR withdrew their flawed public health assessment (PHA) for Camp Lejeune. The assessment was fraught with errors including but not limited to, improper usage of exposure duration and dosage models used to characterize our risks for adverse health outcomes, the disappearance of the assessments supporting references and interviews, and the omission of benzene from the 1997 Camp Lejeune Public Health Assessment.\105\ The Camp Lejeune PHA failed to recognize that our exposures on the base surpassed mere occupational settings. The models used to evaluate our exposures failed to account for the fact that the resident population on the base was exposed 24 hours a day and 7 days a week throughout the year. The PHA also underestimated the amount of contaminated water consumed by the personnel exposed on the base. To add insult to injury, the supporting interviews and documentation for the agency's work on the assessment were allegedly ``accidently destroyed'' by a contractor after the assessment was published. What this meant, was that there was no way for other scientists or the affected community to fact check ATSDR's work. The breaking point for ATSDR came when members of the Community Assistance Panel (CAP) for Camp Lejeune correctly identified that well HP-602 was discovered contaminated with fuel products while the well was actively pumping water for the Hadnot Point Water Treatment Plant. ATSDR's leadership found their prior position that no direct proof existed that benzene was in our water, suddenly untenable. On 28 April 2009, the ATSDR withdrew their Camp Lejeune PHA at our CAP meeting held in Atlanta. This event was the first time a PHA was withdrawn in the agencies history.

\105\ ATSDR Website, http://www.atsdr.cdc.gov/hac/pha/pha.asp?docid=1082&pg=0

The ATSDR PHA for Camp Lejeune was not the only report which failed to address the benzene exposure at Camp Lejeune. In June of last year, the National Research Council (NRC) released their controversial report on Camp Lejeune.\106\ This report was the result of well intended, but poorly overseen legislation, in which the Department of the Navy was allowed to write the charge, or directions to the scientist on how to

conduct their review of scientific literature concerning the chemicals we were exposed to at Camp Lejeune. The committee focused their efforts on PCE and TCE and omitted benzene in their evaluations and assessments. I am not a scientist and thus not qualified to comment on the specifics of why the report is flawed. This area has been openly addressed by other scientists including one who participated in a peer review of the NRC report and who is present today as a witness before the committee. I will defer discussion of the scientific issues about the validity of the NRC to Dr. Richard Clapp of Boston University. However, there are some non scientific issues that have come to light concerning the report. First and foremost, shortly after the report was released to the public, we discovered that the National Academy of Science entered into a $600,000 contract with the Department of Defense to effectively serve as the DOD's hired gun and consultant for work at Camp Lejeune. What was more disturbing was that the contract was negotiated and signed while the NRC committee was engaged in their work on the Camp Lejeune NRC report.\107\ Earlier this year, we learned that the National Academies quietly dissolved the contract with the DOD.

\106\ National Research Council, ``Contaminated Water Supplies at Camp Lejeune: Assessing Potential Health Affects, June 2009.

\107\ Chairman Subcommittee on Investigation and Oversight, Committee on Science and Technology Brad Miller Letter to Dr. Ralph Cicerone, President National Academy of Sciences, November 2009. With attachments.

Shortly after the NRC report was released, the Marine Corps mailed a letter signed by Major General Payne to every registrant with the Marine Corps for Camp Lejeune. The letter notified the registrants that ATSDR withdrew their PHA for Camp Lejeune because of the omission of benzene contamination but was written in such a way as to infer the NRC committee did review and assess the benzene exposures at Camp Lejeune.\108\ What is puzzling is that much of what we now know about the benzene contamination was not provided to the NRC reviewers. Like ATSDR, there are no supporting documents indicating that the NRC Committee members knew of the existence of up to 1.1 million gallons of fuel lost into the groundwater at Camp Lejeune.\109\ It is a mystery how the Marine Corps and Major General Payne are able to conclude that the NRC did indeed evaluate and assess our benzene exposures in the drinking water at Camp Lejeune.

\108\ USMC letter to Camp Lejeune Registrants, General Payne USMC, June 2009.

\109\ Excerpt from Document #1185. This document was found by ATSDR within the recently discovered limited access web portal for the Navy's Underground Storage Tank Program, NavFacEngCom.

Just how did the Hadnot Point Fuel Farm's massive fuel loss escape the attention of ATSDR in their 1997 PHA? We may never know the complete answer to that question but what the historical documents make clear is that ATSDR should have known about our benzene exposures, investigated them and assessed the risk of those exposures. The Navy and Marine Corps were also complicit in casting a shroud over the fuel losses at the Hadnot Point Fuel Farm. It was their base, their facility where the contamination occurred, their documents detailed the extent of the contamination and their people were the ones exposed. The Navy and Marine Corps had a moral obligation to ensure the State and Federal regulatory agencies, especially the ATSDR knew we were exposed to

benzene. If the subcontractor for the ATSDR had not found the UST portal in 2009, just when did the Navy and Marine Corps plan to disclose the fuel losses at Hadnot Point? Was this a game of catch me if you can?

The defunct ATSDR PHA did contain a reference to a Marine Corps sponsored report on the Hadnot Point Industrial Area issued in May of 1988. Contained on page 18 of 373 is a statement by the contractor in which benzene was described as a contaminant in well 602. The lost fuel was also found in the deep aquifer at Hadnot Point.\110\ There was no excuse for the personnel working for ATSDR at that time to have missed this vital fact which confirmed benzene was a major contaminant at Camp Lejeune. However, with this being said, once it was established that the ATSDR was in error, the 1997 PHA for Camp Lejeune was rescinded. The same was not true for the polluter. Instead of acknowledging their role in the omission of benzene in the PHA by ATSDR, the Navy and Marine Corps leveled sole blame at the ATSDR:

\110\ Cercla 258, May 1988.

> ``If benzene was not fully addressed in the PHA, it was not for lack of data.'' \111\

\111\ USMC Response to Senator Burr and Hagan Queries on Camp Lejeune, Pdf page 10 July 2009.

According to Col Tokarz's March 1988 letter concerning the Hadnot Point Fuel farm, the upcoming Technical Review Committee (TRC) was slated to discuss the details about the HPFF and fully explain the situation to the members of the committee which included the community and representatives of the EPA.\112\ Four months later, the first TRC meeting took place aboard Camp Lejeune. The TRC was a requirement of CERCLA and served to bring the affected community, DOD and EPA together to discuss developments for cleaning up the base. When the time came to discuss the Hadnot Point Fuel Farm, as promised in Tokarz's letter, something entirely different happened:

\112\ Cercla 96, Pdf Page 33-34, March 1988.

> Cheryl Barnett, LantDiv: ``Well, they're part of the other 22 sites that we said we are looking at, we just don't have any data to present to you today.'' \113\

\113\ Cercla 496, Pdf page 74, August 1988.

Earlier in the meeting, the base environmental engineer was asked what kind of readings were found in the water samples from the 1980's. Mr. Alexander who was present during that time period and fulfilled the

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role of base environmental engineer stated:

> ``We had very little, if any data, before we realized our groundwater was contaminated.'' \114\

\114\ Cercla 496, Pdf page 54, August 1988.

Why the deception? In December 1988, the O'Brien and Gere Contaminated Ground Water Study for Camp Lejeune was released. The report identified two pools of free floating gasoline in the

groundwater at Hadnot Point. The engineers were unable to clearly define the exact boundaries and extent of the plumes. Clearly, the fuel contamination was much worse than the 23,150 to 33,150 gallons cited in base inventory records.\115\

\115\ Cercla 417, Pdf page 8 &24, December 1988.

Sometime between 1985 and 1990, the Navy moved handling of the HPFF fuel loss problem to LantDiv's Underground Storage Tank Program. We have been unable to ascertain the exact date and how this was accomplished. The Navy stated in their 2009 written responses to Senator Burr and Hagan that:

> ``After 1986, the sites were evaluated to determine whether they were under the CERCLA, in which the EPA or RCRA, in which the state has primacy. In 1988 it was determined that corrective action at the HPFF fell under RCRA and therefore the State of North Carolina had primacy.'' \116\

\116\ USMC Response to Senator Burr and Hagan Queries on Camp Lejeune, Pdf page 12, July 2009.

Apparently, the Navy and Marine Corps forgot to inform the EPA of their evaluation. There was another problem with their arbitrary determination. The CERCLA vs. RCRA delineations did not apply if mixed contaminants were present. If mixed contaminants were present at a Superfund site, CERCLA is primary. The issue came to a head at a TRC meeting in July of 1990. During the meeting, Camp Lejeune officials informed the EPA representative that HPFF was not part of the Federal Facilities Agreement and thus out of the purview of the EPA. Base officials advised the EPA that a fuel recovery system for the HPFF was finalized and ready for bidding. Once bidding was completed, the Navy and Marine Corps were ready to begin remediation of the shallow aquifer around the HPFF. The EPA representative, Victor Weeks, disagreed and advised the attendees of the meeting there was a mixing of solvent plumes and fuel plumes and as such, the groundwater cleanup in the HPIA

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is all interconnected.

``Just because it's an underground storage tank at this point doesn't matter to us because we have a combined plume.'' Mr. Weeks went on to conclude: ``If this was an isolated area separated from Hadnot Point, we could agree with that (Handling under the state's UST program) we feel like it's part of the CERCLA program as well''. He also warned that the Navy was doing work at their own risk.\117\

\117\ Cerlca 493, Pdf pp 4-11, July 1990.

By April of 1992, Mr. Weeks was no longer the EPA representative working on Camp Lejeune. The EPA replacement received a letter from Paul Rakowski at LantDiv requesting that the HPFF be exempt from CERCLA under the petroleum exclusion because Jet Fuel was the only source of contamination at the HPFF.\118\ Shortly afterwards the HPFF was officially moved to the RCRA program and under the purview of the State of North Carolina. The result of this move was the HPFF was dropped from CERCLA and corresponding reports pertaining to CERCLA sites on the base. For example, the 1994 Final Remedial Investigation Report for Operable Unit 1 (Sites 21, 24 and 78 in the Hadnot Point Industrial

Area) mentions the existence of the HPFF within the Operable Unit, but then the report added that:

\118\ Cercla 724, April 1992.

> ``Since the fuel farm area is a UST problem, it is not included as part of the CERCLA RI/FS process, but is being handled as a separate study under the UST Program.'' \119\

\119\ Cercla 1161, Pdf page 78, June 1994.

Another result of the move from RCRA to CERCLA was that documents pertaining to the UST Program were not required to be filed for public view in the CERCLA Administrative Record. This is evident when one compares the CERCLA administrative records file to what was filed with the State of North Carolina. The end result was that control of information concerning the Hadnot Point Fuel Farm lay at the discretion of the Navy and what reports they chose to submit to the State of North Carolina. The EPA was effectively out of the HPFF picture.

A July 1994 court recorded public hearing was held at Camp Lejeune concerning the proposed clean up for the Hadnot Point Industrial area, except the HPFF. A base representative was asked why there was no public hearing for the HPFF. Neal Paul, The base Installation Restoration Program Manager for Camp Lejeune responded:

> ``There are some public relations requirements and this predates me.''

Mr. Paul failed to answer the question and advised the attendees of the meeting:

> ``to date there's like 25,000 gallons of gasoline from the inventory records that were shown to be missing. And to date we have recovered about 20,000 gallons of gasoline.''
>
> ``but the plume treatment is pretty close to being remediated.''
>
> ``If you get 75% of the free product that you think you spilled into the groundwater, then you're doing a great job, and 20 out of 25 is almost 80 percent. So, we done probably as good as we can do.''
>
> ``And that is really one of our big success stories.''
>
> ``From the people I've talk to in the state agree it is a success.'' \120\

\120\ Cercla 366, Pdf pp 91-94, July 1994.

Two years later a partnering meeting hosted by Mr. Paul was held at Camp Lejeune. The attendees included base officials, the Navy's contractor for the remediation work on the base, representatives from the State of North Carolina, EPA and personnel from LantDiv. The meeting was not open to the public. A contractor for the Navy advised the attendees that based on data from an engineering contractor working on the HPFF, an estimated 800,000 gallons of fuel had been lost at the HPFF and benzene was appearing in the deep aquifer.\121\ Notably absent

from the meeting were representatives from the ATSDR. The ATSDR 1997 PHA for Camp Lejeune was still in draft form at the time of the meeting. The brief reference to the 800,000 gallon fuel loss was the only place we have found in the entire CERCLA library which quantified the size and scope of the fuel plumes at Hadnot Point and is more than the disclosed 23,150 to 33,150 gallons lost in Marine Corps inventory records.

\121\ Cercla, 1866, Pdf page 4, November 1996.

The former base Fleet Service and Refueling area was located within 300 feet and up-gradient from well HP-602. Buildings 1100, 1111, 1115 and seven underground storage tanks comprised the facility. The USTs were intra-connected to the fuel farm by underground piping.\122\ The facility served as a service station from 1957-1965, and administrative office from 1965-1972, a data processing center 1972-1976 and a printing plant from 1976-1986.\123\ The tanks were removed from the ground in 1993 and the contents of the tanks were described as diesel fuel and gasoline.\124\ Building 1115 turned out to be a separate and distinct source of fuel loss at the Hadnot Point Industrial Area. Last week the Navy released many of the documents on the web portal discovered by ATSDR last year to the public. We are currently reviewing this previously undisclosed document library and we are finding indications organic solvents were mixed in the fuel plume at this site. As far as we know, no specific risk assessment or remedial investigation was ever performed for building 1115. Instead, the Navy sent a letter to the State of North Carolina advising the State that building 1115 was being incorporated into the Hadnot Point Fuel Farm and the two were handled as one site.\125\ Who gave the Navy the authority to make this decision and why was it not challenged by the EPA? Building 1115 was only mentioned in the CLW and CERLCA libraries. The extent of the contamination found in the groundwater underneath the former Fleet Service and Refueling Area was not previously disclosed to ATSDR. Details of the contaminants found at building 1115 are currently surfacing as we review the documents. The concealment of building 1115 did not stop with ATSDR. In 1991 the EPA queried the Navy whether USTs existed at building 1100/1115.\126\ Paul Rakoswki from LantDiv responded that a leaking 55 gallon drum of PCE was found at the site but failed to answer the EPA's question on the USTs.\127\ If one agency of our government chooses to misrepresent and conceal material facts to Federal regulators in another agency and nothing happens when the truth is revealed, where is the accountability?

\122\ Cercla 2358, Pdf page 289, January 1989.
\123\ Cercla 651, October 1986.
\124\ CLW 1917, March 1993.
\125\ North Carolina UST Document Library, April 1994.
\126\ Cercla 71, Pdf page 5, October 1991.
\127\ Cercla 27, December 1991.

It is now thirteen years since the release of the 1997 Public Health Assessment for Camp Lejeune and the community still has no clear answer to what happened to us while we or our loved ones served our country. Our country has seen a renewed appreciation for our volunteer military and the sacrifices made by our fighting men, women and their families. It is hard to drive down the road without seeing a ``support the troops'' ribbon on someone's car. How can we profess respect for our military personnel and families when in their time of need, this

country not only abandoned them but abandoned their families as well. We trusted the Marine Corps would do the right thing for their Marines and their families. We trusted that the EPA and the State of North Carolina would ensure the Marine Corps fully disclosed the extent of the contamination at Camp Lejeune. The subtitle of this hearing is ``Looking back, Moving Forward.'' We looked back and found the Marine Corps' statements do not match the historical documents. We can not move forward with understanding the Camp Lejeune drinking water contamination unless there is a full disclosure from the Navy and Marine Corps. We can not rely on the agencies of the Executive branch to provide our answers. The Department of Defense was the polluter. The Department of Justice represents the government for all claims brought against the Navy and Marine Corps and overruled the EPA special agent investigating government wrong doing at Camp Lejeune. Congress is where this issue must be resolved. What other measures has the DoJ taken to bolster their defense for the government? Our exposures are known and well documented. The negligence of the Marine Corps is clear. There are thousands of Marines, Sailors, their family members and base employees who were sickened by he fouled water at Camp Lejeune. When will this country fulfill our commitment to support the troops?

Biography for Michael Partain

Michael Partain is the dependent son of Captain Warren Partain and was born at Camp Lejeune in 1968 during the drinking water contamination. His parents lived aboard the base at Tarawa Terrace. The Partain family settled in Florida in 1972 after leaving the Marine Corps. Three years ago Michael was diagnosed with male breast cancer at the age of 39. Since then he has located 63 other men from Camp Lejeune with the disease. Michael became involved with the Camp Lejeune after viewing a television report about Camp Lejeune while he was treating his breast cancer. Since then he has become a community advocate and a community representative of the ATSDR Community Assistance Panel (CAP) for Camp Lejeune.

Chairman Miller. Thank you, Mr. Partain.

We probably are going to be interrupted by votes, so we do need to try to keep some kind of schedule, and I appreciate your testimony. It is an important contribution to today's hearing.

Mr. Watters, you are recognized for five minutes.

STATEMENT OF JAMES WATTERS, DIRECTOR, GRADUATE MEDICAL EDUCATION, TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER, FORMER NAVY LIEUTENANT, RETIRED COMMANDER, NAVY RESERVE, MEDICAL SERVICE CORPS AND CAMP LEJEUNE VETERAN DIAGNOSED WITH KIDNEY CANCER

Mr. Watters. Mr. Chairman, Ranking Member Broun, members of the Committee, thank you for taking the time to address this important issue and permitting me the honor of appearing before you to tell my story. I believe it is similar to the stories of thousands of others who were at Camp Lejeune.

I am a retired Navy Medical Service Corps Commander who served at Naval Regional Medical Center, Marine Corps Base Camp Lejeune from June 1977 until November 1979. Prior to my naval service, I served in the U.S. Army Infantry in Vietnam from November 1969 until I was wounded in combat while walking point for my infantry company on September 6, 1970. When I was

wounded, my commanding officer, Captain Allen G. Vitters, ran and crawled through enemy fire to drag me to safety. This is what a leader does.

In November 2007, I was diagnosed with advanced renal cell carcinoma, stage 3, almost stage 4. I had a kidney removed in December 2007, and in January 2008 was told by my oncologist I had about a year to live. In approximately July 2008, I received an envelope from the IRS which contained a letter from General Payne advising me I had been exposed to trichlorethylene and other hazardous chemicals while serving at Camp Lejeune. It is important to note this letter came 21 years after the Marine Corps and the Department of the Navy knew in 1987 that I and many others had been exposed to volatile organic compounds.

I researched the possible link between TCE and RCC, renal cell carcinoma, and found a probability of the link between TCE and RCC. I then filed a claim with the Department of Veterans Affairs in order to obtain benefits for my family for after my death. The VA, of course, denied the claim. I resubmitted my VA claim including additional information about the link between TCE and renal cell carcinoma. The claim was again denied in March of 2009. I then consulted three science faculty, two of whom are toxicologists who work at the medical school where I work as an Assistant Dean for Graduate Medical Education. They wrote strong letters of support for my claim, and I requested a hearing with a decision review officer at the VA regional office in Waco, Texas. I was granted the opportunity to appear before the decision review officer in July--I am sorry--in June of 2009 to present my case. The evidence I presented met the VA criteria ``as likely as not'' so the claim was decided in my favor and I was granted 100 percent service-connected disability for the renal cell carcinoma as a result of my exposure to TCE at Camp Lejeune. Receiving this disability rating made my wife and my adult disabled son eligible for CHAMP VA insurance coverage for the rest of their lives, and CHAMP VA is similar to TRICARE.

I would have appreciated being notified by the Marine Corps even 18 months before the July 2008 notice. It would have made a difference in when my kidney cancer was diagnosed and my prognosis.

As I researched the Camp Lejeune situation, I was horrified to find out how many people the Marine Corps had poisoned and the obstructionist tactics the U.S. Marine Corps and Department of the Navy has used to avoid responsibility and avoid providing any type of assistance with health care or any financial assistance to those they have sickened and to the families of those whose deaths they have caused. Examples of obstructionist tactics include the Marine Corps's failure to cooperate with the State of North Carolina's efforts to analyze and address this problem in the 1980s, The 21 years it took for the Marine Corps to notify those they poisoned, the intense pressure it took to have the Marine Corps fund the ATSDR study, the failure of the Marine Corps to turn over critical documents until forced to do so, and numerous other examples of the Marine Corps and Department of the Navy strategy to deny and delay as long as possible.

I firmly believe this strategy is based upon financial considerations and I do not know what role the Department of

Defense has in this strategy. It is possible that the Marine Corps and Department of the Navy senior leaders are ``just following orders.''

It is my firm belief that the United States Marine Corps and Department of the Navy leadership have abandoned and betrayed their wounded from Camp Lejeune including women and children and left them to suffer and die. I am very sensitive to caring for the wounded because in the Army we were trained to never leave our wounded behind. I saw men wounded and killed in Vietnam trying to recover our wounded. The U.S. Soldier's Creed specifically states, ``I will never leave a fallen comrade.'' If the Marines have a similar creed, their senior leaders seem to think it does not apply in this case.

Suggestions for immediate action: Because it is crystal clear there is a leadership vacuum at the United States Marine Corps and Department of the Navy on this issue, I suggest Congress step in immediately to pass legislation to provide health care to those who have been sickened by the Camp Lejeune poisonings. Everyone in this room knows this is morally and ethically the right thing to do. The United States Marine Corps and Navy have proven they will not and cannot be trusted to do the right thing. Time is of the essence, so political party differences should not be permitted to delay taking effective action.

Number two: The Department of Veterans Affairs should immediately consider how they can streamline the disability claims process for those who have been sickened by the Camp Lejeune poisons. The only reason I was able to win my claim was because of the resources at my disposal in the school of medicine where I work. Very few veterans have such resources available to them. Eventually the VA will develop a list of presumptive illnesses for those exposed at Camp Lejeune. It should not take 10 or 15 years as it did for Agent Orange. People are sick and they and their families need help now. Also, the VA should publicize this matter in their outpatient clinics and hospitals to alert those who were poisoned. I have tried for over one year to have my local VA hospital in Amarillo, Texas post notices of the Camp Lejeune situation to alert veterans who may have been exposed. When I told them that I was coming to this hearing, they decided to finally post the notices.

Lastly, as you hear from the United States Marine Corps and the Department of the Navy about all they have done to address this matter, I would urge you to consider the evidence of the steps the U.S. Marine Corps and the Department of the Navy have taken to obstruct resolution of this very serious environmental disaster. This is basically a ``friendly fire'' incident in slow motion and every possible measure has been taken by the Marine Corps and the Department of the Navy to deny and delay providing any assistance whatsoever to their victims. The Marines claim to have spent $22 million to address this but I would point out that this amount over 20 to 25 years is a pittance and I would ask you to consider what amount of this total was the Marine Corps compelled to spend and how much was spent on obstructing any efforts to provide any assistance whatsoever to Marine Corps victims.

Finally, the U.S. government has a very poor track record of assisting in a timely manner those who have been harmed by

the Department of Defense. Examples include the atomic vets, the Agent Orange vets, the Gulf War syndrome vets, and now this. Congress has the opportunity to deal with this in a timely and effective manner and to do the right thing. I urge Members of Congress to do what you know should be done. Thank you.

[The prepared statement of Mr. Watters follows:]

Prepared Statement of James L. Watters

I start today by thanking the Members of this Congressional Committee for taking the time to address this important issue and permitting me the honor of appearing before you to tell my story.

My name is James Watters and I am a retired U.S. Navy Medical Service Corps Commander who served at the Naval Regional Medical Center, Marine Corps Base Camp Lejeune from June, 1977 until November, 1979. Prior to my Naval service I served in the U.S. Army infantry in Vietnam from November, 1969 until I was wounded in combat while walking point for my infantry company on September 6, 1970. When I was wounded, my commanding officer, Captain Allen G. Vitters ran and crawled through enemy fire to drag me to safety. That is what a leader does.

In November, 2007 I was diagnosed with advanced (stage 3, almost stage 4) renal cell carcinoma (RCC). I had a kidney removed in December, 2007 and in January, 2008 was told by my oncologist I had about a year to live.

My initial thought about the cause of the cancer was my exposure to agent orange because there is no history of renal cell carcinoma in my family. My research showed no link between agent orange and RCC.

In approximately July, 2008 I received an envelope from the IRS which contained a letter from a Marine Corps General advising me I had been exposed to trichloroethylene (TCE) and other hazardous chemicals while serving at Camp Lejeune. It is important to note that this letter came 21 years after the USMC and the Department of the Navy knew, in 1987, that I and many others had been exposed to volatile organic compounds. (VOCs) I researched the possible link between TCE and RCC and found a probability of the link between TCE and RCC. I then filed a claim with the Department of Veterans Affairs (VA) in order to obtain benefits for my family for after my death.

The VA of course denied my claim. I resubmitted my VA claim including additional information about the link between TCE and RCC. The claim was again denied in March of 2009. I then consulted three science faculty, two of whom are toxicologists who work at the medical school where I work as an Assistant Dean for Graduate Medical Education. They wrote strong letters of support for my VA claim and I requested a hearing with a Decision Review Officer (DRO) at the VA Regional Office in Waco, Texas.

I was granted the opportunity to appear before the DRO in June, 2009 to present my case. The evidence I presented met the VA criterion ``as likely as not'' so the claim was decided in my favor and I was granted 100% service connected disability for the RCC as a result of my exposure to TCE at Camp Lejeune. Receiving this disability rating made my wife and my adult disabled son eligible for CHAMPVA insurance coverage for the rest of their lives. (CHAMPVA is very similar to TRICARE.)

I would have appreciated being notified by the USMC even 18 months before the July, 2008 notice. It would have made a difference in when my RCC was diagnosed and my prognosis.

As I researched the Camp Lejeune situation I was horrified to find out how many people the USMC had poisoned and the obstructionist tactics the USMC and the Department of the Navy have used to avoid

responsibility and avoid providing any type of assistance with health care or any financial assistance to those they have sickened, and to the families of those whose deaths they have caused. Examples of obstructionist tactics include the USMC's failure to cooperate with the State of North Carolina's efforts to analyze and address the problem in the 80s, the 21 years it took for the USMC to notify those they poisoned, the intense pressure it took to have the USMC fund the ATSDR study, the failure of the USMC to turn over critical documents until forced to do so and numerous other examples that the USMC's and Department of the Navy's strategy is to deny and delay as long as possible. I firmly believe this strategy is based upon financial considerations and I do not know what role the Department of Defense has in this strategy. It is possible the USMC and Department of the Navy senior leaders are ``just following orders.''

> It is my firm belief that the USMC and Department of the Navy leadership have abandoned and betrayed their wounded from Camp Lejeune, including women and children, and left them to suffer and die!

I am very sensitive to caring for the wounded because in the U. S. Army we were trained to never leave our wounded behind. I saw men wounded and killed in Vietnam trying to recover our wounded. The U.S. Soldier's Creed specifically states ``I will never leave a fallen comrade.'' If the Marines have a similar creed their senior leaders seem to think it does not apply in this case.

Suggestions for immediate action:

> 1. Because it is crystal clear there is a leadership vacuum at the USMC and the Department of the Navy on this issue I suggest Congress step in immediately to pass legislation to provide health care to those who have been sickened by the Camp Lejeune poisonings. Everyone in this room knows this is morally and ethically the right thing to do. The USMC and the Navy have proven they will not and cannot be trusted to do the right thing. Time is of the essence so political party differences should not be permitted to delay taking effective action.
>
> 2. The Department of Veterans Affairs should immediately consider how they can streamline the disability claims process for those who have been sickened by the Camp Lejeune poisons. The only reason I was able to ``win'' my claim was because of the resources at my disposal in the school of medicine where I work Very few veterans have such resources available to them.

Eventually the VA will develop a list of presumptive illnesses for those exposed at Camp Lejeune. It should not take 10 or 15 years as it did for agent orange. People are sick and they and their families need help now.

Also, the VA should publicize this matter in their outpatient clinics and hospitals to alert those who were poisoned. I have tried for over one year to have my local VA Hospital in Amarillo, Texas post notices of the Camp Lejeune situation to alert veterans who may have been exposed. Thus far they have refused to post any notices including VA information regarding this matter.

Lastly, as you hear from the USMC and the Department of the Navy about all they have done to address this matter I would urge you to consider the evidence of the steps the USMC and the Department of the

Navy have taken to obstruct resolution of this very serious environmental disaster. This is basically a ``friendly fire'' incident in slow motion and every possible measure has been taken by the USMC and the Department of the Navy to deny and delay providing any assistance whatsoever to their victims. The Marines claim to have spent $22,000,000 to address this but I would point out that this amount over 20-25 years is a pittance and I would ask you to consider what amount of this total was the USMC compelled to spend and how much was spent on obstructing any efforts to provide any assistance whatsoever to the USMC's victims.

Thank you for listening.

Biography for James L. Watters

Date of birth: April 20, 1950

Current residence: Lubbock, Texas

Current position: Assistant Dean for Graduate Medical Education
Texas Tech University Health Sciences Center School of Medicine

Education: B.S. Business Management--Roger Williams University
Masters of Hospital Administration--VA. Commonwealth University

Military Service: U.S. Army 1969-1972 (Vietnam 1969-1970)
U.S. Navy active duty 1975-1981 (Camp Lejeune 1977-1979)
U.S. Naval Reserve 1981-2000

Positions held: Hospital Administrator, Public Health Administrator, Consultant

Chairman Miller. Thank you, Mr. Watters.

Mr. Devereux, you are next. I assume with a name like Devereux, you may very well say Lejeune. If that is your preference, you may go right ahead. You are recognized for five minutes.

STATEMENT OF PETER DEVEREUX, FORMER MARINE CORPS CORPORAL AND CAMP LEJEUNE VETERAN DIAGNOSED WITH BREAST CANCER

Mr. Devereux. Mr. Chairman and guests, good morning. My name is Peter Devereux. I was in the Marines from September 1980 until December 1984. I was stationed at Camp Lejeune from December of 1980 until April of 1982. I was assigned to the 8th Communication Battalion in the French Creek area of Hadnot Point.

I was diagnosed with invasive ductal carcinoma, a very aggressive form of breast cancer, on January 8, 2008. I had mastectomy surgery which removed my left breast along with 22 cancerous lymph nodes on January 28, 2008. The following month I began a treatment regimen which consisted of 29 chemotherapy treatments, 30 radiation treatments along with daily medication.

My treatment was scheduled to end April 8, 2009. At that point it was discovered my cancer had spread to my spine, my ribs and my hips. It is now classified metastatic breast cancer. There is no cure. The average life expectancy after

metastasis is two to three years. Since my diagnosis, I have had 18 more chemotherapy treatments for a total of 47, 15 more radiation treatments to my spine and eight more to my hip for a total of 53 treatments. I will be in treatment until I die. I will be in treatment until I die. Presently I receive chemotherapy every three weeks and take prescription medicine daily.

I am constantly fatigued both mentally and physically and need to take multiple rests daily. My body has changed tremendously and is always sore. Prior to my diagnosis I was in perfect health, always active between work and working out. I ate well, never smoked and hardly ever drank. I always had tremendous energy. Of course that is no longer true.

I have a great wife and we have a 12-year-old daughter. This disease has not only ravaged me, it has ravaged my entire family. It has impacted my daughter severely. She is not confident of her future with me and I am not confident of my future with her. I have no idea if I will see my daughter graduate high school, go to college or get married.

Before my diagnosis I had been a very productive person. I feel like such a burden to everyone especially my wife and daughter. I am no longer able to work due to the devastating side effects and physical limitations from my treatments and surgeries.

The water contamination at Camp Lejeune has wreaked havoc on my family and me. On August 1, 2008, I received a letter from the Department of the Navy stating unregulated chemicals were discovered in some of the base drinking water systems in the early 1980s at Camp Lejeune. The Hadnot Point water distribution system was one of those.

I had decided to move forward with genetic testing for the breast cancer gene at that point, which I tested negative for both of them. It was then that I really discovered and understood that my cancer came from my chemical exposure due to the chemicals in the drinking water at Camp Lejeune.

The wells were discovered to be contaminated in 1980 when I arrived. The Marines knew about it and said nothing, knowing full well we were bathing in and drinking contaminated water on a daily basis. The water reports all state that the wells were contaminated and action needed to be taken and nothing was done.

In March of 1982 a switch to Grainger Analytical Laboratories once again showed contamination and still nothing was done. I would also like to point out in 1974 the base commander declared organic solvents as a hazardous substance and then warned the commands at Camp Lejeune that improper disposal would result in the contamination of the drinking water.

After receiving my letter in August in 2008, I filled out the United States Marine Corps Water Registry as requested. It was then that Mike Partain contacted me and let me know that I was the seventh man that was diagnosed with male breast cancer from Lejeune, and that was in August of 2008. There are now currently 64 men with male breast cancer from Camp Lejeune.

I originally filed a claim for VA benefits on November 11, 2008, to be denied in April of 2009. I appealed the claim and requested a hearing, which I received in May 2010 in Boston, Massachusetts. I had one hour to present my information about

my case--the doctor's letters, letters from Dr. Clapp and Senator Kerry of Massachusetts.

My case was approved with 100 percent disability in August of 2010. This will greatly help my wife, my daughter and myself, and I hope the VA will continue to help veterans and civilians affected by the contamination.

Thank you for allowing me to speak.

[The prepared statement of Mr. Devereux follows:]

Prepared Statement of Peter Devereaux

Good morning, my name is Peter Devereaux I was in the Marines from Sep 1980-Dec 1984 and was stationed at Camp Lejeune from Dec 1980-April 1982. I was assigned to the 8th Communication Battalion in the French Creek area of Hadnot Point.

I was diagnosed with invasive ductal carcinoma, a very aggressive form of breast cancer on Jan 8th 2008. I had mastectomy surgery that involved removal of my left breast along with 22 cancerous lymph nodes on Jan 28th 2008.

The following month I began a 14-month treatment regimen which consisted of 29 chemotherapy and 30 radiation treatments along with daily medication.

My treatment was scheduled to end April 8th 2009 when it was discovered my cancer had spread to my spine, ribs and hip. It is now classified metastatic breast cancer, THERE IS NO CURE! The average life expectancy after Metastasis is 2-3 years. Since my metastatic diagnosis I have had 18 more chemotherapy treatments for a total of 47, and also 15 more radiation treatments to my spine and 8 more to my hip for a total of 53.

I will be in treatment until I die. Presently I receive chemotherapy every 3 weeks and take prescription medication daily.

I am constantly fatigued both mentally and physically and need to take multiple rests daily; my body has changed completely and is always sore. Prior to my diagnosis I was in perfect health; always active between work and working out, I ate well, never smoked and hardly drank. I always had tremendous energy; of course that is no longer true.

I have a great wife and we have a 12-year-old daughter. This disease has not only ravaged me it has also ravaged my entire family. It has impacted my daughter severely. She is not confident of her future with me nor am I of my own future with her. I have no idea if I will see my daughter graduate high school, go to college or get married.

Before my diagnosis I had been a very productive person; I feel like such a burden to everyone especially my wife and daughter. I am no longer able to work due to the devastating side effects and physical limitations from my treatments and surgeries. The water contamination at Camp Lejeune has wreaked havoc on my family and me.

August 1, 2008 I received a letter from the Department of the Navy stating ``unregulated chemicals were discovered in some of the base drinking water systems in the early 1980's at Camp Lejeune.'' The Hadnot Point Water Distribution system was one of those.

I then decided to move forward with genetic testing for the breast cancer gene (BRCA 1 and BRCA 2), which I tested negative for both. It was then that I really understood my cancer came from my chemical exposure due to the chemicals in the drinking water at Camp Lejeune.

The wells were discovered to be contaminated in1980 when I arrived, the Marines knew about it and said nothing, knowing full well we were bathing in and drinking contaminated water on a daily basis. The water reports all state that the wells were contaminated and action needed to

be taken and nothing was done.

In March of 1982 a switch to Grainger Analytical Laboratories once again showed contamination and still nothing was done. I would also like to point out in 1974 the Base Commander declared ``organic solvents as a hazardous substance'' and then warned the commands at Camp Lejeune that improper disposal practices could result in the contamination of the drinking water. (Ref: Base Order 5100.13B)

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

After receiving my letter in August in 2008, I filled out the USMC Water Registry as requested. It was then Mike Partain contacted me and let me know that I was the 7th man that was diagnosed with Male Breast Cancer that was in August of 2008. There are currently 64 men!

I originally filed a VA claim for benefits on Nov 11, 2008 to be denied in April 2009. I appealed the claim and requested a hearing, which I received in May 2010 in Boston, MA. I had 1 hour to present new information about my case with my doctors letters, and letters from Dr Clapp and Senator Kerry of Massachusetts.

My case was approved with 100% disability in August 2010. This will greatly help my wife, daughter and me and I hope the VA will continue to help veterans and civilians affected by the contamination.

Thank you for allowing me to speak.

Biography for Peter Devereaux

My name is Peter Devereaux I am 48 years old and I currently reside in Massachusetts. I was in the Marines from September 10, 1980 until December 7, 1984. I was assigned to Marine Corps Base Camp Lejeune in North Carolina and lived in the French Creek area of Hadnot Point from December 1980 until April 1982 with the 8th Communication Battalion. I was diagnosed with breast cancer on January 11, 2008. Seven months later I received a letter from the U.S. Marine Corps on August 1st, 2008 informing me that I was exposed to unregulated chemicals at Camp Lejeune.

My breast cancer has since metastasized to my spine, ribs and hip. On August 6, 2010, the Department of Veterans Affairs (VA) granted me a 100% disability linking my breast cancer to toxic chemicals I was exposed to in the drinking water supply at Camp Lejeune during my military service.

Chairman Miller. Thank you, Mr. Devereux. Mr. Devereux, Mr. Watters is not a Marine and you are. He said the Army has a slogan, ``Leave no comrade behind'' but did not know if the Marines have a similar slogan. Do the Marines have a similar slogan?

Mr. Devereux. Yes. You know, semper fidelis, always faithful, and you never leave a man behind, absolutely. Always protect your own.

Chairman Miller. Thank you.

Dr. Clapp, you are now recognized for five minutes.

STATEMENT OF DR. RICHARD CLAPP, PROFESSOR EMERITUS, DEPARTMENT OF ENVIRONMENTAL HEALTH, BOSTON UNIVERSITY SCHOOL OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH POLICY CONSULTANT AND MEMBER OF THE ATSDR CAMP LEJEUNE COMMUNITY ASSISTANT PANEL (CAP)

Dr. Clapp. Thank you, Mr. Chairman and Mrs. Dahlkemper and staff. I feel like I am an academic and almost never speak only

for five minutes, but----

Chairman Miller. Please try to keep it less than 50.

Dr. Clapp. I think the real teachers have already spoken, so I will be brief.

In your letter to me dated September 1st, you asked me to address several questions, so I will limit my oral comments to those questions.

First, I became involved with Camp Lejeune issue in early 2006 when I was asked by ATSDR to provide epidemiologic advice to the Community Assistance Panel. In the past 4-1/2 years since that time, I have attended meetings of the CAP, as we call it, meetings of other scientific advisory panels convened by ATSDR and in particular looking at epidemiologic and water modeling issues. My training is in epidemiology.

In addition, I have given comments to the National Research Council of the National Academy of Sciences on their draft consideration of the issues regarding the Camp Lejeune water contamination and I was a peer reviewer on a draft of their document, and then subsequent to the release of their document in 2009, I and some colleagues of mine expressed our disappointment in that report, which I can provide to the committee if you are interested.

The three specific questions that you asked me to address were the degree of contamination at Camp Lejeune. I think we have already heard that the degree of contamination was extraordinary in Camp Lejeune during the period especially while the measurements that were available were actually reported, as Mike Partain has indicated. At least one measurement in 1982 showed that in one of the drinking water treatment plants there was a 1,400-parts-per-billion level of trichlorethylene in the drinking water, and this is about 280 times what would currently be allowed in drinking water in this country, and it is five times the level that was found at about that same time in the water in Woburn, Massachusetts, which was the location of a childhood leukemia cluster that was subsequently investigated by several agencies and about which there have been books and a movie.

So I think that this was an extraordinary amount of contamination and one of the members of a 2005 National Academy of Sciences panel said that this was the largest drinking water contamination of any population of humans in this country from trichlorethylene. It turns out trichlorethylene is a widespread contaminant in this country but this was specifically referring to a discrete population with very high levels of trichlorethylene. This is the largest such exposure in our country's history.

The second question that you asked me to address was, based on my experience as an epidemiologist, what types of health effects might be expected from this kind of contamination of these chemicals that have been documented and you documented, Mr. Chairman, and it would be in my view a variety of cancers, some of which have been mentioned here today--breast cancer in males and females, kidney cancer or renal cell carcinoma, non-Hodgkin's lymphoma, bladder cancer, and then some reproductive effects in the offspring including childhood cancer, in my view, and also adverse reproductive outcomes such as birth defects, small for gestational age children, et cetera. These have been listed actually in a feasibility study that was done

by ATSDR staff. I have great respect for the ATSDR staff that have been working on this Camp Lejeune series of studies and their feasibility assessment actually lists a fairly long list of cancers and other adverse health effects that I would endorse.

And then the last question you asked me to address was, what steps might the Navy or the Department of Veterans Affairs take to determine presumptive disability in Camp Lejeune veterans, and the veterans themselves can avail themselves of the VA and the appeal process which has been described by two of the previous witnesses, and so I think that is already in motion. It is a case-by-case thing. I have participated in some of those cases myself as an expert providing information, but that takes too long, and I think that Congress needs to act, and an act that was done for Vietnam Veterans, the Agent Orange Act of 1991, may provide a model for actions such as could be taken with respect to Camp Lejeune.

I understand there is an act that has been proposed. I don't--I am not going to comment on the details of that. I am not a legislator nor have I ever been a staff member, but either of those approaches seems to me would move this forward.

Thank you for your time.

[The prepared statement of Dr. Clapp follows:]

Prepared Statement of Richard Clapp

I became involved with the Camp Lejeune issue in early 2006 when I was asked by ATSDR to provide epidemiologic advice to the Community Assistance Panel. In the past four and a half years, I have attended meetings of the CAP, meetings of other scientific advisory panels convened by ATSDR whose work focused on epidemiologic and water modeling issues at Camp Lejeune. In addition, I went on a tour of Camp Lejeune in February, 2008 and saw the various contamination sites and base components. Also in 2008, I provided input to the National Research Council committee considering the Camp Lejeune issues, and in 2009, I provided peer review comments to the NRC prior to release of its report.

1. The degree of contamination of drinking water at Camp Lejeune in the years between 1957 and 1985 is the highest I have observed in my career as an environmental epidemiologist. For example, the trichloroethylene concentration found in drinking water from one treatment plant in 1982 was 1,400 parts per billion. This is two hundred and eighty times the current allowable level of TCE in drinking water in the U.S. It is more than five times the highest level found in well water in Woburn, Massachusetts at about the same time as the childhood leukemia cluster was identified in that town.

A member of a 2005 National Academy of Sciences panel assessing the scope of contamination issues at Camp Lejeune described it as the largest human exposure to TCE from drinking water in this nation's history. There were hundreds of thousands of Marines, civilians and dependents exposed to a variety of contaminants over nearly three decades at Camp Lejeune. The historical reconstruction and modeling of the likely extent of the exposure is not completed, but it is already clear that this is an unprecedented situation that demands the level of attention that it is currently getting from the Committee.

2. Once the exposure modeling has been completed, it will be possible to examine the patterns of mortality from a wide range of cancers, including breast cancer, kidney cancer, and other diseases. The final water model can also be used in on-going studies of adverse reproductive outcomes and childhood cancer and in potential studies of

other non-fatal conditions such as some cancers, kidney diseases, autoimmune diseases such as lupus and scleroderma, and neurological diseases such as Parkinson's Disease. The mortality study recommended in 2005 is currently underway and will likely be very informative. Additional studies of non-fatal conditions will depend on the outcome of a health survey which is also underway.

3. Some of the steps that might be taken by the Navy or the Dept. of Veterans Affairs to determine presumptive disability in Camp Lejeune veterans have already begun. According to a presentation made to the Community Assistance Panel earlier this year, the VA considers veterans to have been ``exposed'' if they were resident at Camp Lejeune during a specific time period. The next requirement under the current VA procedures is a ``nexus letter'' from a competent medical authority that connects the specific disease or condition claimed by the veteran to the exposures documented at the base. This currently happens on a case-by-case basis and undoubtedly differs from one region or local office to another.

A more comprehensive approach could be taken along the lines of the Agent Orange Act of 1991. This legislation listed three conditions (two cancers and chloracne) that would be considered service-connected in those veterans who could document service in Vietnam. It also established a process for periodically reviewing the literature about other health effects and adding to the list of Vietnam Agent Orange service-connected diseases or conditions. This review is conducted by independent panels established by the National Academy of Sciences and has resulted in several biannual reports and a longer list of compensable diseases over the past two decades. I have participated in various stages of the Vietnam veterans Agent Orange compensation program and I recommend it for your consideration.

In addition to the above points, I was asked to comment on the 1997 Public Health Assessment of Camp Lejeune released by ATSDR. This was retracted in 2009 once it was revealed that a much larger amount of benzene had been released into the ground than was recognized at the time of the original report. The decision to retract the report was clearly required by the facts, but it would not have been necessary had the full extent of the benzene contamination been known in 1997. The recent information will need to be incorporated into the water exposure model used in the on-going and proposed health studies.

Biography for Richard Clapp

Dr. Clapp received his MPH degree from the Harvard School of Public Health in 1974 and his D.Sc. Degree in Epidemiology from B.U. School of Public Health in 1989. He was the founding Director of the Massachusetts Cancer Registry in the Department of Public Health from 1980-1989. Dr. Clapp has worked at two non-profit consulting companies, the JSI Center for Environmental Health Studies, and Tellus Institute. He joined the B.U. School of Public Health Environmental Health Department as a full-time Faculty member in 1993, where he is now Professor Emeritus. He is also on the Adjunct Faculty at the U. of Massachusetts--Lowell School of Health and Environment.

Dr. Clapp has done research and taught courses in epidemiology and environmental health. His research interests included the health effects of dioxin and Agent Orange, the health effects of ionizing and non-ionizing radiation, and other environmental exposures to toxic chemicals. He is a member of several professional organizations and served as an Associate Editor of Environmental Health Perspectives. Dr. Clapp is a member of the Community Assistance Panel for the Camp Lejeune health studies, for which he receives compensation from ATSDR.

Chairman Miller. Thank you, Dr. Clapp.

Mr. Hargett, you are now recognized for five minutes.

STATEMENT OF MICHAEL HARGETT, GENERAL DIRECTOR, ANCHIMERIC ASSOCIATES AND FORMER CO-OWNER OF GRAINGER LABORATORIES

Mr. Hargett. Thank you, Mr. Chairman. I appreciate this opportunity to discuss the drinking water analyses performed by Grainger Laboratories at the request of the United States Marine Corps at Camp Lejeune.

I am a former co-owner and vice president of Grainger Laboratories in Raleigh, North Carolina. Grainger Laboratories was founded in 1973 to provide analytical and consulting services to industry, government and commercial customers throughout the southeastern United States. Our services include drinking water analyses that were certified under the Safe Drinking Water Act, otherwise designated as Public Law 92-523. That Act has subsequently been amended and expanded several times.

The Safe Drinking Water Act applies to every public water system in the United States. There are currently more than 160,000 public water systems regulated by the Safe Drinking Water Act providing water to almost all Americans at some time during their lives. Safe Drinking Water Act and derivative legislation define public water systems as an entity that provides water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days per year.

The Safe Drinking Water Act was at that time, at the time of our service to the Corps administered by the State of North Carolina, Public Water Supply Section of the Department of Environmental and Natural Resources. They had a Water Supply Protection Program under a primacy agreement with the Environmental Protection Agency.

In 1970, Executive Order 11514 for Protection and Enhancement of Environmental Quality directed the Federal Government to provide leadership in protecting and enhancing the quality of our Nation's environment and to sustain and enrich human life. As a result, federal agencies initiated measures to direct their policies, plans and programs so as to meet national environmental goals. The Safe Drinking Water Act included clearly established goals that instituted standards for water quality, supply and appropriate distribution practices throughout the United States.

United States Marine Corps personnel at Camp Lejeune initiated discussions with my office in 1982 to determine their compliance with the Safe Drinking Water Act. Over the months that followed, our team assisted personnel in defining their compliance with the expectations of the State of North Carolina and also the Safe Drinking Water Act. We assisted them in identification and quantification of contaminants in the drinking water and discussed operating practices that could avoid exposure for the Marines, dependants and base personnel that were consuming this potable water supply.

Copies of our analytical reports and correspondence with base personnel have been provided to this committee and

agencies and contractors reviewing the history of water quality at the base and its associated housing units. Additional telephone discussions, trips to the base for meetings with utility personnel, and an attempt to bring to the attention of base personnel the implications of the contaminated water were included in our support to the base utility program.

The initial requests from the base required a statement of our qualifications as a certified laboratory to perform trihalomethane analysis under the Safe Drinking Water Act, sampling instructions, a formal price quotation and special sample containers that were both suitable and compliant with the established protocols for sampling, transport and preservation of the samples. The sampling required a bottle that would avoid the collection of bubbles or an air space so as to minimize the volatilization of the water content. This was a special technique that needed to apply a septum or membrane to the mouth of the bottle, and the sampling method was new to many utility personnel and frequently, training, re-sampling, sampling again and discussions were required from our office to make sure that we had a representative sample.

The first set of samples we received from the base were not in compliance with the Safe Drinking Water Act and had a very significant interference present. This interference was exceptional, and after discussions with the analytical chemist, Mr. Bruce Babson, and his supervisor, Mr. Paul Brafford, we decided to request an additional set of samples from the base. A second set of samples presented similar results. In discussions with our management team, a decision to define the interference at the expense of our company was made and chlorinated solvents were identified. We also determined the level of contamination in each of the samples. A decision to visit the base and initiate discussions. This decision was based on the potential health effects for the contaminants.

I visited the base myself with fresh sample bottles and met with the base chemist, a Ms. Betsy Betz, to obtain a third set of samples and discuss the implications of the contaminated water. Chlorinated solvents in the drinking water was deemed a hazard to consumers at the base and warranted delineation, control and mitigation of the risk. A third set of samples taken by myself was also not in compliance with the Safe Drinking Water Act and a monthly sampling for trihalomethanes was initiated. A campaign to define the well or wells generating the highest levels of trihalomethanes and the chlorinated solvents was also started. From the analytical results, you can see that the wells with the highest levels of chlorinated solvents were clearly established.

In a letter of August 10, 1982, Ms. Betz points out the health effects of exposure to the chlorinated solvents present in the drinking water and she appropriately points out that the pollutants are unregulated at that time. Her repeated reference to the toxicity of chlorinated solvents demonstrates concern and an awareness of the importance of the issue. I must ask why this urgent alarm was unanswered. Exposure to chlorinated solvents included liver, kidney, nervous system, and other disruptions to human physiology.

Another trip to the base was made to meet with the water well operators who were civilian employees. They were responsible for the daily operation of the wells. We visited

the wells with chlorinated solvents and discussed potential sources of the contamination. Information including hydrogeological data was not available that would have assisted in this determination. At the conclusion of the field discussions, I strongly suggested to Ms. Betz and the operator that the well field operation avoid those wells with high chlorinated solvent concentrations. It was agreed that it was a good idea and to quarantine that source. Afterward, in discussions with Ms. Betz, the health effects and issues of Safe Drinking Water Act compliance were further discussed.

One week later, Ms. Betz called my office to request that I come to the base and meet with base personnel--base utility personnel. I agreed to do so and suggested that would be a good time for an additional sampling. We met with the deputy utilities manager. This person was a uniformed lieutenant colonel, and after much deliberation I am unable to remember his name but I do remember being ushered into his office, the introduction by Ms. Betz introducing me as a person that was very familiar with water supplies in eastern North Carolina, compliance with the Safe Drinking Water Act, State of North Carolina, requirements, and stating that I was present to discuss the water quality issues at Hadnot Point and other residential supplies. The lieutenant colonel responded that this was something he would have to look into and we were summarily dismissed. The total time in the lieutenant colonel's office was less than five minutes.

Following the meeting, Ms. Betz apologized for the brusque treatment and explained that others would have to know about the problems. We went on to obtain additional samples that did show improvement in compliance with the Safe Drinking Water Act and a lower chlorinated solvent concentration. The operating well field conditions and parameters were unknown to me at the time of sampling.

Sampling continued, and a few months later an engineer from the State of North Carolina, Mr. Mike Bell, asked me if Grainger Labs was performing the certified analyses for the Marine Corps Base. I responded yes, and he asked for a copy of the analysis. I said I could not provide this report since it was the property of the government and I provided him contact information for Ms. Betz. A few weeks later at a meeting of the American Water Works Association state chapter, Mr. Chuck Rundgren, who was the chief of the water supply branch and Mr. Bell's supervisor, again asked me the same question. I gave him the same response and he asked if I had provided any recommendations to the base. I replied, ``Yes, and I hope your new field office in Wilmington is working with them.'' Mr. Rundgren replied that they were. I further replied that base needed assistance and his department would be of great value.

I left the laboratory in 1984 and the company was sold in 1985. Until being contacted my Mr. Mike Partain in 2009, I am unaware of any communications concerning the water quality at the base, our analysis, recommendations for water quality improvement or supplemental discussions being directed to myself or former employees of Grainger Labs.

Subsequent to leaving Grainger Labs, I continued an active profile in environmental compliance and consulting work and that included discussions with U.S. Navy personnel at the Atlantic Division, known as LantDiv, who were responsible for

environmental cleanup at the base. I remember asking about the contaminated drinking water and being told that there were several problems to be addressed at the base. No details were provided except a passing reference that a dry cleaning operation near the base was determined to be responsible for some of the contamination.

It is disappointing to know of an absence of response by the Marine Corps to the contaminated water conditions. I attribute this to be a lack of knowledge surrounding the Safe Drinking Water Act, conventional water utility operations and an unawareness of the toxicological potential of the contaminants. In retrospect, I genuinely regret that my organization and myself were not more diligent in presenting this hazard to base personnel for surely many would have been saved from this health hazard, the exposure, and if the Marine Corps was more alert and committed to corrective actions. The Marine Corps explanation in their historic dinking water brochure does not account for a direct historic perspective of the water quality and the exposure of base personnel. Instead, a reactive profile for corrections after the exposure of base personnel is present. There is no question that military personnel, dependants, and base personnel were exposed to a hazard and that corrections were eventually accomplished. The poor interest from the utility manager leads me to believe that the corrective actions were certainly slow and due to a lack of knowledge. I also question what the independent research initiative referenced in the brochure could accomplish with a literature study and no review of compliance analysis of the drinking water supply.

The presence of any contaminant in a potable water supply should drive a diligent pursuit of the source of the contamination. The fact that a contaminant is not a regulated compound is not a reason to simply ignore it. That indicator says there is something else in the water, there is a source, and in normal operations, the practice is to pursue that source, define it completely and certainly quarantine that water supply until you make that determination.

Most of the U.S. military bases were established as enclaves that were independent and self-sufficient. These same bases are now commonly bordered by municipalities with utility options that are superior to current base operations. The recent move for privatization by the Department of Defense may solve many of these operational problems.

With whatever path the utility operations for military facilities is improved, an oversight should continue to assure that the well-being of military personnel, their dependants and base personnel will be sustained.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Hargett follows:]

Prepared Statement of Michael C. Hargett

Subject: Drinking Water Analysis Performed by Grainger Laboratories for the United States Marine Corps Base, Camp Lejeune, North Carolina

I am Michael C. Hargett a former co-owner and vice president of Grainger Laboratories in Raleigh, NC. Grainger Laboratories was founded in 1973 to provide analytical and consulting services to industry, government and commercial customers in the southeastern United States. Our services included drinking water analyses that were certified under the Safe Drinking Water Act (SDWA) otherwise designated as Public Law

92-523.

The SDWA applies to every public water system in the United States. There are currently more than 160,000 public water systems regulated by the SDWA providing water to almost all Americans at some time in their lives. The SDWA and derivative legislation define public water system as an entity that provides ``water for human consumption through pipes or other constructed conveyances to at least 15 service connections or serves an average of at least 25 people for at least 60 days a year.''

The Safe Drinking Water Act was, at the time of our service to the US Marine Corps Base at Camp Lejeune, North Carolina (MCB) administered by the State of North Carolina, Public Water Supply Section of the Dept. of Environmental and Natural Resources, Water Supply Protection Program under a Primacy agreement that is still in place today.

In 1970 Executive Order 11514 for Protection and enhancement of environmental quality directed The Federal Government to provide leadership in protecting and enhancing the quality of the Nation's environment to sustain and enrich human life. As a result, Federal agencies initiated measures to direct their policies, plans and programs so as to meet national environmental goals. The SDWA included clearly established goals that instituted standards for water quality, supply and distribution throughout the United States.

In 1974 Congress enacted the Safe Drinking Water Act (SDWA) (P.L. 93-523, 88 Stat. 1660) to protect the quality of both actual and potential drinking water in the United States. Congress had created the SDWA in response to a nationwide survey that revealed health risks from inadequate public water-supply facilities, polluted supplies, and operating procedures that did not achieve a safe water quality. To achieve its goal the SDWA provides water quality standards for drinking-water suppliers, protects underground drinking-water sources, and directs appropriate deep-well injection of wastes.

The SDWA requires the U.S. Environmental Protection Agency (EPA) to regulate all ``public water systems,'' defined as systems that provide piped water for human consumption for at least sixty days a year to at least fifteen service connections or twenty-five people. The EPA does this through Primary Drinking Water Regulations, by which it first identifies contaminants that may pose a risk to human health and that occur in drinking water at potentially unsafe levels. Then the EPA specifies a Maximum Contaminant Level Goal (MCLG) for each contaminant, which is set at the level below which there is no predicted health risk. Finally the EPA creates a legally enforceable Maximum Contaminant Level (MCL), which is the greatest amount of contaminant that will be allowed in the public water supply. This MCL must be set as close as is feasible to the MCLG after taking into account the best technology, treatment techniques, and costs. Since the 1996 amendments discussed below, the EPA may instead require a Treatment Technique for removing the contaminant if there is neither an economically or technologically feasible MCL, nor an accurate way to measure the contaminant in water.

States generally obtain primary authority to implement the SDWA after proving to the EPA that they will adopt and enforce standards at least as stringent as the national standards. While the states may oversee the program, the public water systems themselves physically ensure the safety of the tap water through treatment, testing, and reporting. In addition to these ``at the tap'' protections, the SDWA requires states and public water suppliers to protect initial water sources from contamination. In particular, the SDWA provides for an Underground Injection Control (UIC) program to prevent contamination of underground water sources by underground injection of contaminated fluids.

Due to criticism that the original act was an inflexible, unfunded mandate with an unattainable regulatory schedule, the 104th Congress extensively amended the act in 1996 (P.L. 104-182, 110 Stat. 1613). These amendments included new pollution prevention approaches, public information requirements, added flexibility to the regulatory process, and a Drinking Water State Revolving Fund. Pollution prevention took the form primarily of source-water quality assessment programs to determine the current health of water supplies and delineate the area to be protected. In addition, public water suppliers were required to inform their year-round customers about the source and quality of their tap water with an annual consumer confidence report.

The most important element of the amendments was the critically necessary funding mechanism added to the SDWA's stringent water quality requirements. This fund provided federal monetary aid to public water systems to repair and upgrade their facilities, focusing particularly on assisting small and disadvantaged communities that might otherwise find these repairs too expensive. The fund also gave priority to programs using pollution prevention to safeguard their drinking water supply.

US Marine Corps Base personnel at Camp Lejeune, NC initiated discussions with my office in 1982 to determine compliance with the SDWA. Over the months that followed, our team assisted base personnel in defining their compliance with the expectations of the State of North Carolina and the SDWA, identification and quantification of contaminants in the drinking water supply, and discussions on operating practices that could avoid exposure for the Marines, dependants, and base personnel that were consuming this potable water supply.

Copies of our analytical reports and correspondence with base personnel have been provided to this committee and agencies and contractors reviewing the history of water quality at the base and its associated housing units. Additional telephone discussions, trips to the base for meetings with utility personnel, and an attempt to bring to the attention of base utility personnel the implications of the contaminated water were included in our support of base personnel.

The initial requests from the base required a statement of our qualifications as a certified laboratory to perform Trihalomethane (THM) analysis under the SDWA, sampling instructions, a formal price quotation, and special sample containers that were both suitable and compliant with established protocols for sampling, transport and preservation of the samples. The sampling required a sample withour bubbles or an air space above the sample to minimize volitization of the water content. A special technique was needed to apply a septum to the mouth of the sampling container for a full sample and later extraction through the septum without contaminating or releasing the targeted analytes. The sampling method was new to many utility personnel and frequently, training, resampling and discussions were needed to establish a representative sample.

The first set of samples we received from the base were not in compliance with the SDWA and had a significant interference present. This interference was exceptional and after discussions with the analytical chemist, Mr. Bruce Babson and his supervisor, Mr. Paul Brafford, we decided to request additional samples from the base. A second set of samples presented similar results. In discussions with the Grainger Laboratories management team, a decision to define the interference at the expense of our company was made and the chlorinated solvents were identified and the contamination level was established. A decision to visit the base and initiate discussions resulted.

I visited the base with fresh sample bottles and met with the Base

Chemist, Ms. Betsy Betz, to obtain a third set of samples and discuss the implications of the contaminated water. Chlorinated solvents in the drinking water was deemed a hazard to consumers at the MCB and warranted delineation, control and mitigation of the risk. The third set of samples taken by myself was also not in compliance with the SDWA and the monthly sampling for THM. A campaign to define the well or wells generating the highest levels of THM and chlorinated solvents was started. From the analytical results you may see that the wells with chlorinated solvents were established.

In a letter of August 10, 1982, Ms. Betz points out the health effects of exposure to the chlorinated solvents present in the drinking water and she appropriately points out that the pollutants were unregulated at that time. Her repeated reference to the toxicity of the chlorinated solvents demonstrates concern and an awareness of the importance of the issue. I must ask why this urgent alarm was unanswered. Exposure to chlorinated solvents incuded liver, kidney, nervous system, and other disruptions to human physiology. A more precise definition of the toxicological burden of these chemicals can be addressed by experts in this arena.

Another trip to the base was made to meet with the water well operators (maintenance personnel) who were responsible for the wells. We visited the wells with chlorinated solvents and discussed potential sources of the contamination. Information including hydrologic data was not available that could assist in this determination. At the conclusion of the field discussions, I strongly suggested to Ms. Betz and the operator that the well field operation avoid the wells with high chlorinated solvent concentration. It was agreed that it was a good idea to quarantene this source. Afterwards, in discussions with Ms. Betz, the health effects and issues of SDWA compliance were discussed.

A week later, Ms. Betz called my office to request that I come to the base to meet with base utility personnel. I agreed to do so and suggested that an additional sampling of current water quality would be appropriate. A meeting with the Deputy Utilities Manager for the base was set for the next week. This person was a Lt. Col. and after much deliberation I am unable to remember his name but I do remember being ushered into his office, Ms. Betz introducing me as a person that was very familiar with water supplies in eastern North Carolina, compliance with the SDWA and State of NC requirements, and stating that I was present to discuss the water quality issues at Hadnot Point and other residential water supplies. The Lt. Col. responded that this was something he would have to look into and we were dismissed. The total time in the Lt. Col.'s office chair was less than 5 minutes.

Following the meeting, Ms. Betz apologized for the brusk treatment and explained that others would have to know about the problems. We went on to obtain additional samples that showed an improvement in compliance with SDWA and lower chlorinated solvent concentrations. The operating well field conditions and parameters were unknown at the time of sampling.

Sampling at the MCB continued and a few months later, an engineer with the State of NC, Mr. Mike Bell, asked me if Grainger Laboratories was performing the water analysis for the MCB. I responded yes and he requested a copy of the analysis. I said I could not provide this report since it was the property of the Government and I provided the contact information for Ms. Betz. A few weeks later at a meeting of the American Water Works Association State Chapter, Mr. Chuck Rundgren, Chief of the Water Supply Branch and also Mr. Bell's supervisor, asked me the same question. I gave him the same response and he asked if I

had provided any recommendations to the base. I replied ,'' . . . . .yes, and I hope your new field office in Wilmington is working with them.'' Mr. Rundgren replied that they were. I further replied that they (MCB) needed assistance and his department would be of great value to them. No further discussion with NC Government personnel concerning the MCB is recalled.

I left the laboratory in 1984 and the company was sold in 1985. Until being contacted my Mr. Mike Partain in 2009, I am unaware of any communications concerning the water quality at the MCB, our analysis, recommendations for water quality improvement, or supplemental discussions directed to myself or any other former employees of Grainger Laboratories.

Subsequent to leaving Grainger Laboratories, I continued an active profile in environmental compliance and consulting work that included discussions with U.S. Navy personnel at the Atlantic Division (LANTDIV) who were responsible for environmental cleanup at the MCB. I remember asking about the contaminated drinking water and being told that there were several problems that were to be addressed at the base. No details were provided except passing reference that a dry cleaning operation near the base was determined to be responsible for some of the contamination.

It is disappointing to know of an absence of response by the MCB to the contaminated water conditions. I attribute this to be a lack of knowledge surrounding the SDWA, conventional water utility operations and an awareness of the toxicological potential of the contaminants.

The Marine Corps explanation in the Camp Lejeune Historic Drinking Water brochure does not account for adirector historic perspective of the water quality and the exposure of base personnel. Instead a reactive profile for corrections after the exposure of base personnel is present. There is no question that military personnel, dependents, and base personnel were exposed to the hazard and that corrections were eventually accomplished. The poor interest from the Deputy Utilities Manager leads me to believe that the corrective actions were slow. I also question what the independent research initiative could accomplish with a literature study and no review of the compliance analysis of the distributed water supply;.

Most of the US military bases were established as enclaves that were independent and self-sufficient. These same bases have now been surrounded by municipalities with utility operations that are superior to the independent, underfunded base utilities and with a higher quality set of resources than the Government installation. This deficiency is the responsibility of the US Congress and Department of Defense management.

During the last 15 years the Congress has moved to privatize military base electrical, gas, water, wastewater and other utilities to commercial and utility companies with superior operational knowledge, engineering, system capabilities, and financial resources. It is possible that this transfer of Federal assets will improve the quality of utility operations including water supply to insure reliable, consistent water quality for our base personnel.

With whatever path the utility operation for military facilities is improved, an oversight that assures the well being of military personnel, their dependants, and base personnel must be sustained.

Thank you for this opportunity to address the committee and support its interest in the well being of the US warfighter.

Biography for Michael C. Hargett

Mr. Hargett holds an undergraduate Bachelor of Science in Zoology

and Masters Degree in Microbiology from North Carolina State University. For the last thirty eight years he has worked to apply new technologies to environmental challenges. He has been active in testing, evaluation, feasibility, demonstration and application of advanced technologies providing economical, reliable options for industrial, government and institutional compliance and environmental remediation problems.

Mr. Hargett has successfully used innovative new solutions for his work with municipal and industrial water and wastewater plants, super-fund site remediation, hazardous waste minimization, chemical weapons demilitarization, Chemical-Biological-Radiological-Nuclear-explosives protection and security, and refining of radioactively contaminated materials from nuclear operations for beneficial reuse as clean/safe metals.

He is currently the General Director of Anchimeric Associates and provides consulting services for new technologies in emerging markets. His responsibilities include sponsorship, strategic planning and leadership of new products, technologies and programs for environmental problems and challenges.

Chairman Miller. Thank you, Mr. Hargett.

At this point we will begin our first round of questions. We will probably be interrupted by votes in a short while. The Chair now recognizes himself for five minutes.

Dr. Clapp, I am not sure I have seen two witnesses' testimony that was as different as yours and General Payne's. In his written testimony, he says, ``Currently, scientific studies haven't determined reliably whether diseases and disorders experienced by former residents and workers at Camp Lejeune are associated with their exposure to contaminants in the water supply because of data shortcomings and methodological limitations.'' Do you agree with that?

Dr. Clapp. Well, the studies of Camp Lejeune residents and family and dependants are still ongoing, so I suppose there are no finished--well, even studies that are finished are now being reevaluated because of additional information about what was in the water, so what we have to look at in coming to some kind of determination in this matter is other places where people have been exposed to these same chemicals. There is plenty in the literature about trichlorethylene, perchlorethylene and benzene and their health effects. So I guess it is true that the full scope of Camp Lejeune resident and dependent studies is not finished yet but that doesn't mean we don't know enough to act.

Chairman Miller. So knowing what you do about the extent of the exposure, the levels of contamination of TCE, PCE and benzene, do you think it is correct that we do know that there are consequences?

Dr. Clapp. Absolutely, yes.

Chairman Miller. Okay. Also in his testimony, General Payne said, ``I want to begin by saying that the welfare of our Marines, their family members and our civilian employees is always of paramount importance to us in an organization and as individual Department of the Navy leaders,'' but at the same time does discuss the lack of regulations, that these chemicals were not subject to regulations, the Safe Drinking Water Act at the time. Mr. Hargett makes that point in his testimony. What was the state of the science in the early 1980s about the effect of TCE and PCE, even if they were not specifically

forbidden by the Safe Drinking Water Act? What did we know about the consequences of exposure to those chemicals?

Dr. Clapp. Well, and benzene. Benzene a lot was known about by the early 1980s. TCE was, as I mentioned, the contaminant of most concern in Woburn, Massachusetts, and that came to national attention in 1979, and in the early 1980s there were several studies actually, one by the state health department, one by researchers at Harvard School of Public Health, and the Dana Farber Cancer Institute, that suggested a number of childhood illnesses and childhood leukemia were associated with exposure to contaminated water, primarily with trichlorethylene, and that was known in the early 1980s. Studies in New Jersey had been done, or either had been done or were underway at that point, again showing adverse reproductive outcomes in people who lived in towns that had contaminated drinking water. Colleagues from ATSDR previously worked at the New Jersey Health Department and carried out those studies. So I would say that there was some convincing evidence in the early 1980s that these kinds of things in drinking water were harmful for at least children and perhaps adults as well. And then for workers, lots was known about both of these chemicals, all three of these chemicals.

Chairman Miller. Mr. Partain, perhaps with the exception of lawyers and perhaps some of the ATSDR experts, you probably know more than anybody about the documents, Camp Lejeune's documents. You have emphasized in your testimony that many of the documents about the contamination of the drinking water have really just become public in the last year. Do you believe that the failure to discover those documents was that the Navy simply didn't know they had them or what do you think?

Mr. Partain. Well, as the polluter, the Navy and the Marine Corps have the responsibility to retain these documents and know what they have, and this electronic portal that was discovered accidentally by ATSDR in March of 2009 was a repository for the Hadnot Point fuel farm UST program and contained in that repository was the documentation that the fuel loss at Hadnot Point was 1.1 million gallons of fuel. Now, prior to discovery of this information in that portal, the Marine Corps had informed the media, the public, Congress that according to their inventory records, up to 50,000 gallons of fuel had been lost at Hadnot Point. There is a big disparity between 50,000 gallons and 1.1 million gallons of fuel in the groundwater, and I would like to see the Navy and the Marine Corps produce written notification--or, I am sorry--produce documents, written documents showing that they notified the Marine Corps--I mean the ATSDR of this information, which has affected their studies.

Chairman Miller. Thank you, Mr. Partain.

My time is expired. I am going to set a good example to others. I will now recognize Dr. Broun for five minutes.

Mr. Broun. Thank you, Mr. Chairman.

I would like to ask the three patients, I consider patients, as well as your testimony, and I apologize for having to leave for a few minutes; I am very well aware of your testimony, but what is your assessment of the claims appeals process in which you have participated and succeeded as well as the ongoing status of disability approval for the rest of Camp Lejeune veterans? Let me start with Mr. Partain.

Mr. Partain. Well, as a dependant child of a Marine officer, I do not qualify for VA care nor have I made a claim in the VA because of that. My care was given to me through my private insurance I had with my employer, and even with that, it put my family to the brink of bankruptcy.

I have talked to Mr. Devereux and some of the other veterans who have gone through the VA process, and it has been nothing short of a nightmare, from what I understand. A lot of these people that do put the claims in are denied. Many of them give up and walk away thinking that there is no way they can prove this. They are frustrated by their medical doctors, you know, not being able to provide a nexus letter because of, for lack of a better word, fear that they will be ridiculed in the professional community.

Mr. Broun. Mr. Devereux.

Mr. Devereux. Yeah, I want to just say not only is it personally devastating to be diagnosed with something like this and then you feel like you have to beg, you know, for something like you have to prove that you are right, you know. It was really not only am I am physically challenged now, of course financially, it affected my family tremendous. We made unbelievable changes. So it was very difficult to go through this process, and I really hope that they can speed up the process for people. There is a lot of people in my situation that unfortunately don't have a lot of time to live based on the past results, you know, so it would be nice if they could really expedite the process for a lot of people and I commend them for at least allowing me benefits and a few other people. I hope they can continue this type of action in a more speedy process.

Mr. Broun. Mr. Watters?

Mr. Watters. My experience with the VA claims process was that the denials I got apparently came from people who were extremely inexperienced. There were lots of errors, lots of mistakes in the written reason for the denials, and it was only when I was able to talk with a decision review officer who is a senior person who has much more experience that I was able to get the message across.

The other thing is, as I mentioned, I had resources available to me in the medical school that most veterans don't have. Had I not had those, I would still be fighting with the Veterans Administration on my claim. I think the speed of the process or the slowness of the process is a major issue, and as Mr. Partain knows, I had reached a level of frustration and I even stated this in writing, I was planning on going down to the VA office in Waco. I was going to publicly announce a hunger strike. I was going to stop all of my cancer medications in order to try to speed the process and get someone at the VA at the regional office in Waco to listen to what I had to say.

Mr. Broun. Thank you, sir.

Certainly, as one who believes very strongly in fulfilling the government's promise to veterans and their families, I am very eager to pursue this further with all of you all because I believe very firmly that the VA needs to take care of our veterans, once they have left the military, and their families also. It is a sacred duty that we have.

Dr. Clapp, you suggested the Department of Veterans Affairs determine a presumption classification for veterans exposed

while they were residents at Camp Lejeune similar to legislation that established the classification for Agent Orange. What is the difference in the scientific knowledge between these cases and how many veterans make claims to the VA for diseases resulting from exposure to Agent Orange before Congress passed that legislation?

Dr. Clapp. Two very complicated questions. The state of the knowledge----

Mr. Broun. You have 16 seconds to answer.

Dr. Clapp. I would say the state of the knowledge is comparable actually. When we started out with the Agent Orange Act in 1991, there was quite a bit of published literature by then, including some of my own.

And then how many claims have been filed by Agent Orange exposed, I don't have that off the top of my head. The VA certainly can tell you that.

Mr. Broun. Thank you so much.

Mr. Chairman, my time is expired. I yield back.

Chairman Miller. Thank you.

Mrs. Dahlkemper is recognized for five minutes.

Mrs. Dahlkemper. Thank you, Mr. Chairman.

I want to thank all of you for being here today. I am from western Pennsylvania, a fair distance from Camp Lejeune but I have a gentleman in my district who I have met who spent time at Camp Lejeune named Cliff Armstrong who has suffered terrible ailments which he believes are a direct result of the time that he has spent there. He fears it will be impossible for him to win a disability claim from the VA, so I appreciate the time each one of you has dedicated to the men, women and their families who spent time at Camp Lejeune during those years, and I applaud your courage in continuing to fight for your rights and the rights of all those who really do need a voice, and I thank you for being that voice for so many.

Mr. Partain, you seem to have really got great information on this whole case. What is the incidence of breast cancer in the general public of men in our country?

Mr. Partain. Well, according to SEER, which is the Surveillance Epidemiology and End Results, the occurrence of male breast cancer in the general population is generally one in 100,000. The average, the percent chance a male has of experiencing breast cancer in his lifetime from birth to age 85 is .01 percent, and the younger the man is at diagnosis, the rarer the cancer. Generally, male breast cancer is seen in men at age 70 or older.

Mrs. Dahlkemper. And of those who contract it at a younger age, do they normally have the marker, the genetic marker?

Mr. Partain. Yeah, the BRCA markers are, like in women it is a significant marker for breast cancer risk. In men, a lot of the breast cancer in men are associated with the marker, and the absence of the markers does increase the rarity of the cancer.

Mrs. Dahlkemper. You don't know what those figures are, do you?

Mr. Partain. I don't have them off the top of my head.

Mrs. Dahlkemper. Dr. Clapp, would you know that?

Dr. Clapp. Not off the top of my head.

Mr. Partain. I did have the genetic testing. The people told me there that without the markers, my chance would drop

down to like .05 percent in the general population.

Mrs. Dahlkemper. I mean, I know it is very rare in the general public.

Mr. Partain. Yes, the average is about 1,900 men per year are diagnosed with breast cancer out of a total of 235,000 people diagnosed with breast cancer annually.

Mrs. Dahlkemper. Thank you.

Dr. Clapp, in the two years that the Marine Corps knowingly allowed the Marines and their dependants to continue to drink that polluted water, do you have any how many Marines and their dependants would have been exposed to benzene, TCE or PCE?

Dr. Clapp. I think the water modeling process that is going on right now would answer that question. It is not finished yet, especially the benzene part is still being worked on, so I don't think there is a way to answer that question quite yet.

Mrs. Dahlkemper. When will we have that information and how soon do they think they will have that?

Dr. Clapp. I think the next panel will have that.

Mrs. Dahlkemper. Okay. I appreciate that. And so you already talked about some of the kinds of diseases that are associated with such exposures, and so you don't have any hard numbers on those diseases yet either?

Dr. Clapp. That have occurred in Camp Lejeune veterans and families? Not yet.

Mrs. Dahlkemper. Okay.

Dr. Hargett, do you believe that the Marine Corps knew, that they understood when you came in front of them with your test results of the potential harm to human health of those that were being exposed?

Mr. Hargett. That would be somewhat speculative on my part, but no, I don't think they had an awareness of the nature of the contaminant or its potential impact. I don't think I was dealing with utility personnel other than the base chemist that understood what a chlorinated solvent was. The priority for the base utility personnel is to make sure that, number one, the water was sanitary, and secondly, that there was an adequate supply in the line at all times. Those were the priorities for the operators. The chemical nature of the water was not a concern.

Mrs. Dahlkemper. So the woman that you had met with----

Mr. Hargett. Ms. Betsy Betz.

Mrs. Dahlkemper. You don't believe that she understood?

Mr. Hargett. She sought to understand. She asked many questions, and I gave her references, and indeed, she did her own research to determine what the impact of this contaminant was in the water, and I think she was genuinely concerned over the dependants and Marines that were consuming it.

Mrs. Dahlkemper. And then in the short meeting that you had that lasted less than five minutes, as you said, I think it was with--was it with a----

Mr. Hargett. A Lieutenant Colonel.

Mrs. Dahlkemper. Were you able at all to talk about the effects of these chemicals?

Mr. Hargett. No. Ms. Betz presented him a rather large stack of our reports and her own memos concerning the water and he simply put those to the side and then we were dismissed, but I did not have any opportunity to discuss the significance, and I had made some preparation to do so, but no, we did not have

an opportunity to have a discussion about that water.

Mrs. Dahlkemper. Well, my time has expired, and I will yield back.

Chairman Miller. Thank you.

We have been called to votes but we have some time to get there, so perhaps we can get a shortened second round of questions in, excuse this panel, then we need to go to votes, and then have the second panel when we return for votes.

Mr. Watters and Mr. Devereux, both of you have now had your claims honored but Mr. Partain is not a veteran. He is a dependant. Do you think it is fair that you are being compensated and Mr. Partain is not?

Mr. Devereux. No, I absolutely do not. I think even in my statement, if I didn't publish, I apologize, but one of the things that I did agree on, not only was it just the Marines, the dependants, the civilians, I mean, he was really still part of the Marine Corps really. At Camp Lejeune, I mean, there were civilians also that I think should be under this, absolutely, no question about it.

Chairman Miller. Mr. Watters?

Mr. Watters. I am very concerned about the dependants, about the folks who cannot file a claim with the VA. I am also very concerned about the civil service personnel. The base had a huge civil service population and those people, many of those people worked there for 20 or 30 years and they drank this water. You know, I don't even know what their status is but I think it would be unfair to not address their concerns and do something about their health issues.

Chairman Miller. Mr. Hargett, one of the peculiar arguments is that the Marines did not act more quickly because they knew that the water was contaminated with PCE and TCE but didn't know the source of it and therefore they did not act because they didn't know the source. When I have seen a fire truck careening down the street with sirens going, I would assume that they were in a hurry to get to a fire to put it out, not to get to a fire to investigate the source of the fire. Does it make sense to you that they would not close the well when they knew that it was contaminated, even if they did not know the source?

Mr. Hargett. Mr. Chairman, it was--this one particular well, the 602 well, was one of six or eight wells in the field. Now, this was a field of wells drawing water from a rather shallow aquifer. That contaminated area would have been influenced by a local source. It would have been very easy to simply shut that well down, and that was the recommendation that I gave Ms. Betz and the operator, to not use that well.

Chairman Miller. Dr. Clapp, quickly on the same point.

Dr. Clapp. I am sorry. The----

Chairman Miller. Does it make sense not to close the well if you don't know the source of the contamination but you know that it is in fact contaminated at the levels that we now know what we knew then?

Dr. Clapp. I think it makes no sense not to close such a well.

Chairman Miller. Okay. Without knowing the source?

Dr. Clapp. Correct.

Chairman Miller. Okay. I will now recognize Dr. Broun for a shortened period of time.

Mr. Broun. Thank you, Mr. Chairman.

Mr. Hargett, did you test water samples from other sites listed on the national priority list, and if so, how did the Department of Defense's response to the results you communicated differ from the response from other government entities facing similar situations at the time?

Mr. Hargett. Most of our services for Safe Drinking Water Act compliance were for municipalities. Those municipalities were very concerned of any contamination of any kind that would show up in their water supply. If, for example, the city of Jacksonville adjacent to the base would find a well with anything, any contaminant, either chemical or biological, they would isolate that well and take it out of service until they knew what was going on in that well. We did not do additional priority pollutant analyses or additional screening. Our focus from the start was identifying the interference to our trihalomethane analysis. We wanted to know why we had trouble in getting an accurate quantification. So we focused on that area, the chlorinated solvents, because it interfered with our tests. We did not do additional survey work. It was discussed with Ms. Betz that additional evaluation was needed but we had no further activity in that area.

Mr. Broun. Did you test any other wells besides those on Camp Lejeune, any in the general area?

Mr. Hargett. We did the neighboring wells for the city of Jacksonville. We did analyses throughout eastern North Carolina for compliance. This was a regulatory requirement from the State of North Carolina that they define the level of trihalomethanes and report to the state those results.

By the way, there was some absence of reporting protocol from the base, and that was part of the reason that the water supply section was concerned. If we were doing the analyses, where were their quarterly reports?

Mr. Broun. Did you find any contamination in other wells besides those specifically on the base that eventually were closed?

Mr. Hargett. No.

Mr. Broun. No other place?

Mr. Hargett. No other water supply systems in that area did we find that contaminant.

Mr. Broun. But you did extensive testing in areas other than at Camp Lejeune itself?

Mr. Hargett. That is correct.

Mr. Broun. Okay. I yield back, Mr. Chairman.

Chairman Miller. Thank you.

Mrs. Dahlkemper is now recognized for two minutes.

Mrs. Dahlkemper. Thank you, Mr. Chairman.

Dr. Clapp, both Mr. Watters and Mr. Devereux, and I would say probably Mr. Partain might say the same thing, that if they had known of their exposure earlier, that they would have been more careful in monitoring their physical state for any kind of cancers that possibly could be caused by benzene, TCE and PCE. As it is, their cancers were identified late and they now are suffering the terrible consequences of that. The Navy only notified Lejeune veterans of problems with benzene, TCE and PCE in 2008 after Congress made them do it. If the Navy had acted earlier, say in the 1990s even, do you believe that it would have made a difference in the lives of not only those who are

sitting here on this panel but maybe the lives of people who are no longer with us?

Dr. Clapp. Yes, I do. I mean, I think it is sort of axiomatic that earlier diagnosis produces a better outcome. So if people had been notified, had gone to their physicians, gotten checked for, for example, kidney cancer or even male breast cancer, there would have been an earlier diagnosis of those tumors and less damage as a result.

Mrs. Dahlkemper. Can I just ask your opinion of this booklet?

Dr. Clapp. I haven't had a chance to review it.

Mrs. Dahlkemper. You haven't had a chance to review it. Okay. I just was wondering.

Well, I know that our time is limited because we have to go vote, but the booklet claims that there is no scientific studies that have shown an association between pollutants in water and human health outcomes, and so is there no literature on the exposure to these chemicals?

Dr. Clapp. There is lots of literature that I think I have referred to.

Mrs. Dahlkemper. Thank you very much, and I yield back.

Chairman Miller. Thank you.

We now thank this panel, and they are excused, and when we return from votes, probably in perhaps half an hour, we will have the second panel. Thank you very much. We will be at ease.

[Recess.]

Panel II

Chairman Miller. We will now begin with the second panel and--yeah, but I haven't introduced them yet. It is my pleasure to introduce our second panel. First is Major General Eugene G. Payne, Jr., the Assistant Deputy Commandant for Installations and Logistics for the Headquarters of the United States Marine Corps. Dr. Chris Portier is the new Director of the Agency for Toxic Substances and Disease Registry (ATSDR). I have asked that he be accompanied by Mr. Frank Bove of (ATSDR) who is familiar with these issues. Dr. Portier is new to this task, but Mr. Bove has worked on Camp Lejeune analysis for many years. And Mr. Thomas Pamperin is the Assistant Director under Secretary for Policy and Program Management of the Veterans Benefits Administration for the U.S. Department of Veterans Affairs.

As all of you should know by now you will have five minutes for your spoken testimony, your written testimony will be included in its entirety in the record for the hearing. And when you have completed your spoken testimony we will have questions from the members and each member will have five minutes to question the panel. It is the practice of this Subcommittee to take testimony under oath. Do any of you have any objection to taking an oath? Let the records reflect that none of the witnesses had any objection to taking an oath. You may also be represented by counsel. Do you have personal counsel here? And let the records reflect that all the witness said that they have no personal counsel here. If you will now please stand and Mr. Bove, if you could stand as well. Do you swear to tell the truth and nothing but the truth? Okay, the record should reflect that all the witnesses and Mr. Bove did take the oath. We will begin with General Payne. General Payne,

you are recognized for five minutes.

STATEMENT OF MAJOR GENERAL EUGENE G. PAYNE, JR., ASSISTANT DEPUTY COMMANDANT FOR INSTALLATIONS AND LOGISTICS (FACILITIES), HEADQUARTERS, UNITED STATES MARINE CORPS

General Payne. Chairman Miller, Congressman Broun, Distinguished Members of this Subcommittee, thank you for the opportunity to appear before you and to participate in this hearing regarding past drinking water exposures at Marine Corps base Camp Lejeune. My name is Major General Grey Payne, and until recently I was the Assistant Deputy Commandant for Installations and Logistics for Facilities. I was responsible for Marine Corps facilities and services issues on our installations and bases to include environmental protection. I want to begin by saying that the welfare of our Marines, their family members, and our civilian employees is always of paramount importance to us as an organization and as individual leaders in the Department of the Navy. The Marine Corps is deeply concerned for any military or civilian families who are experiencing or have experienced health issues for any reason, and we understand that some believe their health conditions may have resulted from past exposure to the water at Camp Lejeune.

Beyond my duties as Assistant Deputy Commandant I also have a personal interest in this issue, as do many of us in the senior leadership of the Marine Corps. The Corps is and always has been a large family, and we all knew people who were stationed or worked at Camp Lejeune during their military careers. My first tour of duty was at Camp Lejeune in 1970. Many of my friends and most of the senior leadership of the Corps, both officers and enlisted were at Camp Lejeune during the period when this water was contaminated. We have a personal and professional interest in finding answers to questions about the health of our Marine families. The best way to provide those answers at the present time is for us to continue to support scientific studies that will improve our knowledge of the situation. The Department of the Navy has funded $22 million in such scientific efforts and we are committed to working closely with ATSDR and other scientific organizations in the quest for answers.

As for any issue that impacts the public, accurate dissemination of information is imperative. The Marine Corps takes this responsibility seriously and will continue to keep our Marine family informed of the scientific findings and reports regarding those studies. The Marine Corps continues to operate a call center, an internet based notification registry in conjunction with a robust radio, print, and internet advertising campaign that has resulted in over 163,000 individuals on our registry.

In closing, I want you to know that I have received and responded to many letters and have personally spoken with individuals who feel that they have been harmed by past Camp Lejeune water. Their situations are often sad and my heart goes out to them. The Marine Corps is committed to fully and properly utilizing the tools available to support our Marines, family members, and civilian employees. I look forward to answering your questions. Thank you.

[The prepared statement of General Payne follows:]

Prepared Statement of Eugene G. Payne, Jr.

Representative Miller, Representative Broun, distinguished Members of the Subcommittee; thank you for the opportunity to appear before you and participate in this hearing regarding past drinking water exposures at Marine Corps Base Camp Lejeune. My name is Major General Gray Payne and until recently, I was the Assistant Deputy Commandant for Installations and Logistics for Facilities. I was responsible for Marine Corps facilities and services issues on our installations, to include environmental protection.

I want to begin by saying that the welfare of our Marines, their family members, and our civilian employees is always of paramount importance to us as an organization and as individual Department of the Navy leaders. The Marine Corps is deeply concerned for any military or civilian families who are experiencing or have experienced health issues for any reason and we understand that some may believe their health conditions resulted from past exposure to the water at Camp Lejeune.

Beyond my duties as Assistant Deputy Commandant, I also have a personal interest in this issue, as do many of us in the senior leadership of the Corps. The Marine Corps is and always has been a large family, and we all know people who were stationed or worked at Camp Lejeune during their military careers. My first tour of duty was at Camp Lejeune in 1970. Many of my friends and most of the senior leadership of the Marine Corps, both officer and enlisted, were at Camp Lejeune during the period when the water was contaminated. We have a personal and professional interest in finding factually and scientifically supported answers to questions about the health of our Marine families. The best way to provide those answers at the present time is to support scientific studies that will improve our knowledge of the situation. We will also keep our Marine family informed of the scientific findings and reports regarding these studies. The Marine Corps is primarily a war-fighting organization, not a scientific one. In order to accomplish this scientific mission for our people, we are funding and receiving assistance from independent, objective, well-recognized leaders in the scientific community. In this situation we rely on the expertise of scientific organizations like the Agency for Toxic Substances and Disease Registry (ATSDR), in the Department of Health and Human Services, and the National Academies, National Research Council (NRC) to inform our understanding of the ``state of the science'' on these important issues. The Department of the Navy has funded $22 million in scientific efforts and has exhausted countless hours in direct support of research initiatives.

As with any issue that impacts the public, prompt and accurate dissemination of information is imperative. The Marine Corps takes this responsibility seriously and will continue to inform those who lived or worked at Camp Lejeune about any new developments. The Marine Corps operates a call center and internet-based notification registry to collect contact information from anyone who may have concerns about past water contamination at Camp Lejeune in order to provide current information to them. The Marine Corps is also continuing its robust outreach campaign including radio, print and internet advertising. Our efforts have resulted in over 163,000 individuals joining our notification registry.

In addition to our communications with the public, the Marine Corps will continue to support and cooperate with the independent organizations like the ATSDR, Department of Veteran's Affairs, and others in an effort to get answers for those of our Marine Corps family and keep them informed of our progress.

KNOWLEDGE OF PAST ENVIRONMENTAL CONTAMINATION

In 1981, Camp Lejeune officials became aware that volatile organic compounds (VOCs) were interfering with the analysis of potable water samples that were being collected in preparation for the implementation of future drinking water standards for Total Trihalomethanes (TTHM). Sampling conducted by a Navy contractor revealed that another chemical present in the water sample was interfering with the analysis; however, the specific type of chemical and source were unknown. Base personnel continued to sample the water for TTHMs over the next several years using various laboratories with varying results. Through targeted sampling in 1982 the Base detected that two of Camp Lejeune's eight public drinking water systems contained trichloroethylene (TCE) and perchloroethylene (PCE). TCE and PCE are chemicals commonly found in degreasing agents and dry cleaning solvents, respectively. It is important to note two key points. First, there were no drinking water regulations in place for TCE or PCE at the time of this discovery. Second, although the chemicals were identified in the drinking water systems, their origin remained unknown.

In the early 1980's, the Naval Assessment and Control of Installation Pollutants (NACIP) program, a predecessor of the current Department of the Navy (DON) Installation Restoration (cleanup) Program, was already in the process of identifying contaminated sites on Base for further sampling and investigation. Plans were in place to sample potable wells near the identified contaminated sites. It was this sampling that eventually identified, between late 1984 and early 1985, individual wells drawing groundwater containing TCE, PCE and other VOC's such as benzene. Base officials engaged in a concentrated effort to sample all wells on the installation as soon as they learned that the first well was impacted in late 1984. The Base completed this evaluation effort in 1985. If and when the Base officials received information that a well was contaminated, it was promptly removed from service.\1\ Although the Base began its proactive responses in 1984, initial Safe Drinking Water Act regulation of these VOCs did not begin until three years later. Final regulations were not in force for TCE and benzene until 1989 and not until 1992 for PCE.

\1\ A separate investigation by the State of North Carolina in 1985 revealed leaks from an off-base dry cleaner had contaminated the wells near the Tarawa Terrace housing area. The Hadnot Point water system was contaminated by on-base sources.

It is important to keep in mind that the events surrounding this situation occurred anywhere from 25 to over 50 years ago. Environmental standards and regulations have changed dramatically over the intervening years as a result of advances in scientific knowledge and increased awareness. The events at Camp Lejeune must be considered in light of the scientific knowledge, regulatory framework, and accepted practices that existed at the time, not in the context of today's standards.

NOTIFICATION

Camp Lejeune first notified military personnel and family members about the drinking water issue on December 13, 1984 through an article appearing in Camp Lejeune's newspaper, The Globe. Camp Lejeune also distributed a public notice to residents of Tarawa Terrace on April 30,

1985. In May 1985, Camp Lejeune issued a press release announcing the water contamination problem. In that press release the Base explained the steps planned to restore water services to the affected base residents. Following a May 1985 Camp Lejeune press event, the Jacksonville Daily News, Wilmington Morning Star, and Raleigh News and Observer printed several stories on the situation and further disseminated the information. These were just the early steps in what evolved into a 25 year public outreach campaign.

From 2000 through 2001, the Marine Corps undertook an extensive outreach campaign in support of ATSDR's children's health survey - including press briefings and releases, messages to Marines world-wide, stories in base publications and websites, and a town hall meeting in Jacksonville, North Carolina. These efforts resulted in numerous stories in local and regional print and television news outlets across America. Because of the Marine Corps outreach efforts, ATSDR was able to obtain enough respondents to continue their current epidemiological study on birth defects and childhood cancers.

Congress later became interested in the public outreach program, resulting in the FY08 National Defense Authorization Act mandate that the Secretary of the Navy attempt to directly notify former residents of Camp Lejeune of their potential exposure to the chemicals. The Act also required that ATSDR develop a health survey to be included with the notification letter. On September 14, 2007, the Marine Corps posted a link to the registration database on its website (www.marines.mil/clsurvey) to provide easy access for former Camp Lejeune residents and workers, as well as other interested parties, to register to receive updates on the ongoing studies or information about other new developments on this important issue. The Marine Corps also created an enhanced call center, which became operational on September 17, 2007, to allow people to register by phone. Each new registrant receives a welcome packet that includes information about the issue and points of contact for additional information.

The Marine Corps continues to encourage former base residents and workers to register through general notification efforts. These general notifications include articles and/or advertisements in newspapers such as USA Today; periodicals such as Time, Newsweek, Sports Illustrated, and Good Housekeeping; internet advertisements on general consumer websites such as WebMD, Weather.com, and NFL.com; military related websites such as the Leatherneck, U.S. Navy Institute, and the Vietnam Veterans Association; internet search engines such as Yahoo and Google; and radio broadcasts. In addition, the Marine Corps sendt posters to Veterans of Foreign Wars District Offices, Veterans' Centers, commissaries, and Veteran's Affairs treatment centers across the country. To date, more than 163,000 individuals are on the registry. We receive new registrations each week, and we continue our pro-active outreach efforts.

COORDINATION WITH DEPARTMENT OF VETERANS AFFAIRS

As part of the Marine Corp's robust outreach and notification campaign we have worked extensively with various Veterans Affairs (VA) offices. In 2007 and 2008 we sent notification and registry posters to over 200 VA centers in all 50 states as well as the US Territories and Washington, DC. We also sent copies of posters in 2007 and 2008 to Veterans of Foreign Wars District Offices and Military Treatment Facilities. In March 2009, we worked with VA public affairs personnel to prepare an email to alert VA program directors and other executives of new information about the water contamination; in particular, the

pending release of the National Research Council report regarding Camp Lejeune Water. The email established a direct communication mechanism for VA personnel to contact Headquarters Marine Corps for additional information and assistance. We currently provide periodic updates of our notification registry information to the VA to enable them to assist us in our outreach activities.

SUPPORT OF ATSDR HEALTH INITIATIVES

All military installations on the National Priorities List of hazardous waste sites, including Camp Lejeune which was listed in 1989, undergo a Public Health Assessment (PHA) conducted by the ATSDR to determine if there are any current or past health concerns resulting from past practices.

ATSDR first visited Camp Lejeune in 1991. Beginning with this trip, Camp Lejeune provided information to ATSDR as part of the development of the PHA; the Marine Corps continues to provide ATSDR open access to any potentially relevant data in our possession today. As a result of the PHA, the ATSDR recommended an epidemiological study of former Camp Lejeune residents to determine what effect, if any, the VOCs may have had on the health of children exposed prenatally, a population ATSDR considered to be the most susceptible to health impacts from VOCs. In support of this recommendation, a health survey was conducted in 1999 to identify children with certain health conditions who might be included in a case control study.

In 2000, ATSDR requested assistance from the Marine Corps to reach additional participants for the health survey started in 1999. At the time, ATSDR had approximately 6,500 participants and they needed more for a statistically valid study. The Marine Corps helped ATSDR identify participants eligible for the survey through targeted and global notifications. For example, in January 2000, Camp Lejeune held an ``open house'' with base residents and the Jacksonville community to discuss issues about the drinking water previously discovered to contain VOCs. In August 2000, Headquarters Marine Corps sent a message to all Marines worldwide in an effort to reach potential ATSDR survey participants. The Marine Corps published articles in numerous base newspapers including the Quantico Sentry, Camp Lejeune Globe, and Camp Pendleton Scout. Camp Lejeune sent a press release to other military base publications. In November 2000, Headquarters Marine Corps held a press briefing at the Pentagon asking media to assist in helping to reach potential survey participants. On January 25, 2001, Headquarters Marine Corps sent a second message to all Marines worldwide in an effort to reach potential ATSDR survey participants. In February 2001, the Marine Corps began regional media outreach efforts, and reached the following outlets:

(A) TV Stations--1027 outlets

(B) Daily Newspapers--1373 outlets

(C) Weekly Newspapers--1171 outlets

Total: 3571 media outlets contacted.

In order to support the ATSDR survey, in 2001, Headquarters Marine Corps obtained approval from the Department of Defense for a limited release of Social Security Number information covered by the Privacy Act to the ATSDR. Headquarters Marine Corps conducted extensive data

searches for contact information to help ATSDR locate potential survey participants.

Partly as a result of these efforts, ATSDR closed their survey in January 2002 with 12,598 participants; enough to go forward with their current epidemiological study on birth defects and childhood cancers.

In July 2003, the ATSDR released a progress report of the survey and concluded that a follow-on case control/epidemiological study was warranted. The Marine Corps actively participated in publicizing this report through a press release, a webcast by the Deputy Commandant for Installations and Logistics, and by posting survey information on the Marine Corps Camp Lejeune drinking water webpage. ATSDR also determined in 2003 that extensive water modeling would be needed at Camp Lejeune in support of the case control study. That water modeling continues today and is currently projected to be complete in mid to late 2011. The case control study will be completed sometime thereafter.

In July 2005, in an effort to fully identify the universe of information related to the historic drinking water issue at Marine Corps Base Camp Lejeune (MCBCL), Headquarters Marine Corps (HQMC) contracted to provide a comprehensive, transparent document search and collection effort covering Camp Lejeune areas and facilities. The contractor conducted a preliminary assessment and on 7 November 2005, invited ATSDR to attend its kick-off brief for the base-wide document search. ATSDR staff made comments that the Marine Corps integrated into search parameters. In December of 2005, the Marine Corps provided ATSDR a copy of the ``Camp Lejeune Water'' (CLW) database on CD per ATSDR request.

From February through July 2006, the contractor conducted an exhaustive search of MCBCL and its facilities. The Marine Corps intended to systematically identify and inventory pre-1988 documents pertinent or useful to analyzing the water issue at MCB Camp Lejeune. The search encompassed the contents of 718 buildings and resulted in locating 8,599 documents (390,782 PDF pages). In July 2006, ATSDR followed up this search with another visit to MCBCL to review more documents.

From February 2008 through March 2009, the contractor converted documents into electronic formats by scanning, indexing, and image-preserving, as part of the on-going records management initiatives in direct support of the document repository. In November 2008, ATSDR made another site visit to review collected documents. In early 2009, the Marine Corps provided ATSDR with user name and password access to hundreds of MCBCL environmental documents via a controlled internet gateway in order to facilitate ATSDR's receipt of information. Furthermore, ATSDR was provided with a full document repository index prior to another visit on 26-27 May 2009. ATSDR used this index to identify documents they wanted to review for further evaluation. ATSDR reviewed the documents while at Camp Lejeune and the Marine Corps again provided copies of requested documents.

In June 2010, the Department of the Navy and ATSDR established a Data Mining Technical Workgroup to complete the identification, review, and exchange of documents, data, and information needed for ATSDR's studies. Both agencies felt that the most effective way for ATSDR to continue with its studies was to establish this Workgroup that will closely review all repositories of available data and information in order to identify any additional data and information that may be of value to ATSDR's health initiatives at Camp Lejeune. The Workgroup's efforts serve to formalize the existing shared commitment to complete the data mining activities to completion. The Workgroup has convened three times and has made significant progress to complete its goals.

INDEPENDENT REVIEWS AND INVESTIGATIONS

Three independent reviews have been conducted of the actions taken by Marine Corps personnel on this matter: an independent Fact-Finding Panel chartered by the Commandant of the Marine Corps, an EPA Criminal Investigation Division (CID) investigation, and a Government Accountability Office (GAO) review.

In 2004 the Fact-Finding Panel determined, among other things, that Camp Lejeune provided drinking water at a level of quality consistent with general water industry practices in light of the evolving regulatory requirements at the time.

Among the EPA CID's 2005 conclusions was a determination that there had been no violations of the Safe Drinking Water Act, no conspiracy to withhold information, falsify data, or conceal evidence.

In 2007 the GAO issued a report reviewing the Camp Lejeune drinking water factual history and technical aspects of ATSDR study. The report had no findings or recommendations for the Marine Corps.

In accordance with the 2007 National Defense Authorization Act, the Marine Corps contracted with the National Academies' National Research Council (NRC) to review the evidence regarding potential associations between exposure to contaminated drinking water at Camp Lejeune and adverse health effects in prenatal children, children, and adults. The NRC review report concluded that while former Camp Lejeune residents and workers were exposed to unregulated solvents, the committee did not find sufficient evidence to justify causal inference for any health effects it reviewed. The report also noted that the exposures required to cause adverse effects in laboratory animals were much larger than the highest measurements available on the Camp Lejeune water supplies; evidence that humans have lower sensitivity to TCE and PCE than rodents; epidemiological data largely from occupational settings with higher, longer-term exposures to TCE and PCE that has not generated compelling evidence of adverse health effects; and the relatively short-term intermittent nature of the exposures incurred at Camp Lejeune. The review concluded, however, that adverse health effects could not be ruled out and that the DON (and other policy makers) should move forward with responses they deem appropriate based on available information.

CONCLUSION

As I mentioned above at the beginning of my testimony, the welfare of our Marines, their family members, and our civilian employees is of paramount importance I have received many letters and have personally spoken with individuals who feel that they have been harmed by Camp Lejeune water. Their situations are often sad, and my heart goes out to them. The Marine Corps is committed to fully and properly utilizing the tools available to support our Marines and family members. However, under current law the Department of the Navy cannot provide compensation for claims for illness, disease, or injury without a demonstration of causation and we do not have that at this time. Currently, scientific studies haven't determined reliably whether diseases and disorders experienced by former residents and workers at Camp Lejeune are associated with their exposure to contaminants in the water supply because of data shortcomings and methodological limitations. We assure you that we will continue maximum efforts to take appropriate actions for our Marines, their family members, and civilian employees.

Biography for Eugene G. Payne, Jr.
[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

Major General Payne currently serves as Assistant Deputy Commandant for Installations and Logistics (Facilities), Headquarters, United States Marine Corps.

A graduate of North Carolina State University, Major General Payne entered the Marine Corps in 1970 as a recruit at Parris Island, SC. On January 1, 1976 he was promoted from Staff Sergeant to Second Lieutenant and received an Infantry Officer MOS.

His nine command tours include three companies: Truck Company, 6th Motor Transport Battalion, Orlando, FL (October 1985 to May 1988); Company C, 4th Landing Support Battalion, Charleston, SC (October 1989 to August 1990); and H&S Company, 2d Marine Expeditionary Brigade, Camp Lejeune, NC (September 1990 to July 1992). From October 1993 to October 1995 he served as Commanding Officer, 4th Landing Support Battalion, 4th FSSG, Seattle, WA. During this two-year tour, the Battalion won five major awards for excellence, including two Cates Awards, two Hanson Awards, and the Schmidt Award. Major General Payne served as Commanding Officer, 4th FSSG Forward (East), Camp Lejeune, NC, from March 1999 to March 2001, as Deputy Commander, 4th FSSG, New Orleans, LA from June 2001 to September 2002, Commanding General, Marine Corps Mobilization Command, Kansas City, MO from May 2003 to November 2004, as Commanding General, Marine Corps Logistics Command, Albany, GA from November 2004 to July 2005, and Commanding General 4th Marine Logistics Group, New Orleans, LA from July 2005 to August 2007.

Major General Payne's staff billets include Operations Officer, 2d BTO, Savannah, GA; G-4 Ops and Deputy G-4, 2d MEB, Camp Lejeune, NC; G-3 Plans, Deputy G-3, and Assistant Chief of Staff G-3, 4th FSSG, New Orleans, LA; Assistant Chief of Staff G-3, Marine Forces Korea; Assistant Chief of Staff G-4, II MEF, Camp Lejeune, NC; Chief of Staff, Marine Corps Reserve Support Command, Kansas City, MO; and Director of the CENTCOM Deployment and Distribution Operations Center, Kuwait.

During his service in the Marine Corps Reserve, Major General Payne has completed numerous schools, including Amphibious Warfare School, Command and Staff College, Landing Force Staff Planning, LOGTECH, and the U. S. Army War College, where he was awarded a Masters Degree in Strategic Studies. He is President of the Marine Corps Reserve Policy Board and currently serves on the MCA Board of Governors. His personal awards include the Defense Superior Service Medal, Legion of Merit Medal, Meritorious Service Medal with two gold stars, and the Navy and Marine Corps Commendation Medal with gold star.

Chairman Miller. Thank you, General Payne. Dr. Portier. Dr. Portier, I should note that you are new to this job and this Subcommittee, and I have been very critical of ATSDR in the past. And I appreciate your coming to meet with me, and you do come well recommended by people I know at NIEHS and NIH and certainly hope that the ATSDR performs at least--perform an important function. And there are many very dedicated professionals there who want--who believe in the mission of ATSDR and want to do better in the future. So I welcome you to your new role.

STATEMENT OF CHRIS PORTIER, DIRECTOR, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)

Dr. Portier. Thank you, Mr. Chairman, and I believe in that mission as well. Good morning Chairman Miller, Ranking Member Broun, and other Distinguished Members of this Subcommittee. On behalf of the CDC Director, ATSDR Administrator Dr. Thomas Friedan, I thank you for the opportunity to be here today. I am Dr. Christopher Portier, Director of the Agency for Toxic Substances and Disease Registry and Centers for Disease Control and Preventions National Center for Environmental Health; a position I have held since August of this year. Prior to that I served for 30--for over 30 years at the NIEHS. I am accompanied today by Dr. Frank Bove from our Division of Health Studies. As I approach my new position at ATSDR I am keenly aware of the agency's important role in providing public health assistance and expertise to people and communities affected by hazardous substances. And I am committed to continuing the critical work of the agency at Camp Lejeune.

In my testimony I will discuss ATSDR's involvement at Camp Lejeune. First, I will provide background on our health assessments and on the primary drinking water contaminants at Camp Lejeune. I will then address ongoing agency activities related to the base focusing on the community assistance panel, water modeling and health studies.

In 1989, EPA placed U.S. Marine Corps base Camp Lejeune and ABC One Hour Cleaners, which is located very close to the base, on its National Priorities List of hazardous waste sites. Shortly thereafter in August of 1990, ATSDR completed a PHA, a public health assessment, addressing contamination from the ABC One Hour Cleaners. This assessment found that tetrachloroethylene--or PCE--was in the Tarawa Terrace water system and its supply wells. In 1997, ATSDR completed a PHA addressing all of Camp Lejeune. ATSDR's investigation at Camp Lejeune identified potential exposures to drinking water contaminated with benzene, trichloroethylene, known as TCE, PCE, and their degradation products in a number of those. Long term exposure to benzene has effects on the bone marrow and can cause anemia and leukemia. The National Toxicology Program Report on Carcinogens recognizes benzene as a known human carcinogen. The NTP lists trichloroethylene as reasonably anticipated to be a human carcinogen based on limited evidence of carcinogenicity from studies in humans and sufficient evidence of carcinogenicity from studies in experimental animals. The NTP lists PCE as reasonably anticipated to be a human carcinogen based on sufficient evidence of carcinogenicity in experimental animals. In the 13 years since the 1997 PHA was published, ATSDR, with help from ATSDR's Camp Lejeune Community Assistance Panel and others, has located additional information on VOC's in drinking water at Camp Lejeune, based in part on information obtained through ATSDR's ongoing water modeling and exposure reconstruction study. We have determined that persons in housing served by the Holcomb Boulevard system were exposed to contaminated drinking water for a longer period than we suspected in 1997, suggesting the possibility of increased risks. Further, recently discovered information indicates that benzene contamination at Hadnot Point was greater than what was assumed in 1997. ATSDR removed the PHA from its website in 2009, and we plan to reassess the drinking water pathway and revise the PHA when water modeling

analyses are completed. It is becoming increasingly clear that information available in 1994 suggests to me greater emphasis should have been placed on benzene.

In 2005, ATSDR established a Community Assistance Panel or CAP to facilitate the direct participation of the affected community in our Camp Lejeune related health activities. The CAP consists of seven community members. Also participating in CAP meetings are one representative from the Department of Defense, two independent scientific experts, and the ATSDR staff. The CAP has been instrumental in helping ATSDR by providing information vital both to the water modeling effort and to the design and implementation of the epidemiological studies. Water modeling is a key component of ATSDR's ongoing studies at Camp Lejeune, because only limited measurements of contaminant concentrations are available. ATSDR is using complex modeling techniques to reconstruct historical conditions of ground water flow, contaminant fate and transport, and the distribution of drinking water contaminated with VOC's delivered to family housing areas.

Because of the vast amount of data and the historical nature of the information, it has been extremely difficult for ATSDR to obtain relevant information needed to complete its work at Camp Lejeune. While ATSDR has been provided with much information and given access to a large amount of information in the past, several new sources of critical and relevant information have recently been identified and relevant documents exist in several large storage systems in catalogues maintained by the Navy. ATSDR and the Department of Navy established a Camp Lejeune data mining technical work group in June 2010. The goal of this joint agency work group is to identify and inventory relevant information and data.

I will quickly summarize: in addition to the data mining and modeling exercise we are doing four different epidemiological studies, and redoing one that we did earlier. Those studies depend upon that water modeling in order that we can address what individuals were exposed to, for how long, and to what contaminants, and use that in deciding if there is a relationship between the exposures and the diseases we will be looking at.

I want to thank you very much for the opportunity to be here today and that ends my presentation.

[The prepared statement of Dr. Portier follows:]

Prepared Statement of Christopher Portier

Good morning Chairman Miller, Ranking Member Broun, and other distinguished Members of the Subcommittee. On behalf of CDC Director/ ATSDR Administrator Dr. Thomas Frieden, I thank you for the opportunity to be here today.

I am Dr. Christopher Portier, Director of the Agency for Toxic Substances and Disease Registry (ATSDR) and the Centers for Disease Control and Prevention's (CDC's) National Center for Environmental Health (NCEH), a position I have held since August of this year. I came to CDC from another agency in the Department of Health and Human Services, the National Institute of Environmental Health Sciences (NIEHS) at the National Institutes of Health (NIH). At NIEHS, I served most recently as the Senior Advisor to the Director and as a Principal Investigator in environmental systems biology. Prior to my time in that role, I served as Associate Director of NIEHS, Director of the Environmental Toxicology Program, and as Associate Director of the

National Toxicology Program.

ATSDR has a unique mandate to conduct human health studies and research related to community exposures to hazardous substances. Although knowledge of the relationships between chemical exposures and human health is often based upon studies of highly exposed workers or animal toxicology testing, there remains a pressing need to know whether lower level exposures and exposures away from the workplace can cause human illness. Drinking water contamination at Camp Lejeune was identified as a circumstance that would benefit from this type of investigation. As I approach my new position at ATSDR, I am keenly aware of the Agency's important role in providing public health assistance and expertise to people and communities impacted by hazardous substances. And, I am committed to continuing the critical work of the Agency at Camp Lejeune.

In my testimony I will discuss ATSDR's involvement at Camp Lejeune. First I will provide background on our health assessments and on the primary drinking water contaminants at Camp Lejeune. I will then address ongoing Agency activities related to the base, focusing on the Community Assistance Panel, water modeling, and health studies.

Background:

In 1989, the Environmental Protection Agency (EPA) placed U.S. Marine Corps Base Camp Lejeune and ABC One-Hour Cleaners, which is located very close to the base, on its National Priorities List of hazardous waste sites. Information that EPA had at the time indicated that releases of chemicals from both the cleaners and activities at Camp Lejeune contributed to contamination of two of the water supply systems serving certain areas of base housing.

ATSDR Public Health Assessments:

In August 1990, ATSDR completed a Public Health Assessment (PHA) addressing contamination from the ABC One-Hour Cleaners. This assessment found that tetrachloroethylene--also known as perchloroethylene or PCE--was in the Tarawa Terrace water system and its supply wells. This raised ATSDR's concerns regarding the health of persons who consumed this water over extended periods, leading the Agency to conduct a more thorough evaluation of the contamination.

In 1997, ATSDR completed a PHA addressing environmental contamination at Camp Lejeune. In this PHA, ATSDR concluded that past exposures in three drinking water systems on base to certain chemicals, including benzene and two common groundwater contaminants, trichloroethylene (TCE) and PCE, and their degradation products, posed a public health hazard. However, because of the limitations of the available scientific data relating to the harmful effects of these chemicals, the PHA recommended conducting an epidemiological study to assess risk to infants and children from potential maternal exposure during pregnancy to the VOC-contaminated drinking water.

In the 13 years since the 1997 PHA was published, ATSDR, with help from ATSDR's Camp Lejeune Community Assistance Panel (CAP) and others, has located additional information on VOCs in drinking water at Camp Lejeune. Based in part on information obtained through ATSDR's ongoing extensive water modeling and exposure reconstruction study, we have determined that persons in housing serviced by a third water distribution system, referred to as the Holcomb Boulevard system, were exposed to contaminated drinking water for a longer period than we knew in 1997, suggesting the possibility of increased risks. Further, recently discovered information indicates that benzene contamination at

Hadnot Point was greater than what was known in 1997. ATSDR removed the PHA from its website in 2009 and plans to reassess the drinking water pathway and revise the PHA when water modeling analyses are completed.

Primary Contaminants

Benzene is a widely used chemical formed from both natural processes and human activities. Long-term benzene exposure has effects on the bone marrow and can cause anemia and leukemia. The National Toxicology Program (NTP) Report on Carcinogens has recognized benzene as a known carcinogen.

TCE is a colorless liquid which is used as a solvent for cleaning metal parts. The NTP Report on Carcinogens classifies TCE as reasonably anticipated to be a human carcinogen based on limited evidence of carcinogenicity from studies in humans and sufficient evidence of carcinogenicity from studies in experimental animals. Most available information comes from animal studies or studies of workers who use these chemicals in the workplace. Very few studies have been conducted of people exposed to low levels of these chemicals in their drinking water. A meta-analysis of seven cohort studies found that occupational exposure to TCE was associated with excess incidences of liver cancer, kidney cancer, non-Hodgkin's lymphoma, prostate cancer, and multiple myeloma, with the strongest evidence for the first three cancers (Wartenberg et al. 2000).

PCE is a manufactured chemical used for dry cleaning and metal degreasing. The NTP lists PCE as reasonably anticipated to be a human carcinogen, based on sufficient evidence of carcinogenicity in experimental animals. According to the NTP's 11th Report on Carcinogens, there is limited evidence for the carcinogenicity of PCE in humans.

Community Assistance Panel

Based on recommendations from a scientific panel convened by ATSDR in 2005, ATSDR established a Community Assistance Panel--or CAP--to facilitate the direct participation of the affected community in our Camp Lejeune-related health activities. The original purpose of the CAP was to voice the concerns of the affected community of Marines and their families and to provide input for future health studies. In its January 2010 meeting, the OAP's mission was articulated as: ``To represent the interests, consequences, and quality of life of those impacted by exposure to toxic substances at Camp Lejeune. ATSDR will look at the potential for future studies at Camp Lejeune with the full inclusion of the community members affected.'' The CAP does not provide consensus advice to ATSDR in carrying out agency programs and activities, nor do CAP members speak for or represent ATSDR. The CAP consists of seven community members. Also participating in CAP meetings are one representative from the Department of Defense (DOD), two independent scientific experts, and ATSDR staff. Members of the CAP provide individual input, as well as represent the views of the community and groups to which they belong. Meetings are held quarterly and are open to the public.

The CAP has been instrumental in helping ATSDR by providing information vital both to the water modeling effort and to the design and implementation of the epidemiological studies. The CAP has reviewed archived data, disseminated information about historical drinking water contamination at the base, advised other members of the affected community on how to apply for benefits from the Department of Veterans Affairs (VA), and represented the affected community's health concerns

in discussions with VA administrators.

Water Modeling

Water modeling is a key component of ATSDR's ongoing studies at Camp Lejeune. Because only limited measurements of contaminant concentrations are available, ATSDR is using complex modeling techniques to reconstruct historical conditions of groundwater flow, contaminant fate and transport, and the distribution of drinking water contaminated with VOCs delivered to family housing areas.

Prior to the end of 1987, two of the water systems at Camp Lejeune were continuously contaminated, and one water system, Holcomb Boulevard, was intermittently contaminated with VOCs. This contamination changed in concentration over time depending on the source wells and other factors. Using water modeling ATSDR will estimate exposures for each housing area.

These models are being used to characterize historical contamination sources and predict drinking water concentrations of PCE (and its degradation by-products of TCE, 1,2-DCE, and vinyl chloride), TCE (and its degradation by-products of 1,2 DCE and vinyl chloride), and benzene. ATSDR published Tarawa Terrace reconstructed drinking water results during 2007-2009.

ATSDR-Department of the Navy Camp Lejeune Data Mining Technical Workgroup. Because of the vast amount of data and the historical nature of the information, it has been extremely difficult for ATSDR to obtain relevant information needed to complete its work at Camp Lejeune. While ATSDR has been provided with much information and access to a large amount of information in the past, several new sources of critical and relevant information have recently been identified, and relevant documents exist in several large storage systems and catalogs maintained by the Navy. To make sure that relevant information is located, ATSDR and the Department of the Navy established a Camp Lejeune Data Mining Technical Workgroup in June 2010. The goal of this joint-agency workgroup is to identify and inventory relevant information and data. These data are necessary to complete current water modeling activities and other Camp Lejeune health activities. The work of the group is ongoing, and the group is planning to complete its major activities in the fall of 2010.

Completion of Water Modeling. Modeling of reconstructed drinking water concentrations for Hadnot Point and Holcomb Boulevard began in June 2007. Predictions from the modeling are expected to be available to ATSDR scientists conducting the epidemiological studies within a year, with publication of the water modeling results anticipated by the spring of 2012.

Health Studies

Adverse Pregnancy Outcomes Reanalysis. In 1995, ATSDR began a study of adverse pregnancy outcomes at Camp Lejeune in relation to exposure to VOCs in drinking water. ATSDR found statistically significant associations for some subgroups (older mothers and mothers with histories of fetal loss) living in homes in Tarawa Terrace (PCE), and elevated risks of small for gestational age (SGA) births and low birth weights.

Later information indicated that some women, who were considered not to be exposed because they were served by the Holcomb Boulevard system, were potentially exposed during pregnancy. ATSDR and the Department of Navy are engaged in intensive efforts to identify

information needed for water modeling. ATSDR will conduct a new evaluation of adverse pregnancy outcomes when the modeled water concentrations are available.

Case-Control Study of Specific Birth Defects and Childhood Cancers. ATSDR identified children born during 1968-1985 to mothers who were exposed to VOC-contaminated drinking water at Camp Lejeune at any time during their pregnancy. Cases of neural tube defects (i.e., spina bifida and anencephaly), cleft lip, cleft palate, leukemia or non-Hodgkin's lymphoma were identified during a telephone survey conducted during 1999-2002, and have been confirmed by medical records. The parents of confirmed cases and a random sample of controls (i.e., children who did not have birth defects or childhood cancers) were interviewed in 2005. Analyses of this data will be conducted once the results of the water modeling become available.

Scientific Panel

In February 2005, ATSDR convened a scientific panel composed of scientists from government and academia with expertise in epidemiology and public health, biostatistics, drinking water contaminants, pesticides, toxicology, reproductive health, and environmental health. The panel was asked to provide advice on whether additional epidemiological studies on the health effects of exposures to contaminated water at Camp Lejeune should be conducted. ATSDR convened this panel in response to concerns that ATSDR's studies of adverse birth outcomes and childhood cancers were too narrowly focused, and may have missed adult cancers and non-cancer diseases among children and adults. As this panel was not a federal advisory committee, panel members were asked to provide their individual opinions. ATSDR accepted panel recommendations to assess the feasibility of conducting a mortality study and a cancer incidence study. ATSDR subsequently concluded that a mortality study and a cancer incidence study are feasible.

Mortality Study of Former Marines and Civilian Employees. This study will look at all causes of death, including cancers and other fatal diseases. All active duty Marines stationed on base at any time between June 1975 and September 1987 who began active duty service on or after June 1975 have been identified. In addition, all civilians employed at the base at any time between June 1974 and September 1987 who began U.S. Department of Defense employment on or after June 1974 have been identified. These cohorts will be compared to cohorts of active duty Marines and civilian employees from Camp Pendleton who were not stationed at Camp Lejeune during the period of drinking water contamination. The study is designed to identify significant changes in causes of death between the Camp Lejeune cohort and the Camp Pendleton cohort.

Health Survey/Morbidity Study. The 2008 National Defense Authorization Act requires development of a health survey of persons possibly exposed to contaminated drinking water at Camp Lejeune. The survey will obtain information about cancers and other diseases thought to be related to exposures to the chemicals found in the drinking water at Camp Lejeune. The morbidity study will focus on those who were: active duty Marines stationed on base at any time between June 1975 and September 1987; civilians employed at the base at any time from December 1972 to September 1987; comparison cohorts of active duty Marines and civilian employees from Camp Pendleton who were not stationed at Camp Lejeune during the period of drinking water contamination; and active duty Marines and their dependents (spouses and children who are now all adults) who participated in the 1999-2002

survey to identify cases for the case-control study of specific birth defects and childhood cancers. Those who registered with the U.S. Marine Corps (USMC), but who are not members of these cohorts, will be sent a survey but will not be included in the morbidity study.

Conclusion

ATSDR has an essential role in providing public health support to people and communities impacted by hazardous substances. Our goal is to provide objective, scientific information to all who lived and worked at Camp Lejeune who want to know about the health risks from past exposures.

Much of our remaining work at Camp Lejeune depends on the data and analyses that will come from our water modeling effort. The state-of-the-art analysis, which predicts drinking water concentrations, will provide us with the best possible exposure estimate.

However, the quality of the information produced by the water modeling effort is heavily dependent on beginning with the most accurate and complete data. The ATSDR /Department of the Navy joint Data Mining Technical Work Group was developed to provide high-level guidance in an intensive effort to identify and review Navy and Marine Corps documents, and to insure that any and all existing pertinent data is available to ATSDR's engineers and scientists.

ATSDR serves the men and women--and their families--who lived and worked at Camp Lejeune while the drinking water was contaminated. As an Agency, we are honored to have the trust and support of former Marines, their family members, and the civilian employees of Camp Lejeune. Our work at Camp Lejeune and many other sites would not be possible without the support and partnership of multiple people and organizations.

Thank you once again for this opportunity to testify before the Subcommittee.

Biography for Christopher Portier

[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

Christopher J. Portier, PhD, joined CDC in 2010 as the Director of the National Center for Environmental Health and Agency for Toxic Substances and Disease Registry. Dr. Portier came to CDC from the National Institute of Environmental Health Sciences (NIEHS), where he was the Senior Advisor to the Director and a Principal Investigator in environmental systems biology. Formerly, Dr. Portier was Associate Director of NIEHS, Director of the Environmental Toxicology Program at the NIEHS, and Associate Director of the National Toxicology Program.

Dr. Portier is an internationally recognized expert in the design, analysis, and interpretation of environmental health data. His research efforts and interests include such diverse topics as cancer biology, risk assessment, climate change, bioinformatics, immunology, neurodevelopment, genetically modified foods, and genomics. From 2000 to 2006, he managed the NTP and developed a strategic initiative that is internationally recognized for its innovation. He has contributed to the development of cancer risk assessment guidelines for national and international agencies and has either directed or contributed significantly to numerous risk assessments. He led the U.S. evaluation of electromagnetic fields by national and international scientists, which was the first comprehensive review in this field. Dr. Portier directed efforts of the U.S. government to develop a collaborative research agenda with Vietnam on the health effects of Agent Orange in

that country. He has just directed a multiagency review of research needs for the health effects of climate change for the entire U.S. government. He has served as an advisor to the Finnish Academy of Sciences on the Centers of Excellence Research Program, as a member of World Health Organization/International Agency for Research on Cancer scientific committees, and as a reviewer for grants for the United States, the European Union, and many other grant-sponsoring organizations.

Dr. Portier received his B.Sc. degree (1977) in mathematics (summa cum laude) and his MS (1979) and PhD (1981) degrees in biostatistics. He has authored more than 150 peer-reviewed publications, 30 book chapters, and 40 technical reports. In the past 5 years, he has given more than 70 invited lectures, many of them at international meetings.

He has received numerous awards including the prestigious Spiegelman Award from the American Public Health Association and the Outstanding Practitioner of the Year Award from the International Society for Risk Analysis. He is a Fellow of the International Statistics Institute, the World Innovation Foundation, and the American Statistical Association.

Chairman Miller. Thank you, Dr. Portier. Mr. Pamperin, you are recognized for five minutes.

STATEMENT OF THOMAS J. PAMPERIN, ASSOCIATE DEPUTY UNDER SECRETARY FOR POLICY AND PROGRAM MANAGEMENT, VETERANS BENEFITS ADMINISTRATION, U.S. DEPARTMENT OF VETERANS AFFAIRS

Mr. Pamperin. Thank you. Chairman Miller, Ranking Member Broun, and Members of the Subcommittee thanks for the opportunity to discuss the efforts undertaken by the Department of Veterans Affairs regarding water contamination at Camp Lejeune Marine Corps Base in North Carolina, and to explain the disability compensation process for potentially affected veterans.

A 2007 final report of the Veterans Disability Benefits Commission, a congressionally mandated independent review board raised general awareness at VA of the potential water contamination at Camp Lejeune. The report indicated that the Agency for Toxic Substances and Disease Registry and the Department of Health and Human Services had conducted an environmental assessment of Camp Lejeune during 1997 which found that from the '50s to the mid-'80s persons residing or working at Camp Lejeune were potentially exposed to drinking water supplies contaminated with volatile organic compounds from an off base dry cleaning facility. Subsequent investigations also found evidence of benzene in the same water supplies presumably caused by leaking fuel storage tanks. In 2009, the National Academy of Sciences National Research Council released a study titled ``Contaminated Water Supplies at Camp Lejeune'' assessing potential health effects. Currently additional studies on the contaminated water parameters of likely exposures and potential adverse health effects are being conducted by ATSDR.

In response to the NCR's study, VA assembled a task force to determine whether the NCR report provided sufficient scientific basis for determining whether the population at Camp Lejeune had in fact suffered adverse health effects as a result of exposure to contaminants in the water supply. The task force

is continuing to work and will submit its findings to the Secretary for consideration.

In keeping with our mission, VA stands ready to provide treatment and compensation for any veteran whose current disability is the result of service at Camp Lejeune. My testimony outlines VA's disability claims process including the issue of presumptive disabilities, and addresses the specific situation at Camp Lejeune. VA provides compensation payments to veterans with current disability conditions that were caused or aggravated by an event, injury or disease that occurred during military service. These conditions are referred to as service-connected disabilities. There is more than one way of obtaining a service-connected disability. The most common is direct service-connection, which is achieved when the record indicates an in-service event, a current medical condition, and a nexus between that event and the current condition. The nexus is normally provided through competent medical authority. However, another method of providing service-connection is through the use of a presumption of service-connection. Presumptive service-connection may be appropriate, for example, to overcome difficulties of proof in establishing that condition appearing after service is the result of a particular hazard encountered during such service or where the fact of exposure to the hazard is difficult to document. In particular, widespread herbicide use in the Republic of Vietnam during the Vietnam War has been well-documented, but is not feasible to determine whether and to what extent a particular Vietnam veteran was actually exposed. As a result, veterans who served in the ground--on the ground in Vietnam and on inland waterways are presumed to have been exposed to herbicides for purposes of application of the presumptions of service-connection for diseases recognized by VA as associated with such exposure.

Presumptive service-connection differs from direct service-connection in that the nexus between the current medical condition and the in-service event need not be established by additional medical evidence. VA has identified presumptive diseases associated with in-service events that include internment as a prisoner of war, service in a tropical environment, service in the Persian Gulf, certain service involving radiation exposure, and service involving exposure to herbicides such as Agent Orange. The Agent Orange Act of 1991 created a procedure for establishing presumptions for service-connection for diseases associated with exposure.

The Secretary of Veterans Affairs is required to consider reports received from the National Academy of Sciences and all other medical and scientific information and analysis on the health effects of herbicide exposure. When the Secretary finds a positive association between herbicide exposure and the occurrence of a disease, the Secretary initiates a rule-making procedure to add the disease. A similar process was created by Congress to address concerns of Gulf War veterans. Presumptions can be a powerful tool for promoting efficiency, fairness, and justice claims adjudication.

With specific respect to Camp Lejeune, VA does not operate a registry for this population or have special authority to enroll for health care veterans or their family members based upon service at Lejeune. The Marine Corps does have such a registry and VA has been working with DOD to get useful data

for veterans who were stationed at Lejeune from the database. It has been estimated that approximately one million veterans and their dependents were assigned to Camp Lejeune during the period of the drinking water contamination. Veterans who are part of this cohort may apply for health care enrollment if they are otherwise eligible and are encouraged to discuss any specific concerns with their health care provider.

VA processes disability claims based on service at Camp Lejeune and possible exposure to chemical contaminants on a case by case basis. This approach has been adopted because the evidence to date on the long term health effects due to potential contaminated drinking water at Lejeune is inconclusive. Establishing presumptive diseases at this point would be premature. Approximately 200 claims have been received based upon service at Camp Lejeune and approximately 20 veterans thus far have been granted service-connection on a direct basis, most commonly for kidney diseases, non-Hodgkin's, and other cancers. For those cases that have been denied, claims have normally not been granted because of one or three criteria: the veteran did not serve at Lejeune during the period of the contamination, the current disease, or disability and the medical nexus between the current disease was not established.

VA takes seriously its mission to ensure that veterans receive adequate services and compensation to honor their service to this nation. We are also committed to ensuring that the best medical and scientific information available informs the decisions we make. The exposure at Camp Lejeune presents a number of unique challenges. We are confident that we are addressing these challenges using the best possible science at our disposal to provide for the effected veterans, and we will continue to award benefits to veterans who present substantiated claims.

This concludes my testimony and I would be happy to answer any questions.

[The prepared statement of Mr. Pamperin follows:]

Prepared Statement of Thomas J. Pamperin

Chairman Miller and Members of the Subcommittee:

Thank you for this opportunity to discuss the efforts undertaken by the Department of Veterans Affairs (VA) regarding water contamination at the Camp Lejeune Marine Corps Base in North Carolina and to explain the disability compensation process for potentially affected Veterans. I am pleased to be accompanied by Dr. Victoria Cassano, Director, Radiation and Physical Exposures Service, Veterans Health Administration.

Potential Water Contamination

A 2007 final report of the Veterans Disability Benefits Commission, a Congressionally mandated independent review board, raised general awareness at VA of the potential water contamination at Camp Lejeune. The report indicated that the Agency for Toxic Substances and Disease Registry (ATSDR), in the Department of Health and Human Services, had conducted an environmental assessment of Camp Lejeune during 1997. ATSDR found that from the 1950s through the mid-1980s, persons residing or working at Camp Lejeune were potentially exposed to drinking water supplies contaminated with volatile organic compounds from an off-base dry cleaning facility and from on-base sources. These organic compounds

included trichloroethylene and perchloroethylene. Subsequent investigations also found evidence of benzene in the same water supplies, presumably caused by leaking fuel storage tanks.

In October 2008, the Department of the Navy issued a letter to Veterans who were stationed at Camp Lejeune. The letter explained that the Navy had established a health registry and encouraged those who served there to participate. In December 2008, VA issued a VA Health Care Fact Sheet on the contamination of the ground water at Camp Lejeune.

In 2009, the National Academy of Sciences' National Research Council (NRC) released a study titled, Contaminated Water Supplies at Camp Lejeune, Assessing Potential Health Effects. Currently, additional studies on the contaminated water, parameters of likely exposures, and potential adverse health effects, are being conducted by ATSDR.

In response to the NRC's study, VA assembled a Task Force consisting of the Under Secretary for Health, the Acting Under Secretary for Benefits, the General Counsel, and the Assistant Secretary for Policy and Planning. The Task Force's mission is to determine whether the NRC provided a sufficient scientific basis for determining whether the population of Camp Lejeune has, in fact, suffered adverse health effects as a result of exposure to contaminants in the water supply. The Task Force is continuing its work and will submit its findings to the Secretary for consideration.

VA Disability Compensation Benefits

In keeping with our mission to care for Veterans, VA stands ready to provide treatment and compensation for any Veteran whose current disability is the result of service at Camp Lejeune. My testimony today will outline VA's disability claims process, including the issue of presumptive disabilities, and then address the specific situation at Camp Lejeune.

VA provides compensation payments to Veterans with current disabling conditions that, among other things, were caused or aggravated by an event, injury, or disease that occurred during military service. These conditions resulting from military service are referred to as ``service-connected disabilities.'' There is more than one way to establish service connection. Establishing service connection on a ``direct'' basis is the most common means. Service connection generally requires sufficient evidence of an in-service event or injury, a current disability, and a link or nexus between the disability and the in-service event or injury. The medical nexus is often established through an examination and opinion from a competent medical authority.

Another method of establishing service connection is through use of a presumption of service connection. ``Presumptive'' service connection may be appropriate, for example, to overcome difficulties of proof in establishing that a condition appearing after military service is the result of a particular hazard encountered during such service. A presumption may also be used in appropriate circumstances to establish exposure to a particular hazard in military service where the fact of exposure to the hazard is difficult to document. In particular, widespread tactical herbicide use in the Republic of Vietnam during the Vietnam era has been well-documented, but it is not feasible to determine whether, and to what extent, a particular Vietnam Veteran was actually exposed. As a result, Veterans who served on the ground in Vietnam, or on its inland waterways, are presumed to have been exposed to herbicides for purposes of application of the presumptions of

service connection for the diseases recognized by VA as associated with herbicide exposure.

Presumptive service connection differs from direct service connection in that the nexus between the current medical condition and the in-service event need not be established by additional medical evidence. The nexus is presumed to exist based solely on experiencing the in-service event and subsequently developing the disabling medical condition that is scientifically linked to the in-service event. Diseases that are presumed associated with specific in-service events are commonly called ``presumptive diseases.'' VA has identified presumptive diseases associated with in-service events that include: internment as a prisoner of war; service in a tropical environment; service in the Gulf War; certain service involving radiation exposure; and service involving exposure to certain herbicides, such as Agent Orange.

Presumptive Decision Processes

The Agent Orange Act, passed by Congress in 1991, created a procedure for establishing presumptions of service connection for diseases associated with herbicide exposure. The procedure for establishing presumptions for particular diseases associated with herbicide exposure requires the Secretary of Veterans Affairs to consider reports received from the National Academy of Sciences and all other sound medical and scientific information and analysis on the health effects of herbicide exposure. When the Secretary finds a positive association exists between herbicide exposure and the occurrence of a disease in humans, the Secretary initiates a public rulemaking proceeding to add the disease to the presumptive list.

Although the procedure established by the Agent Orange Act addresses presumptive service connection based on herbicide exposure among Vietnam Veterans, a similar process was created by Congress to address the concerns of Gulf War Veterans.

These procedures rely on consideration of sound scientific and medical evidence and analysis from the respected National Academy of Sciences and a standard of evaluation based on association rather than causation. Presumptions can be powerful tools for promoting efficiency, fairness, and justice, but they must be considered with great care and respect for the science involved. They will continue to be an important part of the Veterans' benefits scheme for the foreseeable future.

Disability Claims Based on Service at Camp Lejeune

VA does not operate a registry for this population and does not have special authority to enroll for health care Veterans or their family members based upon service at Camp Lejeune. It has been estimated that approximately one million Veterans and their dependents were assigned to Camp Lejeune during the period of drinking water contamination. Veterans who are a part of this cohort may apply for health care enrollment, if they are otherwise eligible, and are encouraged to discuss any specific concerns they have about this issue with their health care provider. VA environmental health clinicians can provide these Veterans with information regarding the potential health effects of exposure to volatile organic compounds, and VA's three War-Related Illness and Injury Study Centers are also available as a resource to providers. However, the Marine Corps does have a registry and VA has been working with DOD to use this registry database to get useful data on Veterans who were stationed at Camp Lejeune.

VA processes disability claims based on service at Camp Lejeune, and possible exposure to chemical contaminants, on a case-by-case basis. This approach has been adopted because the evidence to date on the long-term health effects on Veterans due to potential contaminated drinking water exposure at Camp Lejeune is inconclusive. Establishing presumptive diseases at this point would be premature.

The NRC study on Camp Lejeune underscores the difficulty involved with determining which part of the water supply was contaminated, who may have been exposed to contamination, and to what extent any exposure may have occurred. To address these issues, ATDSR is conducting ongoing studies. In addition, as noted earlier, the Task Force is continuing its work. At this time, we consider direct service connection to be the most feasible and equitable option for addressing disability claims based on service at Camp Lejeune.

VA regional office personnel were alerted to the Camp Lejeune situation in a nationwide broadcast in June 2009 and instructed to evaluate related claims on a case-by-case basis. A training letter followed on April 26, 2010, which outlined specific directions on developing evidence and ordering medical examinations for Camp Lejeune-related claims.

As part of the current examination procedure, VA medical examiners receive information on the chemical contaminants present in the water supply and are asked to provide an informed medical opinion as to whether it is at least as likely as not that the Veteran's current disability is related to service at Camp Lejeune. This evidence, as well as evidence based on examinations and opinions from private physicians and medical providers, is used to determine eligibility for service connection. In cases where the evidence for and against service connection is approximately equivalent, the benefit of doubt is given to the Veteran and service connection is granted.

Currently, VA has received approximately 200 disability claims based on service at Camp Lejeune, and approximately 20 Veterans have been granted service connection on a direct basis. Those that were not granted service connection failed to meet one or more of the' three criteria of: (1) service at Camp Lejeune during the period of water contamination; (2) a current disease or disability; and (3) a medical nexus or link between a current disability and service at Camp Lejeune.

Conclusion

VA takes seriously its mission to ensure that Veterans receive adequate services and compensation to honor their sacrifices in service to our Nation. We are also committed to ensuring that the best medical and scientific evidence available informs the decisions we make. The exposure at Camp Lejeune presents a number of unique challenges, but we are confident that we are addressing these challenges using the best possible science at our disposal to provide compensation to affected Veterans. As I said earlier, VA has already awarded benefits to Veterans who have demonstrated that they are suffering due to adverse exposures at Camp Lejeune. We will continue to award benefits to Veterans who present substantiated claims, and the Secretary will review the findings of the Task Force to determine if any further action is necessary.

This concludes my testimony. I would be happy to answer any questions Members of the Subcommittee may have.

Biography for Thomas J. Pamperin

Mr. Pamperin is the Associate Deputy Under Secretary for Policy and

Program Management of the Veterans Benefits Administration for the U.S. Department of Veterans Affairs.

Chairman Miller. Thank you, Mr. Pamperin. We will now have questions and I now recognize myself for five minutes. You all have all said that you did not have personal counsel here, but it does appear that you all are pretty lawyered up, that there is a great deal of concern at ONV and at the Pentagon about potential liability. I understand that all of your testimony was reviewed closely by lawyers of public justice for any effect it might have on any potential liability claims.

Dr. Portier, this Subcommittee's interest in ATSDR and my interest began with their conduct in the FEMA trailers case where FEMA's lawyers asked specific for health assessment for use in pending litigation and asked that for purposes of the assessment that ATSDR assumed that the exposure to formaldehyde was two weeks or less when in fact people living in those trailers had lived in those trailers for well more than a year already by that point with no end in sight. And stunningly ATSDR did that. And Dr. Frumkin when he testified that there was no way that ATSDR should have provided a health assessment that was driven or affected by litigation concerns. They should have given a straight up assessment of what the effect of formaldehyde exposure could be. There are now several ATSDR studies pending in this area.

What role do you expect lawyers to--and I have nothing against lawyers, I am in recovery myself, but there is a difference between Government lawyers and lawyers for private entities. Government lawyers serve the whole people. A--they are--they perhaps should not do what a lawyer for a private company might do which would be to assert any defense legal or factual for which there is some basis. But Government lawyers should perhaps serve the whole people. What role, Doctor, and the rules of professional conduct recognize that with respect to Government lawyers and DA's. They aren't expected just to get convictions but to do justice. What role, Dr. Portier, do you expect lawyers to have in reviewing the work of the ATSDR in this area?

Dr. Portier. Mr. Chairman, having been at ATSDR for a short period, it is somewhat difficult for me to know exactly what the pathway is through internal clearance. So I will speak from the point of view of what I would perceive as what I would like to see. And if there is a different pathway that is required that takes me through the Department of Justice for approval, I will come back to you and respond directly on that issue.

As a general rule, I believe that lawyers are very helpful in the types of exercises we are doing here. They help us avoid pitfalls of improperly storing our data, improperly reaching conclusions. They provide a good challenge for us in terms of defending our science appropriately and correctly. However, I don't see any pathway that would take what we are doing for Camp Lejeune through internal legal review at CDC or the Department of Health and Human Services.

Chairman Miller. Okay. General Payne, you were interviewed by CBS News and said that the wells were closed within 30 days of finding the source of the contamination. I said earlier because the first panel that I found it puzzling that you would wait to find the source to act. That if it certainly appeared

that once you found that there was contamination you would act to close the wells rather than wait to find the source. What was the reason for waiting to find the source to act to close the wells?

General Payne. Sir, there may have been a poor use of words on my part by saying source. My intent in that answer was to say that once we knew the specific wells that were contaminated, those specific wells, those 10 wells were closed down immediately.

Chairman Miller. Immediately within 30 days of when you determined that there was contamination of specific wells?

General Payne. That is my understanding, yes, sir. Once we knew the specific well, that well was shut down right away.

Chairman Miller. My time has expired. I now recognize Dr. Broun for five minutes.

Mr. Broun. General Payne, thank you for your service to the Nation, sir. Semper fi. Dr. Clapp, as the Chairman pointed out when he was interviewing the first panel, Dr. Clapp had an apparent discrepancy related to your testimony and just wanted to be sure that in all fairness even prior to your presenting your testimony that you had an ample opportunity to rebut or respond to that if there is anything more that you would like to say, I would certainly give you that opportunity right now, sir.

General Payne. Sir, I think that we really do not have a disagreement with anything that Dr. Clapp said. And I think the question that came up was relative to a statement we made in the pamphlet that we produced. And I think that statement was factual. Perhaps it could have been worded differently. Perhaps it could have been lengthier with a greater explanation.

I think that the only rebuttal that I would offer is that we are looking forward to continually--continuously working closely with ATSDR and other scientific organizations to try find answers. And I think we are all in concurrence there.

Mr. Broun. Thank you, General. There have been many criticisms on how the Marine Corps, the Navy has responded to the contamination of the water supply there at Camp Lejeune. Looking back over the past 30 years is there any action or inaction that you would have changed?

General Payne. Sir, there are a number of actions that I would have changed. I would--I can't tell you how many times over the last three years in working with this issue on behalf of the Marine Corps, I would have given anything to have rolled back the clock and to have known and to have been able to influence during that era what we know today to be the case. It is astounding some of the things that happened, and I think that they happened for a number of reasons. I think part of it was mentioned earlier. I think we were ignorant, quite frankly, of some of the implications. I think we were lulled into a sense of complacency or at least a lack of urgency by the fact that we were not out of compliance. And I am not trying to excuse what happened. I think that there were many, many errors made on behalf of the Marine Corps. But it is difficult to look back through the lens of 2010 at what we did or did not know, or should or should not have done in the '60s, '70s, and early '80s, but there are many things that I would have done differently. There are things I would have done differently 5 and ten years ago. I have only been working this for about

three years and it is--one normally shakes their head and wonders at some of the things that did or did not occur.

Mr. Broun. Thank you, General. I appreciate your diligence in pursuing this. And had we look back and President Washington was bled to death by a physician thinking that that was going to cure his disease and his pneumonia at the time, and obviously that was the wrong medical decision as a physician, just what I was taught in medical school as being absolute truth has been just within five years after graduation we were treating patients totally different in a different manner. And certainly it is difficult looking in a retrospectoscope and saying what we should have or could have done at a particular period of time. We have to act on the knowledge that we have the science we have at the period of time. And I thank you for your diligence in trying to head in the proper direction on this issue.

Let us see, Dr. Portier, the NAS report also stated that based on review of toxicological studies--that is hard for a southerner to say, while there is some evidence linking certain diseases and health effects to PCE and TCE exposure, studies suggest that the highest level exposure at Camp Lejeune were ``much lower than the lowest dose that cause adverse effects in the most sensitive strains in species laboratory animals''.

Furthermore, the NAS report also concluded that there is limited evidence to suggest a correlation between diseases exposure to TCE and PCE in epidemiological studies. How do the conclusions reached by the NAS report compare with the evidence gathered and analyzed by ATSDR over the last 20 years?

Dr. Portier. Thank you for the question. The ATSDR has not really released a formal response on their opinion of the academy's report. I guess personally I would say that my opinion matches that of Dr. Clapp and his colleagues that I have some degree of confusion over how the academy reached these decisions.

In terms of ATSDR, our actions speak louder than our words and in this case we are moving forward with the studies. We are doing the water modeling. We are going to go forward and evaluate this population because we believe it is scientifically credible. We believe it is the right public health move, and we believe it is what needs to be done. And so we will do it. And I think that is our answer to the report from the academy.

In terms of their finding that there is limited information relating TCE and PCE to disease, I simply need to look at the disease of cancer and point out to them that virtually every national authority or international authority that look at--that has looked at TCE and PCE has labeled it reasonably anticipated to be a human carcinogen or a probable human carcinogen. And so the linkage there is extremely strong. There is no doubt in my mind that these are toxins that you do not want in your water.

Mr. Broun. Thank you. My time is up, but if I may, Mr. Chairman, if I could ask Dr. Portier, do you have any idea of when we will get another health assessment report and when will that be available, sir? Do you have any prospect?

Dr. Portier. There will be a series of reports coming out. I am very confident that the data mining working team will have all the data hopefully in hand by the end of next month. And

that done, we should have the water modeling by about a year from now available internally to use in the EPI studies. We have already paralleled working the EPI studies, so hopefully they will be finished probably about March of 2012 and that is when we will begin issuing reports at about that time.

Mr. Broun. Thank you. I yield back, Mr. Chairman. Thank you for your diligence----

Chairman Miller. Indulgence.

Mr. Broun. --indulgence. Thank you.

Chairman Miller. The Chair now recognizes Mrs. Dahlkemper for five minutes.

Mrs. Dahlkemper. Thank you, Mr. Chairman. I want to thank the witnesses for coming today and for your testimony. Mr. Pamperin, I want to ask you a little bit about the claims process. And the VA has granted just a handful of claims to all of these veterans resulting from their service at Camp Lejeune. What criteria does the VA use to determine that harm has been done to these veterans as a result of their service there? And do you believe that the standards are appropriate to justify small claims process and that it's consistently applied to each person coming forward?

Mr. Pamperin. Thank you, ma'am. We sent a fairly extensive training letter to our field stations back in 2009 that covered a number of environmental hazard locations and situations, one of which was Camp Lejeune. Prior to that I would not have confidence that our claims examiners would have had the kind of information they needed to ask the appropriate questions, to solicit the appropriate medical opinions.

That training letter served basically three purposes. First was to educate our staff. The second was to tell our staff on how to develop these kinds of claims, and the third was to provide our staff with a fact sheet on each particular exposure that was to be provided to the clinician who was going to be doing the exams, so that they understood the nature of the exposure that was made. Because of the relatively--relative certainty of the known outcomes of benzene, what we are dealing with with these cases is the fact that there is invariably nothing in their service medical record that would indicate a disease since most of these diseases take years to develop. So what our rating officials are doing with this a current a disability and now a known exposure. And that--what they need is clinical evidence attaching that current disability to that exposure. If they have that kind of medical evidence, they can award service-connection on a direct basis, and that is what we have been doing thus far. That does require that we assist these veterans in getting that kind of clear and concise clinical opinion and that is what the purpose of the fact sheet to be provided to the examiner was for.

Mrs. Dahlkemper. Can we get a copy of that letter and the fact sheets for the record please?

Mr. Pamperin. Yes, ma'am.

Mrs. Dahlkemper. So your education staff and I think it was Mr. Watters who said he was having trouble even getting something posted at the VA in his community until he said he was coming here to testify today. He said that during his testimony. Can you tell me if that is standard in all VA's? I only have two in my district. I am going to be following up on this when I get out of here today.

Mr. Pamperin. Ma'am, I am not sure what has been posted in VA Medical Centers. We can certainly take that for the record. I believe that the training letter was shared with the Veterans Health Administration so that it would be generally known inside that community as to what kind of claims we were getting. But we can take that for the record.

Mrs. Dahlkemper. And one of my concerns is I know even now we are trying to help some of our soldiers with a stop-loss payments we are supposed to receive. We can't even find them, so and these people over the years are scattered all over this country and across this globe and probably have no idea of possible exposure that they have had.

Mr. Pamperin. Ma'am, all I would say is that if a soldier, or a Marine, or a naval personnel who were at Camp Lejeune is concerned about their health they should apply for enrollment in VHA. And if they have a condition that in their mind may possibly be related to their service at Lejeune that they should file a claim and we will adjudicate it appropriately.

Mrs. Dahlkemper. Thank you. My time is running short, so just one quick question for General Payne. There is a difference I think between saying no study has been completed on the health effects of exposure to chemicals and saying that studies have not found a link between chemical exposure and specific illnesses or diseases. The language in the brochure is simply misleading on this issue. So I guess I am going to ask you would you like to correct that for the record?

General Payne. Ma'am, I would agree with the wording issue just presented that studies are ongoing. It is of--I don't think we were factually wrong in the brochure as I understand it, but we--it was not our intent to mislead in any way. We are still working very hard to try to find answers. We are working very hard to locate former Marines, and their dependents, and civilian employees.

Mrs. Dahlkemper. Can I ask how this is distributed, or how any of this information is distributed? As I said we are having trouble getting more recent Marines and soldiers to apply for stop-loss payments and so how are we trying to find these individuals?

General Payne. It is a combination of ways that we are trying to locate them. As I mentioned earlier we have got about 163,000 registered to date. We've had over 30,000 in the last year. We get new registrations every week. We are pursuing it through the media, through radio, television, through the print media, through magazines, through the internet. We even are using social media like Facebook. We utilize other governmental agencies like the Veterans Administration who have been very good about distributing posters and letting people know. We use a lot of military journals, and newsletters, and magazines, and we are searching for additional ways to try to get the word out.

Mrs. Dahlkemper. I appreciate your efforts on that. I--one short question, just one answer. When did you start doing this reach out? What was the date of when this started to try to locate all these individuals?

General Payne. It started in 2007.

Mrs. Dahlkemper. Okay, thank you very much.

General Payne. Yes, Ma'am.

Mrs. Dahlkemper. I yield back.

Chairman Miller. Thank you. I think we have time for a second round, and I now recognize myself for five minutes. General Payne, you said that the wells were closed promptly when you figured out which wells were contaminated. That that was what you meant by source, which wells were contaminated. But the memo from Ms. Betts dated August 10, 19--or 10 August 1982, I guess the military--which referred to the tests which were conducted three or four months earlier in May said with respect to tetrachloroethylene that while they were not regulated, they were not subject to Safe Drinking Water Act at that point. They were--that was known to cause certain cancers. And trichloroethylene--liver damage, kidney damage, central nervous system disturbances in humans. There does not appear to have been a sense of urgency if the problem was identifying which wells, there doesn't seem to have been a great sense of urgency in figuring out which of the 22 wells. Did it take two years to figure out which of the 22 wells and why was there not more urgency than that to the task?

General Payne. In answer to your question, yes, it did take that long. It--but also I would concur with you, sir, that there was not the level of urgency that there should have been. And it is astounding to me why there wasn't. I can only surmise, I can only speculate at this point, but I think it was a combination of about three things that contributed to that. I think that we genuinely were ignorant of the potential health effects. I think number two, the fact that we were not out of compliance decreased a sense of urgency that should have been there. Knowing what we know today it is amazing that there wasn't an absolute, all out effort immediately. And I think number three, the other contributing factor was the inconsistency of the test results. We would test the water, and we were doing it at not--we were not testing at that time individual wells. We were testing the water treatment plants. And we would test and we might end up with a result of, I mean, 1,100 parts per billion which is exceedingly high. And so we would retest and on our retest we might come up with five parts per billion which would be exceedingly low. And I think that inconsistency because of the water distribution system at that time also confused the issue and added to the amount of time. But I concur with you 100 percent that there should have been a greater sense of urgency knowing what we know today and it is amazing to me that there was not.

Chairman Miller. General Payne, you heard my earlier question of Dr. Portier about what role lawyers would have. The--we have asked the question about who had reviewed the booklet Mrs. Dahlkemper asked about earlier and the answer we got was--the question was has anyone reviewed it, any other agency. VF recalls that there are cases pending in court where the Department of Justice represents the part of Navy. We provided DOG attorneys--DOJ attorneys to a preview of the booklet in order to avoid inadvertently harming their cases. Again, going to the example of FEMA and the FEMA trailers with high levels of formaldehyde, not only was that health assessment used by FEMA attorneys in negotiating with claimants--settlements with claimants, based upon supposedly expert testimony or expert evidence that was based upon wrong assumptions but FEMA took that assessment to tell the people in the trailers they didn't have anything to worry about. They

could just open the windows and doors if the formaldehyde gave them a headache. Are you having your--what you are telling people who were exposed to this are you having that shaped by lawyers who were worried--are worried about litigation issues not telling what they need to know?

General Payne. Sir, I can't really speak for what might have happened prior to my engagement in this issue, but I can tell you sincerely over the last three years even though we run this stuff routinely through our legal personnel, never in the last three years have I been advised by our attorneys or by DOJ not to say something. And I don't know whether they trust that I won't say the wrong thing or if they believe that telling me that won't do any good. But for whatever the reason I can tell you that I have not been counseled by our attorneys as to specific answers.

Chairman Miller. And it did take the Marines 20 years to tell the people exposed, the Marines and their families of the exposure. It took an act of Congress. I recognize Senator Dole for that effort. Why did it take 20 years to let Lejeune veterans, the Marines who served at Lejeune know of the exposure?

General Payne. Sir, I think the initial efforts by the Marine Corps which lasted way too long, the initial position was that we could do the best we could be number one, trying to find answers. I am contacted continuously by former Marines and their families, and the number one thing that they want to know is--they want answers to questions that we can't provide them. That's why we have taken that approach. Now, I would agree with you that it should have happened long before, but there are two schools of thought. And I even heard a school of thought recently that said until you have answers, just contacting them raises more doubts and puts in more fears. I disagree with that and I think that we have done the right thing for the last three years. I wish we had done it sooner, far sooner that we owed it--we owed a responsibility to those Marines and their families. And we should have done that rather than just concentrating on trying to find answers. We should have had a dual effort, and it should have been aggressive, and it should have been far sooner.

Chairman Miller. My time has expired. I now recognize Dr. Broun for five minutes.

Mr. Broun. Thank you, Mr. Chairman. Mr. Pamperin, in the National Academy of Sciences study, the Department of Veterans Affairs convened a task force to determine whether the NRC provided a sufficient scientific basis for its conclusions. Who is on this task force? Are they doctors, scientists, epidemiologists, toxicologists, or other specialists that are qualified to make this determination? And when is the task force planning on submitting these findings for the Secretary? Once the task force has submitted its findings how long will the Secretary issue his determinations?

Mr. Pamperin. Congressman Broun, I will take those questions for the record in terms of the specific people who are on the panel, but routinely these are members of the Veterans Health Administration Clinicians who review this sort of stuff. People from out environmental exposures staff. I do not know when they are going to be done. I would be happy to provide that answer in written form, and based upon that

response the Secretary will need to assess that. I can't give you a specific date when he'll be done.

Mr. Broun. Thank you so much. Mr. Chairman, and you are very generous in your indulgence and I will yield back and we will present other questions from written answers. Thank you, Mr. Chairman, I yield back.

Chairman Miller. Thank you, Dr. Broun. I am always generous in indulgence. The Chair now recognizes himself for one final question. Dr. Portier, the ATSDR is now preparing several reports, five separate studies on the human health consequences of the exposures, the toxic exposures at Camp Lejeune. And I know that you can't know in advance what the studies will show, but some apparently think that the studies will establish with certainty which specific people got which specific diseases as a result of exposure versus who would have gotten it anyway--who might have gotten breast cancer anyway. There is a 1 in 100,000 chance of that, so maybe a few of those folks would have gotten breast cancer anyway. Probably a few would have. What kind of--and Dr. Clapp said in his testimony that that was not the way it worked. What kind of certainty should we expect to come out of ATSDR's reports?

Dr. Portier. An excellent question, Mr. Chairman, an excellent question. The studies will--are designed to address the questions of TCE, PCE, and benzene exposure as they relate to large human populations, in this case the population of people who have moved in and out of Camp Lejeune Marine Corps Base. Each individual in any one of these studies, whether it is Camp Lejeune or anywhere else in the world, individuals' risk to a particular toxin exposure depends upon not only the toxin exposure, but other things they are in their lifespan. The food, their genetics, everything else plays a role in terms of their overall risk. What you are looking at though is shifts in risk in the population. That is what this type of study will give us. When you look at the brochure that the Marine Corps had put together one of the issues with that brochure that we have is that it assumes that the only way in that you can answer the question is through studying the marines at Camp Lejeune. But the data we are getting from Camp Lejeune is part of the broader scientific literature that already exists that deals with these particular types of exposures. We expect that we will see some positive results, some negative results that match or disagree with what is in the literature. Hopefully if we have done it right, we will strengthen that literature and by strengthening that literature help groups like the Veterans Administration better understand what to do with this population based exposure. But it is not just these studies that should be used in that overall evaluation. It is the broader scientific literature and the contribution of these is important, but that is not all that should be used.

Chairman Miller. And let the record reflect that I did not think that anyone should be exposed to toxic chemicals for the purpose of conducting research. The Chair now recognizes Dr. Broun for five minutes.

Mr. Broun. Well, likely I won't need that much. I appreciate it. Just to add to a comment or a questions on top of Dr. Portier, from what you--the question of the Chairman, when we compare epidemiological instances of any subgroup of a population to the general population in studies to look for

instance or increased instances of disease entities, we looked at the general population and I am just wondering if you are looking at the general population in the general area instead of the population overall in trying to figure out the epidemiological association in the health risk. Are you looking at people within the Jacksonville area or that part of the state of North Carolina and comparing them to the population at Camp Lejeune or are you looking just generally at the whole--the population at the whole of the country?

Dr. Portier. Dr. Broun, that is a question we really spent a lot of time looking at and it depends on the type of study that we are doing. But to answer your question most specifically, the studies that we are most interested in pursuing, the ones that were most--we think that will be most informative--are our cohort study and the health survey study. I think those will be the most extensively useful. In those cases we actually have a control population. We are comparing--because Marines are inherently healthier than the rest of us--we are comparing the people who were at Camp Lejeune to people who were at Camp Pendleton at the same time. So we are looking at a comparison that is effectively, hopefully about the same in terms of age, in terms of fitness, in terms of the type of food, in terms of the types of environments they are in so we can potentially get a very good, solid comparison.

Mr. Broun. Well, Dr. Portier, I suggest that you are not comparing apples to apples there because you are certainly in some respects you are, but the people who living at Camp Pendleton are not living in the Jacksonville area. So I encourage you to look at the general population not just at Camp Lejeune, not comparing Camp Pendleton versus Lejeune, but look at the people in that area of North Carolina and include them in seeing if you see any differential, because you are selectively eliminating a population that I think from a scientific perspective needs to be looked at. So I encourage you to do so. Thank you, Mr. Chairman. I yield back.

Chairman Miller. Thank you, we--before we bring the hearing to a close I want to thank our witnesses for testifying before our Subcommittee today. The record will remain open for two weeks for additional statements from the members and will remain open for answers to any follow-up questions the Subcommittee will have for witnesses. The witnesses are excused. The hearing is now adjourned.

[Whereupon, at 1:11 p.m., the Subcommittee was adjourned.]

Appendix 1:

Answers to Post-Hearing Questions

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[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Mr. Michael Partain, Member, ATSDR Camp Lejeune Community Assistance Panel (CAP) and Breast Cancer Survivor Born on Camp

Lejeune

Questions submitted by Chairman Brad Miller

Q1. Are there any factual inaccuracies or clarifications you would recommend the U.S. Marine Corps make to its recently released publication: ``Camp Lejeune: Historic Drinking Water, Questions and Answers,'' July 2010, available here: https://clnr.hqi.usmc.mil/clwater/Documents/CLHDW<INF>-</INF>Booklet.pdf

A1. Unfortunately, the United States Marine Corps continues to abuse their responsibility to keep the affected community properly informed concerning the Camp Lejeune drinking water contamination. To date there has been no acknowledgment or listing of any community sponsored website on the official Marine Corps web site for Camp Lejeune. There has been no attempt by Marine Corps Leadership to meet with any of the members of the affected community and address our concerns and/or grievances with the Marine Corps. The Marine Corps routinely abuses their custodial possession of the Camp Lejeune victim registry to disseminate information that supports only their point of view. General Conway stated in the preface of the July 2010 informational booklet that ``This booklet is designed to provide relevant information on the issue and answer many of the questions that have arisen concerning this matter.'' Until there is an objective reckoning of the historical facts pertaining to the Camp Lejeune drinking water contamination between the United States Marine Corps and the affected community, the Marine Corps' message will simply be nothing more than self serving propaganda.

Overall, We feel the booklet should be retracted and redone with input from both the Marine Corps and the affected community. I sincerely doubt that the Marine Corps would ever agree to this proposal.

Beginning on page 2 in the last paragraph, the sentence beginning with ``These chemicals, primarily found'' would be more accurate if it advised the reader that the chemicals were found both in the wells and tap water provided to the service personnel and their families on the base.

On page 3 the Marine Corps claims that ``once identified, the impacted wells were promptly taken out service.'' What the Marine Corps failed to inform the reader was that they were first warned about the contamination beginning in October of 1980 and failed to take any direct action to identify the source of the contamination until July 1984. The first well was then closed in December 1984.

On page 4 the time line fails to inform the reader about the existence of the Navy's potable water instruction issued in 1963 (BUMED 6240.3B). The time line also omits Camp Lejeune' 1974 Base Order 5100.13B declaring organic solvents hazardous and warning that disposal practices would contaminate the drinking water. The time line omits the Army laboratory's 1980 recommendation to test for chlorinated hydrocarbons by GC/MS and that this same laboratory advised the Navy that the contaminants found in the drinking water samples were solvents in February/March 1981. The timeline also failed to mention the President's May 2010 annual President's Cancer Panel report which recognized Camp Lejeune as an issue.

On page 5, the map showing the wells should also display the numerous contamination plumes of PCE, TCE, Vinyl Chloride and benzene found on the base.

On Page 6 the booklet once again fails to inform the reader of the

Navy's potable water regulations dating back from 1963. There is no mention of the initial warnings from the Army laboratory from 1980 through 1981. The booklet correctly informs the reader that PCE and TCE were identified as the contaminants in 1982 but failed to inform the reader that the wells were not ``promptly'' removed from service as claimed. The booklet should give the correct date and read ``beginning in December 1984, the wells were removed from service.''

The timeline on the bottom of page 6 incorrectly stated that targeted TCE/PCE samples taken in 1982 were within EPA recommended levels. Please see CLW 606 PDF page 2 paragraph 8.

The incorrect information concerning the targeted 1982 sampling event is repeated again as a written Q&A on page 7. The response to this question should be rewritten or withdrawn altogether.

The USMC's response to the second question concerning well 602 on page 7 cannot be substantiated by the existing historical record. The well was tested in July 1984 (CERCLA 388) and then closed on 30 November 1984. The actual report or letter from the contractor conducting the Confirmation Study which officially notified the Navy and the Marine Corps that well was contaminated is missing. If the Marine Corps wishes to assert that they aggressively began testing and identifying the contaminated wells in

1984, then they need to explain why they did not perform the same individual well testing in 1981, as they did for the drinking water system located at the base's Rifle Range. Please see USMC document CLW 3757.

On page 8, the USMC discussed the Navy's 1972 BUMED 6240.3C regulation for potable water systems for all Naval ships and stations. The UMSC correctly stated that BUMED 6240.3C does not specifically regulate TCE and PCE as an individual chemical but failed to explain the preventive measures found in the document designed to protect potable water systems from contamination and pollution, nor do they recognize that the regulation forbade ``Substances which may have a deleterious physiological effect, or for which the effects are not known'' in a manner in which would permit them to reach the consumer.

On page 10, the Marine Corps discusses three past investigations into the drinking water contamination and all three investigations were conducted without addressing the existence of BUMED 6240.3 regulations, the Base Order 5100.13B or the extent of the fuel loss at the Hadnot Point fuel farm. Furthermore, during the 2007 Congressional hearing regarding Camp Lejeune drinking water contamination, Tyler Amon of the USEPA revealed that he had recommended obstruction of justice charges be filed against certain LantDiv employees. The recommendations were later overruled by the U.S. Attorney.

The question found on page 12 needs to be re-written to reflect Dr. Portier's October 22 2010 letter (attached) to the Navy and this letter needs to be distributed to the affected community.

In response to the second question on page 12, the Marine Corps failed to inform the reader about the existence of a contract between the National Academies and the Navy/USMC concerning Camp Lejeune which was negotiated and signed prior to the release of the 2009 NRC report. Nor is it noted that the contract has since been dissolved after its existence was revealed in the media.

Please see the above response for page 10 in regard to our concerns with page 13.

Page 14 does not include the 2007 Congressional hearing nor does the timeline state why the ATSDR Public Health Assessment was withdrawn.

On pages 16-18 the Marine Corps informed the reader that they are

supporting ATSDR's efforts determine when the contamination began but failed to advise the reader that they attempted to withhold funding for ATSDR's studies in January 2010, that they did not inform ATSDR about the extent of the fuel loss at Hadnot Point until it was discovered by a member of the affected community earlier this year nor did the Navy reveal to the ATSDR the existence of a password protected electronic portal containing contamination documents vital to ATSDR's water modeling efforts until after the portal was accidently discovered by an ATSDR subcontractor.

On Page 21, the second question concerning notification should advise the reader that an act of Congress, signed into law in 2008, required the Navy/USMC to notify all residents of Tarawa Terrace of their exposures and that notification of the residents for the Hadnot Point system will begin only after ATSDR completes their water modeling project for Hadnot Point.

The third question on the page regarding whether the Marine Corps tried to cover up the contamination aboard the base is best answered by reprinting the attached Raleigh News and Observer's article containing a quote from the base Environmental Engineer, Robert Alexander, that ``People had not been directly exposed to the pollutants.''

The timeline for Notification and Outreach found on page 23 should be withdrawn. The timeline is misleading, inaccurate and has many omissions from 1980-1985.

Over the past several weeks we have been informed by members on our web site that the Marine Corps is now distributing their booklet to the affected community. It is our understanding that this same booklet was distributed to every member of Congress immediately prior to the September 2010 hearing. How and when will the affected community be able to air our concerns and grievances with the Marine Corps? The hearing was an important step forward but how can we, the affected community, compete against the self serving propaganda and virtually unlimited resources of the United States Marine Corps and their ability to state whatever they want to say, whenever they wish to say it to whoever they chose?

Q2. As a Member of ATSDR's Camp Lejeune Community Assistance Program (CAP) and a: Camp Lejeune activist you are intimately familiar with those Department of Navy (DON) and U.S. Marine Corps (USMC) documents that have been publicly released. Based on your review of those documents please indicate the DON and/or the USMC's knowledge concerning the dangers of organic solvents in the drinking water supplies at Camp Lejeune prior to these wells being shut down in 1984. Are there any indications based upon the available records that the Camp Lejeune base command staff influenced or concealed the public health warnings issued by both the Army and Grainger Laboratories in the early 1980s regarding the chemical contaminants in the drinking water supply at Camp Lejeune.

A1. Yes there are several indications that both representatives from the Navy's Atlantic Division (LantDiv) and the base command staff attempted to minimize the early contamination warnings issued by the Army and Grainger laboratories from 1980-1984.

According to the historical documents found in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Camp Lejeune Water (CLW) Libraries for Camp Lejeune there are clear indications that the leadership of the Navy and United States Marine Corps knew or at least should have known about the danger of groundwater used for potable water by pollutants used in and around

Camp Lejeune. The Navy issued a substantial revision of their potable water regulations in 1963. These regulations known as BUMED 6240.3B applied to all Naval vessels and installations including Camp Lejeune. While the regulation did not specifically regulate PCE, TCE, Vinyl Chloride and Benzene individually as contaminants, the regulation did set forth strict guidelines and preventive measures to prevent contamination of a water supply from extraneous sources. A second order, Base Order 5100.13B, from the base's Commanding General in 1974 revealed that Marine Corps leadership knew that organic solvents were hazardous and that there was a danger of drinking water contamination from improper disposal practices of these chemicals. A 1979 base environmental survey (CLW 245) lists Dry cleaning solvents, trichloroethylene, toluene, xylene and mogas as hazardous materials. Then in 1982 the Base Supervisory Chemist, Elizabeth Betz, noted several adverse health effects linked to tetrachloroethylene and tricholorethylene exposures in her memorandum for the record concerning the 10 August 1982 Grainger Laboratory letter to Camp Lejeune (CLW 606). These documents clearly show that at least by 1963 the Navy understood the dangers between industrial pollution and groundwater contamination.

It is not known at what exact date this relationship was established because the preceding versions for Base Order 5100.13B are missing from the historical record. Furthermore, the order lacked any higher headquarter references which would explain and justify why the Commanding General of Camp Lejeune issued the order in the first place. Without these references we cannot ascertain the exact date when the Navy knew organic solvents and other industrial pollutants including benzene was a hazard to ground water sources used for drinking water purposes. However, a 1986 court case, Clark vs. USA, did establish that by the 1950's it was generally known that TCE was unfit for human consumption.

The Navy's LantDiv was responsible for providing engineering support for Naval facilities, including Camp Lejeune. In 1979 two Naval facilities in Pennsylvania (Warminster and Willow Grove) detected PCE and TCE in their potable water systems. The contaminated wells were identified and closed immediately. Why did LantDiv fail to follow this same policy at Camp Lejeune? As cited in my testimony, representatives from LantDiv accompanied base officials in 1981 to test the Rifle Range system for organic contamination; this testing included the potable wells for that drinking water system. In July 1981 a letter from the Commander of Atlantic Division Naval Facilities Engineering Command to Camp Lejeune's Commanding General, Mr. Bailey of LantDiv advised Camp Lejeune not to use a Rifle Range potable water well found to be contaminated with organics. Concurrently with the testing of the Rifle Range, LantDiv received several warnings that the Hadnot Point water system was highly contaminated with chlorinated organics, including solvents. No action was taken by base officials or LantDiv personnel.

There are two specific examples which illustrate what we believe was a conscious decision by two separate Facility Assistant Chief of Staff Colonels to quash the significance of the Army and Grainger Laboratory's warnings to the base and LantDiv.

The first example took place on 25 August 1982 when Colonel J.T. Marshall responded to a letter from the Navy's Naval Energy and Environmental Support Activity (NEESA) concerning the draft copy of the base's Initial Assessment Study for Camp Lejeune (CLW 6332). The Colonel was tasked to review the draft copy of the report and provide comments by 25 August 1982. During the interim, the 10 August 1982 letter from Grainger Laboratory arrived on the Colonel's desk (CLW

592). Fifteen days later the Colonel responded to NEESA and advised that ``Discussion of Trihalomethane content of Rifle Range on page 2-18 and extensive data shown on pages 6-12 through 6-18 overly stresses relationship with hazardous material/waste disposal. It is important to note that accuracy of data provided by U.S. Army laboratory is questionable. It is recommended that TTHM information be de-emphasized throughout the report.'' (CLW 6332).

Shortly after the August 1982 response to NEESA, a change order was issued for the IAS in December 1982 (CERCLA 2059). The Grainger findings contained in the 10 August 1982 letter were not included in the change order. The lAS report for Camp Lejeune was then released in April of 1983. The Army and Grainger Laboratory's warnings concerning the Hadnot Point and Tarawa Terrace drinking water contamination were not included in the findings of the report.

The second incident occurred in June of 1983 after Mike Hargett of Grainger Laboratory informed the State of North Carolina about the problem with the base's drinking water systems. On 1 June 1983, Colonel Marshall compiled a table for all of the trihalomethane testing done on the base. He did not include the actual analytical data sheets provided by Grainger Laboratory. The original Grainger data sheets contained written warnings about the TCE and PCE contamination present in the Hadnot Point and Tarawa Terrace potable water systems.

On 2 June 1983, Mr. Larry Elmore, Environmental Engineer from the State's Water Supply Branch sent a letter to Colonel Marshall specifically requesting the analytical data sheets provided to the base by Grainger Laboratory (CLW 940). The base waited almost six months to provide a response. By then, Colonel Marshall was replaced by Colonel Lilley who finally responded to the Mr. Elmore's letter. The Colonel wrote to Mr. Rundgren, head of the Water Supply Branch for the State of North Carolina and resubmitted the trihalomethane tables previously complied by Colonel Marshall along with two additional tables explaining the results. Colonel Lilley also noted that per a 30 November 1983 telephone conversation with Dick Caspers at the Water Supply Branch, the original Grainger lab reports were not submitted as previously requested by Mr. Elmore in his 21 June 1983 letter. Colonel. Lilley then requested that Hadnot Point be reduced from quarterly trihalotmethane sampling to once a year. This same sampling was the source of the initial warning concerning the PCE and TCE contamination on the base (CLW 6348). It is important to note that benzene does not interfere with this type of testing and thus was not detected by either the Army or Grainger Laboratories.

Undoubtedly the interference from these two officers delayed the revelation of Camp Lejeune drinking water contamination for years. During that time tens of thousands of Marines, Sailors, their families and employees of the base were needlessly exposed to dangerous levels of PCE and TCE in the base's drinking water system.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Dr. Richard Clapp, Professor Emeritus, Department of Environmental Health, Boston University School of Public Health, Environmental Health Policy Consultant and Member of the ATSDR Camp Lejeune Community Assistant Panel (CAP)

Questions submitted by Chairman Brad Miller

Q1. Are there any factual inaccuracies or clarifications you would

recommend the U.S. Marine Corps make to its recently released publication: ``Camp Lejeune: Historic Drinking Water, Questions and Answers,'' July 2010, available here: https://clnr.hqi.usmc.mil/clwater/Documents/CLHDW<INF>-</INF>Booklet.pdf

A1. In that regard, I note that the cover letter by Commandant Conway says ``the scientific community has not established an association between exposure to the contaminated water and health conditions reported by former residents of Camp Lejeune,'' and the text of the booklet on page eight says ``studies to date have not shown any causal link between exposure to contaminated water at Camp Lejeune and illnesses,'' and ``At this time, scientific studies have not linked exposure to the impacted drinking water at Camp Lejeune to any illnesses.'' As I said in my testimony, the Camp Lejeune health studies are not complete but there is considerable literature about the health effects of these contaminants and adverse health outcomes. For example, the Woburn, Massachusetts drinking water contaminated with TCE and PCE has been statistically linked to childhood leukemia in two published studies. (see Lagakos, et al., 1986 and Costas, et al., 2002) I think the Marine Corps booklet should acknowledge these other studies, since the ATSDR studies of Camp Lejeune illnesses are not completed yet.

The booklet also says in the timeline entry for 1982 on p. 7, ``Base officials determine that sampling results were within Environmental Protection Agency (EPA) recommended levels.'' I do not have the EPA documentation for 1982 readily available, but from my experience in Massachusetts at that time, I know that the Woburn wells contaminated with TCE (267 ppb) and PCE (21 ppb) were considered above acceptable levels and shut off in 1979. This should be clarified in the booklet. I believe another expert who testified at the September 16 hearing can comment on a statement on p. 4 of the booklet that ``Once identified, the impacted wells were promptly taken out of service.'' It is my understanding that there was a considerable delay in shutting off Well 602, but I would defer to Mr. Hargett on this specific issue.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Mr. Michael Hargett, General Director, Anchimeric Associates and Former Co-Owner of Grainger Laboratories

Questions submitted by Chairman Brad Miller

Q1. Are there any factual inaccuracies or clarifications you would recommend the U.S. Marine Corps make to its recently released publication: ``Camp Lejeune: Historic Drinking Water, Questions and Answers,'' July 2010, available here: https://clnr.hqi.usmc.mil/clwater/Documents/CLHDW<INF>-</INF>Booklet.pdf

A1. 1) Presentation of ``chemicals'' in the drinking water is somewhat naive and reflects a poor understanding of the problem to be addressed and common utility communications for water systems.

In chemistry, a chemical substance is a material with a specific chemical composition.

A common example of a chemical substance is pure water; it has the same properties and the same ratio of hydrogen to oxygen whether it is isolated from a river or made in a laboratory. Some typical chemical substances are diamond, gold, salt (sodium chloride) and sugar

(sucrose). Generally, chemical substances exist as a solid, liquid, gas, or plasma and may change between these phases of matter with changes in temperature or pressure. Chemical reactions convert one chemical substance into another.

Chemical substances (also sometimes referred to as a pure substance) are often defined as ``any material with a definite chemical composition'' in most introductory general chemistry textbooks. According to this definition a chemical substance can either be a pure chemical element or a pure chemical compound. But, there are exceptions to this definition; a pure substance can also be defined as a form of matter that has both definite composition and distinct properties. The chemical substance index published by CAS also includes several alloys of uncertain composition.

Non-stoichiometric compounds are a special case (in inorganic chemistry) that violates the law of constant composition, and for them, it is sometimes difficult to draw the line between a mixture and a compound, as in the case of palladium hydride. Broader definitions of chemicals or chemical substances can be found, for example: ``the term 'chemical substance' means any organic or inorganic substance of a particular molecular identity, including--any combination of such substances occurring in whole or in part as a result of a chemical reaction or occurring in nature''

The correct expression would be a reference to contaminants.

2) The statement that the ``groundwater'' was the source of the contaminants is absurd. ALL drinking water at the base is groundwater.

3) The drinking water at the base was subject to the Safe Drinking Water Act (Public Law 93-523) as early as 1981 when primacy for enforcement of the act was assumed by the State of North Carolina and the grace period provided by EPA and Congress for compliance expired.

This is why, when informed by regional engineers for the Water Supply Branch for the State of North Carolina, Camp LeJeune contracted with Grainger Laboratories for water analyses that were consistent with certification requirements of the ACt. This is referenced in the purchase order from the base to Grainger Laboratories.

In 1974 Congress enacted the Safe Drinking Water Act (SDWA) (P.L. 93-523, 88 Stat. 1660) to protect the quality of both actual and potential drinking water in the United States. Congress had created the SDWA in response to a nationwide survey that revealed health risks from inadequate public water-supply facilities, polluted supplies, and operating procedures that did not achieve a safe water quality. To achieve its goal the SDWA provides water quality standards for drinking-water suppliers, protects underground drinking-water sources, and directs appropriate deep-well injection of wastes.

The SDWA requires the U.S. Environmental Protection Agency (EPA) to regulate all ``public water systems,'' defined as systems that provide piped water for human consumption for at least sixty days a year to at least fifteen service connections or twenty-five people. The EPA does this through Primary Drinking Water Regulations, by which it first identifies contaminants that may pose a risk to human health and that occur in drinking water at potentially unsafe levels. Then the EPA specifies a Maximum Contaminant Level Goal (MCLG) for each contaminant, which is set at the level below which there is no predicted health risk. Finally the EPA creates a legally enforceable Maximum Contaminant Level (MCL), which is the greatest amount of contaminant that will be allowed in the public water supply. This MCL must be set as close as is feasible to the MCLG after taking into account the best technology, treatment techniques, and costs. Since the 1996 amendments discussed below, the EPA may instead require a Treatment Technique for removing

the contaminant if there is neither an economically or technologically feasible MCL, nor an accurate way to measure the contaminant in water.

4) The contaminated wells were not immediately shutdown as claimed by the USMC as evidenced by the continuation of sampling and consultations with base personnel for corrective actions.

5) Public communications (as prescribed in PL 93-523 and detailed in EPA advisories and communications at the time) were not initiated until 7 years later after additional events had occurred to further contaminate the groundwater.

6) The brochure does not address the high levels of Trihalomethanes noted in the drinking water or the corrective actions initiated to lower the levels of this carcinogen.

7) The statement that ``. . . The ability to test for various chemicals in drinking water and requirements to conduct such testing were evolving through the late 1970s and early 1980s . . .'', is misleading and incomplete in fact the contaminants of interest had well established analytical methods for drinking water as early as the 1950s and were used by US Government agencies for similar evaluation and contaminant source identification.

8) The health effects of chlorinated solvents was well established in the 1960s and 1970s and the basis of warning to the base in 1982 and 1983 was based on known health impacts. The statement referencing the absence of regulatory limits in the SDWA at that time is irresponsible and without merit.

9) As indicated in my testimony, the motivation for discussion and further corrective actions were based on the hazards associated with continuing exposure.

10) The USMC demonstrated gross negligence under the SDWA in 1983-1987 in a failure to seek resolution of a clearly defined and communicated peril to base occupants and workers.

My opinion is this document was written by a contractor with poor understanding of the SDWA and water utility industry operations. The brochure is defensive and lacks objectivity and an honest exchange of meaningful communications.

Please feel free to contact me if there are further questions where I can assist.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Major General Eugene G. Payne, Jr., Assistant Deputy Commandant for Installations and Logistics (Facilities), Headquarters, United States Marine Corps

Questions submitted by Chairman Brad Miller

Q1. Please provide the Committee with a list of what specific ``scientific efforts'' this $22 million has funded, which should include the following details:

a. A brief description of the specific ``scientific effort'' funded;

b. The amount of funding provided;

c. When the funding was provided and when the,project was completed or is expected to be completed; and

d. The agency, contractor, consultant or individual who received this funding.

e. Please include a description of the primary ``deliverables'' the Department of the Navy and or U.S. Marine Corps received as a result of funding the project or ``scientific effort.''

A1a. The scientific efforts include:

- Health studies and initiatives conducted by the Agency for Toxic Substances and Disease Registry (ATSDR). These studies and initiatives include:

i. A Public Health Assessment (1997).

ii. An Adverse Pregnancy Outcomes Study (1998).

iii. A National Survey of Children who were born at Camp Lejeune 1968-1985 (2001).

iv. A Birth Defects and Childhood Cancer Study (Ongoing).

v. Historic Water Modeling Dose Exposure Reconstruction (Ongoing).

vi. Community Assistance Panel Meetings (Ongoing).

vii. Congressionally Mandated Health Survey (Ongoing).

viii. Mortality Study (Ongoing).

ix. Cancer Incidence Study (Ongoing).

- A review by the National Academies National Research Council (NRC) on the scientific evidence on associations between adverse health effects and historical data on prenatal, childhood, and adult exposures to contaminated drinking water at Camp Lejeune.

A1b. The Department of the Navy (DON) has provided ATSDR approximately $21.7 million between Fiscal Year (FY) 1997 and FY2010. The DON provided NRC with $0.948 million for their review. In addition, prior to the release of the results of NRC's review, DON provided the NRC with $0.600 million to do potential follow-on reports. To date, the DON has not tasked the NRC to do any follow-on reports.

A1c. ATSDR is the appropriate party to provide these answers. However, regarding ATSDR's work, please find enclosed with this response, for reference, copies of the Annual Plans of Work negotiated between DON and ATSDR for FY 2000-2010. These provide information on ATSDR's planned work and the funding provided by FY. Questions regarding ATSDR study completion dates should be directed to ATSDR.

Regarding the NRC review, DON provided $0.850 million in FY07 and $0.098 million in FY08. This project is complete. In addition, prior to the release of the NRC report in June 2009, DON provided the NRC with

$0.600 million in FY09 funds for any necessary follow-on reports. To date, NRC has not been tasked to do any follow-on reports.

A1d. DoN funding for these efforts were provided directly to ATSDR and the NRC. Questions regarding any contractors, consultants or individuals that they may have used as part of the studies should be directed to these organizations.

A1e. At present, there is one published ATSDR health study concerning Camp Lejeune, a 1998 Adverse Pregnancy Outcomes Study that looked at birth weights of children born at Camp Lejeune. However, we have been advised that ATSDR plans to reevaluate this study. ATSDR also published a Public Health Assessment (PHA) in 1997 evaluating the risk to human health and the environment from hazardous waste sites but it was later withdrawn from ATSDR's website for reevaluation. PHAs are conducted by ATSDR for all National Priorities List installations. Questions regarding interim reports on ongoing ATSDR health studies should be directed to ATSDR.

The DoN received a report from the NRC in June 2009, ``Contaminated Water Supplies at Camp Lejeune, Assessing Potential Health Effects.'' In the report, the committee assessed the strength of evidence in establishing a link or association between exposure to trichloroethylene, tetrachloroethylene, and other contaminants and each adverse health effect suspected to be associated with such exposure.

Q2. Please also provide the Committee with a copy of the U.S. Marine Corps booklet, ``Camp Lejeune: Historic Drinking Water, Questions and Answers'' July 2010, for insertion into the record.

A2. U. S. Marine Corps' Camp Lejeune Historic Drinking Water booklet attached (enclosure 1).\2\

\2\ https://clnr.hqi.usmc.mil/clwater/Documents/CLHDW<INF>-</INF>Booklet.pdf

Q3. Are you aware of any interagency review as part of the OMB testimony review process? If so, what agencies, that you are aware of, have reviewed your draft testimony?

A3. As the lead agency for interagency testimony review, OMB is the appropriate agency to provide information about what agencies were involved in the OMB testimony review process.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Questions submitted by Representative Paul C. Broun

The question below was originally submitted by Ranking Member Broun to Mr. Thomas J. Pamperin, Associate Deputy Under Secretary for Policy and Program Management, Veterans Benefit Administration, U.S. Department of Veterans Affairs. The VA and Mr. Pamperin deferred the question to the Department of Defense with the concurrence of Dr. Broun's staff. The response to that question from Major General Payne is listed below.

Q1. During the time that the water at Camp Lejeune was contaminated, it was not only military personnel who were exposed, but civil servants

and dependents were also potentially exposed.

c. In the past 50 years, have there been similar situations in which dependents and civil servants were exposed to the same contamination as military personnel?

A1. The Marine Corps is not aware of similar situations at other installations in which Marine Corps dependents, dependents of personnel from other services living aboard Marine Corps installations, or civilian employees were exposed to environmental contamination at levels of potential concern. Under the Comprehensive Environmental Response, Compensation, and Liability Act, the Agency for Toxic Substances and Disease Registry (ATSDR) conducts public health assessments (PHAs) for all sites on the National Priorities List. A review of PHAs for Marine Corps installations indicates that ATSDR only identified potential public health hazards from environmental contaminants at Marine Corps Base (MCB) Camp Lejeune and the former Marine Corps Air Station (MCAS) El Toro. The PHA for MCB Camp Lejeune, which was removed from ATSDR's website in April 2009 for re-evaluation, indicated a past public health hazard related to environmental contamination. While the PHA for MCAS El Toro indicated an ``indeterminate public health hazard'' related to environmental contamination due to a lack of data, ATSDR found that identified exposures (carbon tetrachloride, chloroform, trichloroethylene, perchloroethylene, and nitrates-N) detected in regional groundwater at the levels detected ``does not represent a public health hazard'' at this time.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Dr. Chris Portier, Director, Agency for Toxic Substances and Disease Registry (ATSDR)

Questions submitted by Chairman Brad Miller

Q1. Are you aware of any interagency review as part of the OMB testimony review process? If so, what agencies, that you are aware of, have reviewed your draft testimony?

A1. Interagency review is part of the standard procedures for clearance of testimony of federal agency witnesses, since such witnesses are Administration witnesses. Pursuant to long-standing OMB protocols, federal agencies are required to submit draft Congressional testimony to OMB. OMB coordinates clearance of the testimony so as to assure appropriate consideration of the views of all affected agencies. ATSDR's testimony for the Camp Lejeune hearing went through interagency clearance, and ATSDR addressed comments received from other agencies. Where ATSDR made changes to the testimony after consideration of other agencies' comments, the changes were approved by me, as was the final testimony.

Q2. Please describe what steps you intend to take to speed up the pace of the five projects ATSDR is currently involved in related to Camp Lejeune? Some of these studies were begun years ago, yet according to ATSDR, four of those projects won't be completed until the spring of 2012 and the fifth one will not be completed until September 2013. It

is important these studies be completed promptly. Please describe any steps that ATSDR intends to take to complete these studies in a more timely fashion.

Water modeling is a key component of ATSDR's ongoing studies at Camp Lejeune. Because only limited measurements of contaminant concentrations are available, ATSDR is using complex modeling techniques to reconstruct historical conditions of groundwater flow, contaminant fate and transport, and the distribution of contaminated drinking water delivered to family housing areas. The modeling requires identification, review and organization of vast amounts of historical data and other information. Delays in obtaining from DOD data for water modeling have delayed completion of the studies that rely on the modeling.

ATSDR has taken several steps, which the Agency intends to maintain, in an effort to complete all water-modeling activities more rapidly, without compromising accuracy or thoroughness. For example:

<bullet> ATSDR has added technical and administrative staff to the water-modeling team:

- A senior-level hydrogeologist has been brought on board full time, through an interagency agreement with the US Geological Survey; this team member, who resides at ATSDR, conducts data and water-modeling analyses.

- An ATSDR environmental health scientist with petroleum engineering academic and professional experience has been assigned to the water-modeling effort 60 percent of the time to assist with geohydrologic analyses and characterizations.

- A fulltime employee has been brought on board through the Senior Environmental Employment Program to further assist with data and information analyses.

- An administrative assistant has been assigned for water-modeling project use, 50 percent time, to assist with administrative tasks such as Quality Assessment/ Quality Control review of reports and data, and other project administrative tasks.

<bullet> To promptly complete all data discovery activities:

- ATSDR assigned additional staff to represent ATSDR on the ATSDR/DON/USMC data mining and discovery technical work group.

- An ATSDR staff was assigned as a liaison to Camp Lejeune for this activity.

<bullet> Computational capacity continues to be enhanced through the purchase during FY 2010 of ten 64-bit, high-end scientific workstations, to enable simultaneous simulation runs of groundwater flow, fate, and transport.

The above measures are increasing the pace of water modeling of Hadnot Point and Holcomb Boulevard, and in turn will expedite

completion of (1) the re-analysis of the pregnancy outcome study (also known as the small for gestational age, or SGA, study), (2) the case-control study of neural tube defects, oral clefts, and childhood hematopoietic cancers, and (3) the mortality study. ATSDR will use the results from this modeling to conduct the analyses for these studies.

Also to complete these studies as quickly as possible, ATSDR plans to do virtually all of the analyses with the preliminary results from the water modeling, plugging in the final results of the water modeling when they become available.

As for the health survey, the contract was awarded in September, 2010, and work began in October, 2010. The first wave of health surveys will be sent out in the late winter and early spring of next year. The additional mailings to encourage participation will take approximately 6 months, i.e., until near the end of the summer. Analyzing the surveys and determining whether to go forward with the morbidity study (i.e., confirmation of participant-reported cancers and other diseases of interest) will take approximately an additional 2 to 3 months. The health survey part of the project is expected to be completed by the end of November 2011. An expert panel will be convened to review the results from the initial phase and to make recommendations as to whether to go forward. If ATSDR does go forward, then confirmation of reported diseases, data analyses and report writing will take at least another 18 months. We anticipate that the currently planned projects associated with Camp Lejeune will be completed by summer of 2013.

[GRAPHICS NOT AVAILABLE IN TIFF FORMAT]

Answers to Post-Hearing Questions

Responses by Mr. Thomas J. Pamperin, Associate Deputy Under Secretary for Policy and Program Management, Veterans Benefits Administration, U.S. Department of Veterans Affairs

Questions submitted by Chairman Brad Miller

Q1. Are you aware of any interagency review as part of the OMB testimony review process? If so, what agencies, that you are aware of, have reviewed your testimony?

A1. OMB Circular A-19, ``Legislative Coordination and Clearance,'' outlines the process by which all Executive Branch agencies provide testimony to and receive clearance from OMB as part of submitting reports, including testimony, to Congress. Section 8 outlines the interagency coordination process. As part of this hearing, we are aware of our testimony being coordinated with the Departments of Defense and Health and Human Services.

Q2. Your testimony regarding the number of Camp Lejeune veterans compensated by VA due to their exposures to toxic chemicals in the drinking water supply was at odds with numbers provided to Subcommittee staff prior to the hearing. Please provide the Subcommittee with an accurate list of the number of Camp Lejeune veterans that the VA has compensated due to toxic chemical exposures at the base, when their claims were granted, and the proportion of the claim granted, i.e. 100-percent, 30-percent, etc.

A2. Provided below is a table reflecting the results of VA's initial data search of those Camp Lejeune Veterans compensated between 1997 and

2010. VA is still reviewing its records, and will update the Committee should any substantial new findings occur as a result of this ongoing review.

[GRAPHIC(S) NOT AVAILABLE IN TIFF FORMAT]

Q3. In addition, in your testimony you indicated that you did not know when the VA's Camp Lejeune Task Force would complete its work and submit its report to the Secretary of Veterans Affairs. However, prior to your testimony the Subcommittee staff was led to believe that the task force's work had already been completed and that it had already delivered its report to the Secretary. Please provide a clear response indicating the status of the task force's work, whether the task force has completed its report and recommendations to the VA Secretary and if so when this work was completed. If the task force has not yet completed its work, please indicate when the task force intends to complete its work and deliver its report to the Secretary if it has not done so already.

A3. Task Force recently acquired additional and significant information from CDC's Agency for Toxic Substances and Disease Registry (ATSDR). Based on this new information, the Task Force is re-evaluating its recommendations to the Secretary. We anticipate that the Task Force report will be finalized and presented to the Secretary by the end of January, 2011.

Q4. At the hearing you stated that: ``Establishing presumptive diseases [tied to exposures at Camp Lejeune] at this point would be premature.'' Was this assertion based upon recommendations by the VA's Camp Lejeune Task Force? What data does the VA believe it requires in order to establish ``presumptive'' health claims tied to Camp Lejeune?

A4. VA's Task Force is currently re-evaluating its recommendations in light of recent information from ATSDR. This new information from ATSDR, as well as the June 2009 National Research Council report and other scientific information will serve as the basis for recommendations regarding data needs and presumptive service connections related to service at Camp Lejeune.

Q5. In your written testimony you wrote: ``For those cases that have been denied, claims have normally been--not been granted because of one or [sic] three criteria: the veteran did not serve at Lejeune during the period of the contamination, the current disease, or disability and the medical nexus between the current disease was not established.'' Your statement appears to only indicate two criteria. Please indicate the third criteria upon which most Camp Lejeune denials have been based.

A5. Service connection for a disability related to service at Camp Lejeune requires that all three of the following criteria are met: (1) evidence that the Veteran served at Camp Lejeune during the period of water contamination, (2) evidence of a current chronic disease or disability, and (3) evidence providing a nexus or causal link between the current disability and the service at Camp Lejeune. Evidence of causation would likely come from a qualified medical professional who provides a rational scientific basis for establishing the nexus. However, such a nexus may be difficult to establish because there are

unresolved issues related to the amount and duration of potential toxic exposure among the exposed Camp Lejeune Veteran population, as well as a lack of scientific certainty on what diseases may be associated with the drinking water contaminants.

Questions submitted by Representative Paul C. Broun

Q1. During the time that the water at Camp Lejeune was contaminated, it was not only military personnel who were exposed, but civil servants and dependents were also potentially exposed.

a. What are the current rules regarding benefits or resources provided to dependents of military personnel exhibiting illnesses that may be attributable to their time living on the base during the exposure period?

A1a. Congress authorizes VA to provide benefits, including compensation for disabilities resulting from service, to Veterans. Congress has not authorized disability compensation for family members and dependents of Veterans who develop disabilities related to living with the Veteran during the period of military service. This includes family members and dependents of Veterans who lived at Camp Lejeune.

b. Are they eligible to receive benefits under current law?

A1b. Surviving dependents of deceased Veterans who served at Camp Lejeune may be eligible to receive monthly payments for dependency and indemnity compensation if the Veteran's service-connected disability was a primary or secondary cause of death or if the Veteran's disability was rated at 100 percent disabling for 10 consecutive years immediately before the Veteran's death or for 5 consecutive years following separation from service.

Q2. The original claims of Mr. Watters and Mr. Deveraux were rejected by low level claims adjusters at the VA. Since those initial rejections, the claims have been determined to be valid, since both men testified that they have been granted 100% disability, but only after having presented their cases and substantial information to upper level management in the VA.

a. On what basis were these claims initially denied?

A2. Service connection for a disability related to service at Camp Lejeune requires: (1) evidence that the Veteran served at Camp Lejeune during the period of water contamination, (2) evidence of a current chronic disease or disability, and (3) evidence providing a nexus or link between the current disability and the service at Camp Lejeune. Regional Office personnel understand these requirements and adjudicate cases based on these criteria.

In the case of Mr. Devereaux's breast cancer, there was insufficient evidence of a nexus or causal link between the breast cancer and the service at Camp Lejeune presented with the initial claim. In the case of Mr. Watters, there was insufficient initial evidence of a medical association between exposure to contaminated water at Camp Lejeune and his renal cancer.

Q3. When asked about protocols in place at the VA to ensure that lower

level VA personnel are properly informed and are not denying claims as a matter of course, you testified that in 2009, a training letter was dispatched to all claims handlers.

> a. Do you feel that a letter is a sufficient amount of training required to make fair determinations regarding claims of exposure from Camp Lejeune?

A3a. Regional Office (RO) personnel were alerted to the Camp Lejeune situation during a nationwide broadcast in June 2009, when they were asked to adjudicate these claims based on the evidence available in each individual case. A training letter followed on April 26, 2010, which outlined details of developing evidence and ordering medical examinations for Camp Lejeune-related claims.

In an effort to ensure consistency in the adjudication of these claims and establish a statistical database of information, VBA will consolidate Camp Lejeune-related claims to the Louisville Regional Office. Policies and procedures for implementing this decision, including training of claims personnel, are scheduled to be completed by January 2011. These efforts will ensure that disability claims based on service at Camp Lejeune receive fair and consistent evaluations and determinations.

> b. Have there been instances since the training letter went out in which veterans were initially denied their claims, but after gathering significantly more evidence and presenting to upper level personnel, were granted 100% benefits similar to the situations described by Mr. Watters and Mr. Devereaux?

A3b. VA does not track initial service connection denials for claims based on service at Camp Lejeune that are later re-adjudicated and granted. Therefore, we are unable to determine at this time if a subsequent rating decision grants 100 percent disability or any other disability rating percentage. A denied claim may be subsequently granted upon appellate review or by the submission of new evidence sufficient to warrant service connection.

Appendix 2:
