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THE ENVIRONMENTAL RESTORATION PROGRAM AT SPRING VALLEY

HEARING

BEFORE THE

SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE, AND THE DISTRICT OF COLUMBIA

OF THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

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THE ENVIRONMENTAL RESTORATION PROGRAM AT SPRING VALLEY

WEDNESDAY, JUNE 10, 2009

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE, AND THE DISTRICT OF COLUMBIA,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 2 p.m., in room 2247, Rayburn House Office Building, Hon. Stephen F. Lynch (chairman of the subcommittee) presiding.

Present: Representatives Lynch, Norton, Cummings, Kucinich, Clay, Connolly, Chaffetz, and Bilbray.

Staff present: William Miles, staff director; Marcus A. Williams, clerk/press secretary; Jill Crissman, professional staff; Aisha Elkheshin, intern; Adam Fromm, minority chief clerk and Member liaison; Howard Denis, minority senior counsel; and Alex Cooper, minority staff member.

Mr. LYNCH. Good afternoon. The Subcommittee on Federal Workforce, Postal Service, and the District of Columbia will now come to order.

Well, I welcome our ranking member, Mr. Chaffetz, members of the subcommittee, hearing witnesses, and all those in attendance. Today's hearing will examine the recent progress or lack thereof of the restoration program at the Spring Valley development. We will discuss the current and future criteria that will be used in declaring the site clear of environmental health contaminants and assess the level of transparency and/or community engagement associated with the cleanup.

The Chair, ranking member, and subcommittee members will each have 5 minutes to make opening statements. All Members will have 3 days to submit statements for the record.

Ladies and gentlemen, again let me welcome you to the second of what will be a series of oversight hearings on federally related District of Columbia issues which the subcommittee intends to hold during the first session of the 111th Congress. At the urging of the gentlelady from the District of Columbia, Ms. Eleanor Holmes Norton, today's hearing was convened to discuss the latest developments in the cleanup and restoration of the Spring Valley formerly used defense site located in the northwest quadrant of our city.

For decades, residents living in the community surrounding Spring Valley and the campus of American University have had to endure disruptions of their land and their livelihood as the Department of Defense, the U.S. Army Corps of Engineers, the Environ-

mental Protection Agency, and local D.C. governing agencies have worked to remedy various environmental and health hazards stemming from past usage of the 661 acre site by the U.S. Army for the development and testing of chemical agents, equipment, and munitions during World War I.

While wholly unacceptable by today's standards, the U.S. Army closed the doors on the Spring Valley site immediately following the conclusion of World War I. Instead of responsibly disposing of these dangerous materials, the agency simply dug holes in the ground, buried the site's remnants, and walked away.

Well, nearly 90 years has passed since the days of the American University Experimental Station and Camp Leach yet even today ordnance, metallic debris, chemical agent breakdowns, and unexploded munitions continue to be discovered, investigated, and in most cases removed from the Spring Valley site.

To their credit, since the 1993 discovery of buried ordnance by a local utility worker and the premature termination of field work in the 1995 site clean declaration, the Corps and its partners have made substantial progress in cleaning up and remediating Spring Valley. With over $170 million spent, the Corps has removed thousands of cubic yards of arsenic contaminated soil, disposed of hundreds of munitions and ordnance related debris, and identified and investigated dozens of points of interest within Spring Valley, all while attempting to keep the community informed of the project's progress through the Spring Valley Restoration Advisory Board.

Despite the gains made over the past 15 years in restoring Spring Valley, the fact of the matter is that a great number of questions and concerns continue to persist around the Spring Valley cleanup process: the methodology and science employed, the level of transparency involved, and the Corps' proposed timeline for field work and/or project completion. Today's hearing is intended to get answers to some of these critical questions and problems, and to bring about the ultimate environmental restoration of Spring Valley and the reassurance to its residents that the area no longer poses potential harmful and hazardous health risks.

I appreciate the participation of today's witnesses and, more importantly, having their assistance in helping the subcommittee ascertain what future course of actions should be taken with regard to the Spring Valley cleanup project.

I now yield for a 5-minute opening statement to the ranking member, Mr. Chaffetz.

[The prepared statement of Hon. Stephen F. Lynch follows:]

**STATEMENT OF CHAIRMAN STEPHEN F. LYNCH
AT THE SUBCOMMITTEE ON FEDERAL WORKFORCE
AND POSTAL SERVICE, AND THE DISTRICT OF COLUMBIA
OVERSIGHT HEARING ON**

**THE ENVIRONMENTAL RESTORATION PROGRAM AT
SPRING VALLEY**

June 10, 2009

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###

Mr. CHAFFETZ. Thank you, Mr. Chairman. Thank you for holding this hearing today. In 2001 and 2002, the old District of Columbia Subcommittee, then chaired by Representative Connie Morella, held hearings on the status of the cleanup of contaminated sites in the Spring Valley area. Today we will revisit some of those issues discussed in those hearings to see what sort of progress has been made and what the prospects are for the future.

After the United States of America declared war against the German Empire and the Austro-Hungarian Empire in 1917, the Spring Valley area was used as a testing site by the Army for munitions and chemical agents. It is now referred to as a formerly used defense site. Today, Spring Valley is home to the American University and to hundreds of homes first developed in the 1920's.

In 2002, the GAO issued a report on the environmental contamination and uncertainties which were continuing to affect the progress of the Spring Valley cleanup. The report evaluated the health risks associated with the hazards identified and removed from Spring Valley, and evaluated the Corps' estimated cost and cleanup schedule.

It is important for all to know and for the witnesses to address whether or not there are remaining health risks and to clarify the duration and costs of the cleanup. Clearly, the Federal Government has a responsibility to make sure the contaminants are removed in their totality.

I look forward to hearing about the status of the Spring Valley cleanup from our distinguished witnesses. I thank you all for your participation, your willingness to be here.

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

[The prepared statement of Hon. Jason Chaffetz follows:]

EDOLPHUS TOWNS, NEW YORK
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Opening Statement of Jason Chaffetz, Ranking Member
Subcommittee on Federal Workforce, Postal Service, And the District of Columbia
June 10, 2009

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I look forward to learning about the status of the Spring Valley cleanup from our distinguished witnesses.

Thank you, Mr. Chairman.

Mr. LYNCH. Thank you. Now I would like to recognize really the person who has been the catalyst for the ongoing work, someone who has spent far more time than I have on this issue. She has really done a fantastic job, in my opinion, in representing the people of Spring Valley and the entire District. I must say that if I were someone living in D.C., if I were someone living in the Spring Valley neighborhood, I would be very happy with the way Ms. Eleanor Holmes Norton has handled her responsibility. I would feel very reassured in the way she has handled this issue and her absolute vigilance on behalf of the people that she represents. It is heartwarming to see. So with that, I recognize the gentlelady from the District of Columbia for 5 minutes for an opening statement.

Ms. NORTON. I thank you very much, Mr. Chairman, for those very gracious comments. I very much appreciate Chairman Lynch's willingness to schedule this hearing early on our subcommittee agenda. I listed Spring Valley as one of my top priorities in a letter to the Chair as the legislative year began because of the national and local importance of confronting Federal responsibility for informing residents of toxic substances in communities, particularly when the Federal Government itself deposited them there and has an undisputed responsibility to clean the area and to shoulder the burden of proof of showing that the area is again safe.

I appreciate that, beginning in my early years in Congress when I was in the minority, this committee has held every hearing that I have requested to assure that the Spring Valley neighborhood surrounding American University is cleared of World War I chemical and other weapons by the Army Corps of Engineers.

I ask my colleagues to put themselves in the position of my Spring Valley constituents who have worked hard to purchase homes in one of the District's most attractive neighborhoods. By sheer happenstance a utility worker discovers a cache of old weapons and in short order they are identified as buried chemical ordnance left behind by the Army.

There are similar areas called formerly used defense sites or FUDS around the country where munitions have been buried and cleaning is necessary. However, they are usually far from densely populated areas. We know of no other FUDS in a major city where a residential area was developed around and on top of the FUDS without the Government disclosing that it had buried potentially harmful munitions.

Munitions were also buried in other areas in the District, in northeast and southeast, but Spring Valley is the largest uncleaned residential area here where munitions were buried. Yet at the time there was no doubt, at the very time when this testing was going on there could have been no doubt, that this area where American University after all was already located would be even more fully developed.

The history of Spring Valley is long and convoluted, but at its core is the Army's decision during World War I to use this area in the northwest of the District for the first dangerous tests and experiments with its new and developing chemical weapons program.

The decision to locate a major chemical testing facility and then to bury the debris, unexploded ordnance, and chemicals on the site here was no accident. The District had no local government. Its

citizens could elect no one to speak for them in the city where they lived, and no one to represent them in the Congress which collected their taxes. The Federal Government itself ruled the city using federally appointed commissioners. Thus the Army was free to do here what it could not due in Maryland, Virginia, or any other State close to a residential area.

As many as 800,000 District residents had no vehicle for information on what the Army was doing in their city and no right to know. The District of Columbia was for all these war time chemical experiments what poorer nations are today when they receive landfill garbage, scrap metal, and other waste that Americans do not want in their communities.

As the Spring Valley community more fully developed, the Army continued to fail to inform the District or the Spring Valley residents of the munitions and the possible dangers they might pose. In fact, during the 1950's and again in the 1980's American University and others raised concerns about buried munitions in Spring Valley, but it was not until 1993 that the Army Corps finally declared the site a FUDS. That was only after a utility worker accidentally stumbled upon buried ordnance.

Since that discovery, the Corps has left Spring Valley twice concluding that no large hazards remain. Both times, the Corps had to return for more cleaning. Only the oversight of this subcommittee has assured continuing cleanup of Spring Valley. Now the Corps of Engineers has again announced to the community that it intends to leave the area in 2 years. However, Mr. Chairman, the Corps neither informed this committee, despite our oversight over the years, or me, the city's only elected congressional official. I learned of the Corps' intention from my Spring Valley constituents.

The Corps had no right to announce its exit without more, especially considering the many errors and mishaps so far and in an absence of transparency over the years that borders on suppression of information. Neither Congress nor the community has seen the Corps' 2 year exit plan or any evidence that the area has been cleaned. Appropriate oversight by the Environmental Protection Agency has been in question. The decision to destroy the munitions onsite raises a host of additional issues. No objective evaluation has been done to assure that this time there is no more ordnance in the area.

This hearing and any others that may be required seek and must obtain the answers the District and the residents of Spring Valley are entitled to have before the Army leaves the Nation's only residential site it once used to develop chemical munitions.

I thank our Spring Valley witnesses: Greg Beumel, Nan Wells, Thomas Smith, Kent Slowinski, and Harold Bailey. I thank the Army, the Army Corps, the EPA, the GAO, the D.C. Department of Environment, our expert ordnance recovery expert Mr. Barton, and President Kerwin of the American University. I very much look forward to hearing from each and every one of you.

Thank you again, Mr. Chairman.

[The prepared statement of Hon. Eleanor Holmes Norton follows:]

ELEANOR HOLMES NORTON
DISTRICT OF COLUMBIA

COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
SUBCOMMITTEES:
CHAIRWOMAN
ECONOMIC DEVELOPMENT, PUBLIC BUILDINGS, AND EMERGENCY MANAGEMENT
AVIATION
WATER RESOURCES AND ENVIRONMENT

Congress of the United States
House of Representatives
Washington, D.C. 20515

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SUBCOMMITTEES:
FEDERAL WORKFORCE, POSTAL SERVICE, AND DISTRICT OF COLUMBIA
* COVERS DISTRICT OF COLUMBIA ISSUES

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SUBCOMMITTEES:
TRANSPORTATION SECURITY, AND INVESTMENT PROTECTION
EMERGENCY COMMUNICATION, PREPAREDNESS, AND RESPONSE

ELEANOR HOLMES NORTON
HOUSE SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE AND THE DISTRICT OF COLUMBIA

OPENING STATEMENT
SPRING VALLEY ENVIRONMENTAL RESTORATION PROGRAM

JUNE 10, 2009

I very much appreciate Chairman Lynch's willingness to schedule this hearing early on our subcommittee agenda. I listed Spring Valley as one of my top priorities in a letter to the chair as the legislative year began because of the national and local importance of confronting federal responsibility for informing residents of toxic substances in communities, particularly when the federal government itself deposited them there and has an undisputed responsibility to clean the area and to shoulder the burden of proof of showing that the area is again safe. I appreciate that, beginning in my early years here in Congress when I was in the minority, this committee has held every hearing that I have requested to assure that the Spring Valley neighborhood surrounding American University is cleared of World War I chemical and other weapons by the Army Corps of Engineers.

I ask my colleagues to put yourselves in the position of my Spring Valley constituents who have worked hard to purchase homes in one of the District's most attractive neighborhoods. By sheer happenstance, a utility worker discovers a cache of old weapons and, in short order, they are identified as buried chemical ordinance left behind by the Army. There are similar areas called Formerly Used Defense Sites (FUDS) around the country where munitions have been buried and cleaning is necessary. However, they are usually far from densely populated areas. We know of no other FUDS in a major American city where a residential area was developed without the government disclosing that it had buried potentially harmful munitions. Munitions also were buried in other areas of the District in Northeast and Southeast, but Spring Valley is the largest uncleaned residential area here where munitions were buried. Worse, Spring Valley was the birthplace of the Army's chemical weapons program. Yet, at the time, there was no doubt that this area, where American University was located, would be fully developed.

The history of Spring Valley is long and convoluted, but at its core is the Army's decision during World War I to use this area in Northwest, D.C. for the first dangerous tests and experiments with its new and developing chemical weapons program. The decision to locate a major chemical testing facility and then to bury the debris, unexploded ordinance and chemicals on the site was no accident. The District had no local government and its citizens could elect no

NATIONAL OFFICE:
529 14TH STREET, N.W., SUITE 900
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(202) 783-5211 (FAX)

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(202) 225-3002 (FAX)
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(202) 678-8900
(202) 678-8844 (FAX)

one to speak for them in the city where they lived, and no one to represent them in the Congress, which collected their taxes. The federal government itself ruled the city using federally appointed commissioners. Thus, the Army was free to do here what it could not do in Maryland or Virginia or any other state close to a residential area. As many as 800,000 District residents had no vehicle for information on what the Army was doing in their city, and no right to know. The District of Columbia was for these wartime chemical experiments what poorer nations are today when they receive landfill garbage, scrap metal and other waste that Americans did not want in their communities.

As the Spring Valley community more fully developed, the Army failed to inform the District or residents of the munitions and the possible dangers they might pose. In fact, during the 1950s and the 1980s, American University and others raised concerns about buried munitions in Spring Valley, but it was not until 1993 that the Army Corps formally declared the site a FUDS, but only after a utility worker accidentally found buried ordinance. Since that discovery, the Corps has left Spring Valley twice concluding that no large hazards remained. Both times the Corps had to return for more cleaning. Only the oversight of this subcommittee has assured continuing cleanup of Spring Valley.

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I thank our Spring Valley witnesses, Greg Beumel, Nan Wells, Thomas Smith, Kent Slowinski and Harold Bailey, the Army, the Army Corps, EPA, GAO, the D.C. Department of the Environment , Mr. Barton, an ordinance recovery expert, and Mr. Kerwin, president of American University. I look forward to hearing from each of you.

Mr. LYNCH. Thank you. At this time I would like to ask unanimous consent for the testimony of Congressman Earl Blumenauer to be added to the record. Hearing no objections, so ordered.

[The prepared statement of Mr. Blumenauer follows:]

Subcommittee on Administration Oversight, Public Health, District of Colombia
Hearing: Environmental Restoration Program at Spring Valley
Statement for the Record
Congressman Earl Blumenauer (OR-03)
June 10, 2009

Thank you for the opportunity to present what I would call the larger context of the Spring Valley cleanup. The ongoing difficulties with Spring Valley are no isolated incident and plague communities in every state in the US. For years, I have been leading the effort in Congress to ensure that the military cleans up after itself on millions of acres of former ranges, training grounds, and dump sites.

The majority of these lands fall under the jurisdiction of the Defense Environmental Restoration Program-Formerly Used Defense Site Program (DERP-FUDS), established by Congress in 1986. Relatively overlooked and modestly funded, the FUDS Program is nevertheless responsible for environmental restoration of *all* properties formerly owned by, leased to, or otherwise possessed by the United States and under the jurisdiction of the Secretary of Defense. This list includes Spring Valley, a World War I-era testing site for some of the most deadly chemical weapons of the time, whose 600 acres are now home to American University and over 1600 homes and commercial properties.

Spring Valley is just one of over 2,600 Formerly Used Defense Sites nationwide that require environmental cleanup action. The current estimate of $18 billion to complete cleanup is likely an underestimation, as the extent of site pollution for many areas is unknown and as contaminants, such as the perchlorate and arsenic so common in Spring Valley, continue to leach into soil and groundwater. At current levels of funding, this conservatively puts national cleanup over five decades away.

I have long argued, and think you will agree, that a Department of Defense that cleans up after itself and returns safe, unused lands to communities should be a priority. This year I am undertaking an effort to request nearly $400 million for the environmental restoration of these sites in the FY10 Defense Appropriations Bill, a $100 million increase over FY09 levels.

Investing in cleanup and land transfer now reduces future remediation costs, protects our communities, employs skilled technicians, and lays the foundation for further economic growth as transferred land returns to productive use as recreational, commercial, or residential developments.

Responsible stewardship and investment should be a priority for Congress and the Administration. Today you will hear first-hand about the effects of not pursuing such a course. Therefore, I hope you will join me in sounding the alarm about a legacy of environmental contamination and in forcefully advocating for increased attention and funding for this devastating problem in our communities.

Mr. LYNCH. Now I would like to welcome our first panel.

Oh, I am sorry. I am sorry; I am sorry. Before we go to that—I apologize profusely—I would like to give 5 minutes to the distinguished gentleman from California, my friend Mr. Bilbray, for 5 minutes.

Mr. BILBRAY. Thank you, Mr. Chairman. Mr. Chairman, I noticed this hearing and it kind of caught my eye for a lot of reasons, not just because we have a Spring Valley in San Diego County, too.

I would like to inform the Delegate that this isn't the only urban area where munitions are specifically an issue in a residential neighborhood. In San Diego, if my memory serves me, we actually in the 1980's lost some children to unexploded munitions. In San Diego we have many locations that are now residential that were active military operations with live munitions in many different forms, and in a lot of forms we don't understand.

Even though we have two Senators and a countless amount of Congressman in California, the fact is that Federal reservations tend to have that degree of autonomy that is mandated by constitutional law. When those lands are turned over for private development later, we do have these issues.

I would just note that one of these sites in San Diego is actually the site of the University of California at La Jolla. So I think this issue really kind of points out that this is not just an issue of the disadvantaged and the poor. This is a problem even the wealthy and the powerful can run into as we have run into it in certain places in California. Obviously, this is one of those neighborhoods that everybody would never think would have a problem from looking at the homes. But I think that we need to address that.

I will tell you, we still have discussions in San Diego, watching the canyons after the major fires that just occurred a few years ago, of utilizing those fires as a way of going down and searching to see if there are any more munitions in the neighborhoods where our children are playing.

So I just wanted to reflect the fact to the Delegate that she is not alone on this. D.C. is not the only community that has to face these challenges. It may have different challenges. But I think the issue of post-military utilization of property is going to be a challenge we have for a long time.

I want to make sure, though, that we approach this in a manner that does not create an attitude, especially among our military, that once property is used by the military you don't dare allow civilian use in the future. I don't want this to create a defensive mechanism, if not a downright paranoid mechanism, that we can't allow it ever to be used again. Because there are a lot of good uses after military use. It is just appropriate handling and addressing the issues. Obviously, eliminating the problem before civilian use is always the preferred state but even then there is going to have to be a sensitivity of constant monitoring.

Mr. Chairman, a good example is the fact that we recycle sand in California. There was the issue of military munitions that were laying at the bottom of a bay that no one knew about being an issue to where we recklessly threw away millions of metric tons of good recycle sand. It was because of the paranoia, in my opinion, of the munitions rather than addressing this appropriately.

Hopefully we will be able to move forward and address this item in an appropriate manner. It has obviously been one that has been on the front burner for a long time. I appreciate this hearing.

I yield back.

Mr. LYNCH. I thank the gentleman.

OK, now I would like to welcome our first panel. It is the custom before this committee that all witnesses to provide testimony before the subcommittee are sworn. Could I please ask you each to rise and raise your right hand?

[Witnesses sworn.]

Mr. LYNCH. Let the record indicate that each of the witnesses answered in the affirmative.

Just briefly, let me give some ground rules. The green light in that little box in front of you in the middle of the table will indicate you have 5 minutes to provide an opening statement. The yellow light when it clicks will indicate that you have 1 minute remaining. Then the red light indicates that the time allotted for your statement has expired.

I would like to provide just a brief introduction of the first two witnesses: Ms. Anu K. Mittal is Director with the Natural Resources and Environment team of the U.S. Government Accountability Office. She is responsible for leading GAO's work in the area of water resources and defense environmental cleanup.

Mr. Harold Bailey is currently assisting Washington, DC, residents threatened by improperly disposed munitions. Mr. Bailey's projects have involved the application and enforcement of U.S. environmental laws such as the National Environmental Policy Act, the Clean Water Act, the Clean Air Act, and the Endangered Species Act.

Ms. Mittal, you are now recognized for 5 minutes for an opening statement.

STATEMENTS OF ANU K. MITTAL, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, U.S. GOVERNMENT ACCOUNTABILITY OFFICE; AND HAROLD BAILEY, GARVEY SCHUBERT BARER

STATEMENT OF ANU K. MITTAL

Ms. MITTAL. Mr. Chairman and members of the subcommittee, thank you for inviting us today to provide some historical context and a national perspective for the Spring Valley cleanup.

As you know, Spring Valley was designated as a formerly used defense site or FUDS in 1993 after ordnance was discovered by accident. Further investigations at Spring Valley found additional hazards including arsenic contaminated soil and lab waste. By April 2002, the Corps had removed over 5,600 cubic yards of soil, 667 pieces of ordnance, and 101 bottles of chemicals. In 2003, the Corps also discovered perchlorate in groundwater at the site and so installed over three dozen monitoring wells for sampling. Since 2002, the Corps has continued cleanup at the site and has removed large quantities of contaminated soil, hundreds of lab related items and munitions debris, as well as some in tact munitions and containers.

In fiscal year 2002, the total cost to clean up Spring Valley was expected to be about $147 million and take about 5 more years to complete. However, 7 years later, cleanup is still ongoing and the estimated costs have increased to almost $174 million.

Since we issued our Spring Valley report in 2002, we have conducted several reviews of DOD's Environmental Restoration Program nationwide for both active installations and FUDS. Our work at the national level shows that the concerns identified at Spring Valley are not unique and are in fact common to many sites across the country. Four key themes emerged from our work that we believe are directly relevant to the Spring Valley cleanup.

First, shortcomings in the use of available data can lead to poor decisionmaking. The Army's conclusions in 1986 and 1996 that there was no evidence of large scale hazards remaining at Spring Valley were made without the benefit of all available information. Our nationwide review of FUDS found similar shortcomings in the Corps' use of available information for making decisions at over 1,400 sites across the country. We found that the Corps either did not obtain, overlooked, or dismissed information that might have indicated the presence of a hazard. Recently a major association of State regulators has noted that these problems continue to persist.

Second, incomplete data onsite conditions and emerging contaminants can interfere with the development of accurate cost estimates and schedules, just as the cost estimates at Spring Valley have increased almost eight and a half times since the initial estimate of $21 million was developed. Developing cost estimates for FUDS and active installations across the country pose a similar challenge. This is because DOD often has incomplete information onsite conditions when it first makes cost estimates. As more information becomes available or as new contaminants are discovered, estimates must be revised and can thus vary significantly over the life of a project.

Third, funding availability for a particular site may be influenced by overall program goals and priorities. Spring Valley is just one of the over 4,700 FUDS nationwide that DOD is in the process of cleaning up. However, Spring Valley has received priority funding due to its proximity to the Nation's Capital and high visibility. This is usually not the case with most FUDS, and they must compete for a slice of a relatively small funding pie. Although funding for FUDS has been relatively stable over the last decade, it is well recognized that the level of funding available cannot meet all cleanup needs.

Finally, better coordination and communication with regulators and property owners can increase public confidence and facilitate effective decisionmaking. In 2002, we reported that the Corps, EPA, and the District of Columbia had made progress on Spring Valley by adopting a partnership approach and establishing a means of communicating with the public. However, we have found that this kind of communication and coordination does not always occur at other sites nationwide and can significantly hinder cleanup progress.

In response to the findings and recommendations that we have made over the last 6 years, DOD has taken actions to modify its procedures and improve its guidance. While we have not evaluated

DOD's implementation of our past recommendations in depth, we are reviewing some of these issues as part of our ongoing work that will be issued later this year.

In conclusion, Mr. Chairman, experiences with DOD's national cleanup program and the Spring Valley cleanup tell us that environmental restoration is a daunting task. But there are lessons that can be applied to the process that can make it more effective as we move forward.

This concludes my prepared statement. I would be happy to respond to any questions.

[The prepared statement of Ms. Mittal follows:]

United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Federal Workforce, Postal Service, and the District of Columbia, Committee on Oversight and Government Reform, House of Representatives

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ENVIRONMENTAL CONTAMINATION

Lessons Learned from the Cleanup of Formerly Used Defense and Military Munitions Sites

Statement of Anu Mittal, Director
Natural Resources and Environment

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GAO-09-779T

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Highlights

Highlights of GAO-09-779T, a testimony before the Subcommittee on Federal Workforce, Postal Service and the District of Columbia; Committee on Oversight and Government Reform

Why GAO Did This Study

Under the Defense Environmental Restoration Program (DERP), the Department of Defense (DOD) has charged the Army Corps of Engineers (the Corps) with cleaning up 4,700 formerly used defense sites (FUDS) and active sites that were under its jurisdiction when they were initially contaminated. The 661-acre Spring Valley site in Washington, D.C is one such site. Like many other FUDS, the U.S. Army used the Spring Valley site during World War I for research and testing of chemical agents, equipment, and munitions. Most of the site is now privately owned and includes private residences, a hospital, and several commercial properties. The primary threats at the site are buried munitions, elevated arsenic in site soils, and laboratory waste; perchlorate was also found onsite.

This testimony discusses GAO's past work relating to remediation efforts at FUDS and military munitions sites to provide context for issues at Spring Valley. Specifically, it addresses: (1) the impact that shortcomings in information and guidance can have on decision-making; (2) the impact that incomplete data can have on cost estimates and schedules; (3) how funding for a particular site may be influenced by overall program goals; and (4) how better coordination can increase public confidence in cleanups and facilitate effective decision-making.

GAO has made several prior recommendations that address these issues, with which, in most cases, the agency concurred.

View GAO-09-779T or key components. For more information, contact Anu Mittal at (202) 512-3841or mittala@gao.gov.

ENVIRONMENTAL CONTAMINATION

Lessons Learned from the Cleanup of Formerly Used Defense and Military Munitions Sites

What GAO Found

GAO's past work has found significant shortcomings in the Corps' use of available information and guidance for making decisions relating to cleanup of FUDS. For example, in 2002, GAO found that the Army determined that there was no evidence of large-scale burials of hazards remaining at Spring Valley before it had received all technical input. This experience is not unique. In a 2002 national study, GAO reported that the Corps did not have a sound basis for determining that about 1,468 of 3,840 FUDS properties—38 percent—did not need further study or cleanup action. GAO attributed these shortcomings to limitations in the Corps guidance that did not specify what documents or level of detail the agency should obtain to identify potential hazards at FUDS or how to assess the presence of potential hazards.

GAO's past work has also shown that incomplete data on site conditions and emerging contaminants can interfere with the development of accurate cost and schedule estimates. At Spring Valley, the Corps' estimates of cleanup costs increased by about six fold, from about $21 million to about $124 million from fiscal year 1997 through fiscal year 2001. As assumptions about site conditions changed and new hazards were discovered, the estimates continued to rise and currently stand at about $174 million. Again, these problems are not unique. In 2004, GAO evaluated DOD's cleanup of sites with military munitions and found several similar weaknesses in preliminary cost estimates for numerous sites across the country.

GAO's past work has shown that funding available for specific sites may be influenced by overall program goals and other priorities. Spring Valley has received priority funding due to its proximity to a major metropolitan area and high visibility; however, GAO's past work shows that this is usually not the case with most FUDS sites. Over the past 10 years DOD has invested nearly $42 billion in its environmental programs, but it typically requests and receives a relatively smaller amount of funding for environmental restoration activities at FUDS sites compared to funding available for active sites.

GAO's past work has found that better coordination and communication with regulators and property owners can increase public confidence and facilitate effective decision-making for contaminated sites. With regard to Spring Valley, GAO reported in 2002 that the Corps, the Environmental Protection Agency (EPA) and the District of Columbia had made progress because they had adopted a partnership approach to cleanup decisions. However, this kind of cooperation and coordination does not always occur nationwide. For example, in 2003, GAO reported that the Corps only informed states of upcoming work and requested input from them about half of the time. Similarly, GAO found that the Corps did not always communicate with property owners about the decisions it makes regarding contamination at FUDS sites and more often than not did not inform property owners about how to contact the Corps in the event that further hazardous substances wer identified at the site.

Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss GAO's work relating to the Department of Defense's (DOD) remediation efforts at Formerly Used Defense sites (FUDS) and sites with military munitions around the country, which we believe will provide context for the issues faced by the Spring Valley site, in Washington D.C. Spring Valley is one of 4,700 FUDS—properties that DOD owned or controlled and transferred to private parties or other government entities prior to October 1986. Under the Defense Environmental Restoration Program (DERP), DOD is required to identify, investigate, and clean up environmental contamination and other hazards at both active sites and FUDS that were under its jurisdiction when they were initially contaminated. The FUDS inventory includes sites with a variety of cleanup needs. These properties may contain hazardous, toxic, and radioactive wastes in the soil and water or in containers such as underground storage tanks. Other hazards, including unexploded ordnance and unsafe buildings may also be present. As you know, such hazards can contribute to deaths and serious illness or pose a threat to the environment.

The Spring Valley site was originally known as the American University Experiment Station, and covers approximately 661 acres in the northwest section of Washington, D.C. Like many other FUDS, the U.S. Army used the Spring Valley site during World War I for research and testing of chemical agents, equipment, and munitions. After World War I, the majority of the site was returned to private ownership and developed for residential and other uses, becoming the Spring Valley neighborhood. The site now includes American University, about 1,200 private residences, Sibley Hospital, numerous embassy properties, and several commercial properties. During the 1950s and again in the 1980s, American University and others raised concerns about buried munitions in the Spring Valley neighborhood. An Army investigation concluded in 1986 that no large burials of ordnance remained on the site; however, in 1993, the site received a FUDS designation after a contractor unearthed buried military ordnance while digging a utility trench. Investigations of the site expanded, and in 1996, the Army again concluded there were no remaining large ordnance areas; however, follow-on work found additional large-scale hazards, including more than 600 pieces of ordnance, arsenic

contaminated soil, and lab waste. More recently, perchlorate,[1] an emerging contaminant—a term for chemicals or materials lacking a federal regulatory standard, with a potential threat to health or the environment—was also found on the site. Perchlorate is known to cause health problems in certain populations. The estimated total cost for completing the project was $173.7 million in fiscal year 2007, according to the latest Defense Environmental Program Annual Report to Congress.

Although GAO last reviewed the progress of the Spring Valley Cleanup in 2002, since that time we have conducted a number of reviews relating to the management and cleanup challenges that DOD faces when addressing contamination at FUDS and other sites with military munitions across the country. We also currently have two ongoing reviews related to FUDS—one addressing the management of FUDS broadly and one specifically addressing the munitions cleanup program—the latter study was mandated by the fiscal year 2009 National Defense Authorization Act. These reports are expected for release in fiscal year 2010.

My testimony is based on this body of work and will address four main themes and lessons learned that we believe provide context for assessing the progress made at the Spring Valley site. The four themes that my statement addresses include: (1) the impacts that shortcomings in the use of available information and guidance can have on decision-making; (2) the impacts that incomplete data on site conditions and emerging contaminants can have on the development of accurate cost estimates and schedules; (3) how funding available for a particular site may be influenced by overall program goals and other priorities; and (4) how better coordination with regulators and property owners can increase public confidence in cleanups and facilitate effective decision-making.

We conducted our work in accordance with GAO's Quality Assurance Framework, which requires that we plan and perform each engagement to obtain sufficient and appropriate evidence to meet our stated objectives and to discuss any limitations in our work. We believe that the information

[1]Perchlorate is the primary oxidizer in propellants, present in varying amounts in explosives, and is highly soluble. Exposure to perchlorate affects the human thyroid, and certain levels of exposure may result in hyperthyroidism in adults and developmental delays in children.

and data obtained, and the analyses conducted, provided a reasonable basis for the findings and conclusions in these reports.

Background

Under the DERP, DOD is authorized to identify, investigate and clean up environmental contamination and other hazards at FUDS as well as active installations. To that end, DOD has established restoration goals and identified over 31,000 sites that are eligible for cleanup, including more than 21,000 sites on active installations, more than 5,000 sites on installations identified for Base Realignment and Closure (BRAC), and 4,700 FUDS. The DERP was established by section 211 of the Superfund Amendments and Reauthorization Act of 1986 (SARA) which amended the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980. Under the DERP, DOD's activities addressing hazardous substances, pollutants or contaminants are required to be carried out consistent with section 120 of CERCLA. DOD delegated its authority for administering the cleanup of FUDS to the Army, which in turn delegated its execution to the Army Corps of Engineers (the Corps). Funding for cleanup activities comes from the Environmental Restoration and BRAC accounts. The Environmental Restoration account funds cleanup at active sites and FUDS properties and, of the $1.4 billion obligated in fiscal year 2007, FUDS property obligations totaled $116.5 million for addressing hazardous substances and $102.9 million for munitions response.

To be eligible for FUDS cleanup, a property must have been owned by, leased to, possessed by, or otherwise controlled by DOD during the activities that led to the presence of hazards. These hazards may include unsafe buildings, structures, or debris, such as weakened load-bearing walls; hazardous, toxic, and radioactive substances, which includes contaminants such as arsenic, certain paints, some solvents, and petroleum; containerized hazardous, toxic, and radioactive waste, such as transformers and aboveground or underground storage tanks that contain petroleum, solvents, or other chemicals which have been released into the environment; and ordnance and explosive materials, such as military munitions and chemical warfare agents. To determine if a property is eligible for cleanup under the FUDS program, the Corps conducts a preliminary assessment of eligibility to determine whether the property was ever owned or controlled by DOD and if hazards caused by DOD's use may be present. If the Corps determines that the property was owned or controlled by DOD but does not find evidence of any hazards caused by DOD, it designates the property as "no DOD action indicated" (NDAI). If however, the Corps determines that a DOD-caused hazard may be present,

the Corps begins to further study and/or clean up the hazard, consistent with CERCLA. The CERCLA process generally includes the following phases: preliminary assessment, site inspection, remedial investigation/feasibility study, remedial design/remedial action, and long-term monitoring.

To address the release of hazardous substances, pollutants, or contaminants resulting from past practices that pose environmental health and safety risks on both active sites and FUDS, DOD established the Installation Restoration Program (IRP) in 1985 under the DERP. In fiscal year 2007, the Corps had 2,612 FUDS in the IRP.[2] Performance metrics and comprehensive goals have been developed by DOD to assess progress toward the agency's IRP goals. These goals include progress in reaching a CERCLA cleanup phase at the site level, progress toward achieving a "remedy in place" or "response complete" status at the installation level, and progress in achieving overall relative-risk reduction. Specific targets are included in DOD's annual report to Congress.

To better focus its munitions cleanup activities on both active sites and FUDS, DOD established the Military Munitions Response Program (MMRP) in September 2001, as part of the DERP, specifically to address potential explosive and environmental hazards associated with munitions. The objectives of the program include compiling a comprehensive inventory of military munitions sites, establishing a prioritization protocol for sequencing work at these sites, and establishing program goals and performance measures to evaluate progress. In December 2001, shortly after DOD established the program, the Congress passed the National Defense Authorization Act for fiscal year 2002, which, among other things, required DOD to develop an initial inventory of defense sites, other than military ranges still in operation, that are known or suspected to contain military munitions by May 31, 2003, and to provide annual updates thereafter. DOD provides these updates as part of its annual report to Congress on Defense environmental programs; in its 2007 report DOD had identified 3,537 sites suspected or known to have munitions contamination, an increase of 221 sites from fiscal year 2006. Table 1 provides a summary of DOD performance goals for MMRP and IRP.

[2]There are also 422 Building Demolition/Debris Removal category sites in the FUDS IRP program.

Table 1: Summary of DOD Performance Goals for MMRP and IRP

Phase/priority	Target year for completing cleanup phase for all sites	
	Installation restoration program (IRP)	Military munitions response program (MMRP)
Preliminary assessment	No goal established	2007
Site inspections	No goal established	2010
For High Priority Sites: Remedy in Place or Response Complete (RIP/RC), or cleaned up to a lower risk level	2007	No goal established
For Medium Priority Sites: RIP/RC (or cleaned up to a lower risk level)	2011	No goal established
For Low Priority Sites: RIP/RC (or cleaned up to a lower risk level)	2014 – Active 2020 – FUDS	No goal established

Source: Fiscal Year 2007 Annual Report to Congress, Department of Defense, Defense Environmental Programs.

The Spring Valley Site

The principal government entities involved in the Spring Valley cleanup include the Corps, the Environmental Protection Agency (EPA), and the District of Columbia. The Corps has led the effort of identifying, investigating, and cleaning up contamination at the site, whereas EPA primarily consulted with and provided technical assistance to the Corps and the District of Columbia. The District of Columbia's Department of Health has monitored the cleanup's status and adequacy, conducting such actions as, according to the Department, assessing the human health risks associated with any exposure to remaining hazards at Spring Valley. Additionally, advisory entities were created to further facilitate decision-making on technical topics.

In 2002, we reported that cleanup progress included the identification and removal of a large number of hazards, including buried ordnance, chemical warfare agents in glass containers, and arsenic-contaminated soil.[3] By April 2002 the Corps had identified and removed 5,623 cubic yards of arsenic-contaminated soil from 3 properties and removed 667

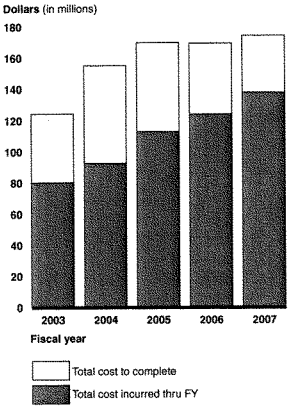
[3]GAO, *Environmental Contamination: Many Uncertainties Affect the Progress of the Spring Valley Cleanup*, GAO-02-556 (Washington D.C.: June 6, 2002).

pieces of ordnance– 25 of which were chemical munitions– and 101 bottles of chemicals. A March 2009 project overview report by the Corps indicated that, in 2004, the Corps excavated 474 drums of soil and recovered more than 800 items, such as construction debris, ordnance scrap, and laboratory glassware and ceramic pieces. The report also indicated that, by 2006, the Corps removed 5,500 cubic yards of soil, 117 munitions debris items, 6 intact munitions items, and 31 intact containers; in addition, the excavation, backfilling, and restoration of the debris field that contained these materials was completed.

We reported in 2002 that the primary health risks that influenced cleanup activities were (1) the possibility of injury or death from exploding or leaking ordnance and containers of chemical warfare agents; and (2) potential long-term health problems, such as cancers and other health conditions, from exposure to arsenic-contaminated soil. A study by the Department of Health and Human Services' Agency for Toxic Substances and Disease Registry found no evidence of significant exposure to arsenic in the individuals tested in 2002. In 2003, the Corps discovered perchlorate in groundwater at the site, and installed at least 38 monitoring wells for sampling. Sampling results identified elevated levels of perchlorate in the project area. Further investigation is underway with more wells and sampling planned in 2009. In April 2002, the Army estimated that the remaining cleanup activities at Spring Valley would take 5 years to complete. Total costs for the project were estimated at $145.9 million in fiscal year 2002; by fiscal year 2007, the estimated total costs increased to $173.7 million. Figure 1 presents information on the annual cost to complete[4] and annual amounts spent to date from 2003 to the present at the Spring Valley site.

[4]DOD periodically estimates the remaining costs necessary to complete restoration based on data about contamination and cleanup requirements at each site; these estimates are known as "costs to complete."

Figure 1: Total Estimated Cost to Clean Up Spring Valley, Fiscal Years 2003 through 2007



Sources: Defense Environmental Restoration Program Annual Report to Congress for Fiscal Year 2003. Defense Environmental Programs Annual Reports to Congress for Fiscal Years 2004 through 2007.

Shortcomings in the Use of Available Information and Guidance Can Lead to Poor Decision-making

When we reviewed the Spring Valley cleanup in 2002, we found that the Army determined that there was no evidence of large-scale burials of hazards remaining at Spring Valley before it received all technical input.[5] For example, while the Army's Toxic and Hazardous Materials Agency reviewed work done by American University and documentation from additional sources, it also contracted with EPA's Environmental Photographic Interpretation Center to review available aerial photographs of the site taken during the World War I era. However, the photographs were not received or reviewed prior to 1993, according to EPA officials. Despite never having received technical input from EPA on the aerial photographs, in 1986 the Army concluded that if any materials were buried in the vicinity of the university, the amounts were probably limited to

[5]GAO, *Environmental Contamination: Many Uncertainties Affect the Progress of the Spring Valley Cleanup*, GAO-02-556 (Washington D.C.: June 6, 2002).

small quantities and no further action was needed. However, as we now know, subsequent investigations by the Army discovered additional ordnance in large burial pits and widespread arsenic-contaminated soil.

The experience at Spring Valley is by no means a unique occurrence. Our review of other FUDS nationwide found significant shortcomings in the Corps' use of available information and guidance for making decisions relating to cleanup of contamination at these sites. For example, in 2002, we reported that the Corps did not have a sound basis for determining that about 1,468 of 3,840 FUDS properties—38 percent—did not need further study or cleanup action.[6] Specifically, we found

- No evidence that the Corps reviewed or obtained information that would allow it to identify all the potential hazards at these properties or that it took sufficient steps to assess the presence of potential hazards.
- That for about 74 percent of all NDAI properties, the site assessment files were incomplete—i.e., the files lacked information such as site maps or photos that would show facilities, such as ammunition storage facilities, that could indicate the presence of hazards (e.g. unexploded ordnance).
- That for about 60 percent of all NDAI properties the Corps may not have contacted all the current owners to obtain information about potential hazards present on the site.
- The Corps appeared to have overlooked or dismissed information in its possession that indicated hazards might be present. For example, at a nearly 1,900 acre site previously used as an airfield by both the Army and the Navy, the file included a map showing bomb and fuse storage units on the site that would suggest the possible presence of ordnance-related hazards; however, we found no evidence that the Corps searched for such hazards.
- The files contained no evidence that the Corps took sufficient steps to assess the presence of potential hazards. For example, although Corps guidance calls for a site visit to look for signs of potential hazards, we

[6]GAO, *Environmental Contamination: Corps Needs to Reassess Its Determinations That Many Former Defense Sites Do Not Need Cleanup*, GAO-02-658 (Washington D.C.: Aug. 23, 2002).

estimated that the Corps did not conduct the required site visit for 686 or about 18 percent of all NDAI properties.

We found that these problems occurred in part because the Corps' guidance did not specify (1) what documents or level of detail the agency should obtain when looking for information on the prior uses of and the facilities located at FUDS properties to identify potential hazards or (2) how to assess the presence of potential hazards. For example, some Corps district staff stated that there was no guidance showing the types of hazard normally found at certain types of facilities. We concluded that, since many properties may have not been properly assessed, the Corps did not know the number of additional properties that may require cleanup, the hazards that were present at those properties, the risk associated with these hazards, the length of time needed for cleanup, or the cost to clean up the properties.

To address these problems, we recommended that the Corps develop more specific guidelines and procedures for identifying and assessing potential hazards at FUDS and to use them to review NDAI files and determine which properties should be reassessed. DOD told us that it has implemented this recommendation; however, according to one major association of state regulators, problems persist in how the Corps makes NDAI determinations in many cases. In 2008, the association published a fact sheet indicating, among other things, that the evidence collected is not adequate for making determinations.[7] We will be reviewing some aspects of this decision making process as part of our ongoing work on FUDS and MMRP.

[7] *Military Munitions Response Program Preliminary Assessment/Site Investigation Fact Sheet*, a report prepared by the Association of State and Territorial Solid Waste Management Officials, (Washington, D.C.: September 2008).

Incomplete Data on Site Conditions and Emerging Contaminants Can Interfere With the Development of Accurate Cost Estimates and Schedules

At Spring Valley, the Corps' estimate of the cost to complete cleanup of the site increased by about six fold—from about $21 million to about $124 million—from fiscal year 1997 through 2001. Factors such as the future discovery of hazards made it inherently challenging for the Corps to estimate the costs for completing cleanup activities at the site. Future estimates of the cost to complete cleanup of the site also depend on assumptions about how many properties require the removal of arsenic-contaminated soil and how many properties need to be surveyed and excavated to remove possible buried hazards. As these assumptions have changed, the cost to cleanup Spring Valley has continued to rise where the most recent estimate for fiscal year 2007 is $173.7 million.

The challenges of estimating the costs of the Spring Valley cleanup are common to many FUDS, and our past work has shown that incomplete data on site conditions and emerging contaminants can interfere with the development of accurate cost and schedule estimates. For example, in 2004, we evaluated DOD's MMRP program and found several weaknesses in preliminary cost estimates for numerous sites.[8] We found that a variety of factors, including the modeling tool used to compile cost estimates, contributed to these weaknesses. Specifically, when detailed, site-specific information was not available for all sites, we found that DOD used estimates, including assumptions about the amount of acreage known or suspected of containing military munitions when preparing its cost projections. As a result, the cost estimates varied widely during the life of some cleanup projects. For example, the Corps confirmed the presence of unexploded ordnance at Camp Maxey in Texas, and in 2000, estimated cleanup costs at $45 million. In its fiscal year 2002 annual report, DOD reported that the estimated total cost had tripled and grown to $130 million, and then in June 2003, the estimate decreased to about $73 million—still 62 percent more than the original cost estimate. The main factors behind these shifting cost estimates, according to the project manager, were changes in the acreage requiring underground removal of ordnance and changes in the amount of ordnance found.

To address the challenges of estimating costs, schedules, and other aspects of munitions response, we made a number of recommendations related to various elements of DOD's comprehensive plan for identifying, assessing and cleaning up military munitions at potentially contaminated

[8]GAO, *Military Munitions: DOD Needs to Develop a Comprehensive Approach for Cleaning Up Contaminated Sites*, GAO-04-147 (Washington, D.C.: Dec. 19, 2004).

sites. In its response to our 2004 report and recommendations, DOD said that it was working on developing better cost estimates, and that the Corps would designate 84 percent of its environmental restoration budget in fiscal year 2007 for investigations and cleanup actions. According to DOD, this funding would help the Corps gather more site specific information, which in turn could be used for better determining the expected cost to complete cleanup at FUDS.

We found that these concerns are also not limited to just FUDS but also affect operational ranges as well.[9] When we reviewed the development of DOD's cost estimates for addressing potential liabilities associated with unexploded ordnance, discarded military munitions, and munitions constituents on operational ranges, we found that DOD's cost estimates for cleanup were questionable because the estimates were based on inconsistent data and invalidated assumptions.[10]

The presence of newly identified contaminants at sites needing cleanup further complicates DOD's efforts to develop reliable cost estimates. In 2004, we found that DOD does not have a comprehensive policy requiring sampling or cleanup of the more than 200 chemical contaminants associated with military munitions on operational ranges. Of these 200 contaminants, 20 are of great concern to DOD due to their widespread use and potential environmental impact—including perchlorate. According to our 2005 report, perchlorate has been found in the drinking water, groundwater, surface water, or soil in 35 states, the District of Columbia (including the Spring Valley site), and 2 commonwealths of the United States.[11] In its 2007 Annual Report to Congress, DOD indicated that new requirements to address emerging contaminants like perchlorate will drive its investments in cleanup, and require modifications in plans and programs, and adjustments to total cleanup and cost to complete estimates. However, there is limited information on the potential costs of addressing these emerging contaminants and how their cleanup may affect overall site cleanup schedules. This is partly because none of these munitions constituents are currently regulated by a federal drinking water

[9]Operational ranges are areas used to conduct research, develop and test military munitions, or train military personnel.

[10]GAO, *DOD Operational Ranges: More Reliable Cleanup Cost Estimates and a Proactive Approach to Identifying Contamination Are Needed*, GAO-04-601 (Washington D.C.: May 2004).

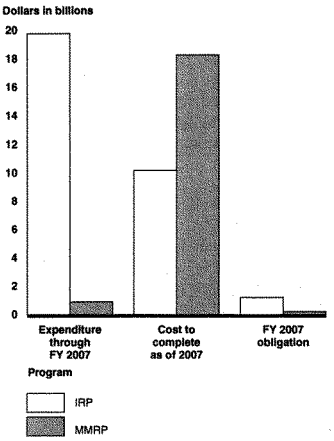
[11]GAO-04-601

standard under the Safe Drinking Water Act, although perchlorate, for example, is the subject of a federal interim health advisory and several state drinking water standards. Our 2004 report recommended that DOD provide specific funding for comprehensive sampling for perchlorate at sites where no sampling had been conducted; although DOD disagreed at the time, it recently took action to sample hundreds of locations nationwide.

Funding Available for a Particular Site May Be Influenced by Overall Program Goals and Other Priorities

Spring Valley has received priority funding due to its proximity to the nation's capitol and high visibility; however, our past work shows that this is not the case with most FUDS. Over the past 10 years DOD has invested nearly $42 billion in its environmental programs, which include compliance, restoration, natural resources conservation, and pollution prevention activities. In fiscal year 2007, DOD obligated approximately $4 billion for environmental activities, but only $1.4 billion of this total was utilized for DERP environmental restoration activities at active installations and FUDS. Of this amount, $1.2 billion funded cleanup of hazardous substances, pollutants and contaminants from past DOD activities through the Installation Restoration Program (IRP) and $215.8 million funded activities to address unexploded ordnance, discarded military munitions and munitions constituents through the Military Munitions Response Program (MMRP). Figure 2 shows expenditures through fiscal year 2007, DOD's estimated costs to complete, and the fiscal year 2007 obligations for the IRP and MMRP at active sites and FUDS.

Figure 2: Funding Summary for IRP and MMRP Programs



Source: Defense Environmental Programs Annual Report to Congress for Fiscal Year 2007.

DOD requests separate funding amounts for active sites and FUDS cleanup programs based on specific DERP restoration goals and the total number of sites in each program's inventory. Goals are set separately for the IRP and MMRP; target dates for cleanup of high priority sites are different for these programs. Furthermore, while DOD has established Department-wide goals, each service has its own goals, which may differ, and determines the allocation of funds between IRP and MMRP. Specifically, for the IRP, the DOD goal is to have a remedy in place or response complete for all active sites and FUDS by fiscal year 2020. However, DOD has requested much greater budgets for active sites than for FUDS. For example, DOD requested $257.8 million for FUDS or only one-fifth of the amount requested for active sites for fiscal year 2009. Similarly, obligations in fiscal year 2007 totaled $969.8 million for active sites, whereas FUDS obligations only totaled $219.4 million. According to the most recent annual report to Congress, DOD does not expect to complete the IRP goal for FUDS until fiscal year 2060. DOD is aiming to complete cleanup of IRP sites much earlier than MMRP sites, even if higher-risk MMRP sites have not yet been addressed.

For MMRP, DOD's first goal was to complete preliminary assessments for FUDS as well as active sites, by the end of fiscal year 2007.[12] DOD reported that it has reached this goal for 96 percent of MMRP sites. However, it is not clear if this percentage includes sites recently added to the site inventory. DOD also has an MMRP goal of completing all site inspections by the end of fiscal year 2010, but has not yet set a goal for achieving remedy in place or response complete. Our ongoing reviews of the FUDS and MMRP programs will include more in-depth analyses of the prioritization processes used by DOD for active sites and FUDS.

Better Coordination and Communication with Regulators and Property Owners Can Increase Public Confidence and Facilitate Effective Decision-making

In our 2002 report on Spring Valley, we reported that the Corps, EPA and the District of Columbia had made progress on site cleanup by adopting a partnership approach for making cleanup decisions.[13] Importantly, they established a systematic means of communicating information to, and receiving input from, the residents of Spring Valley and other interested members of the public. While the entities did not agree on all cleanup decisions, officials of all three entities—the Corps, the District of Columbia, and EPA—stated that the partnership had been working effectively. However, we have found that this kind of cooperation and coordination does not always occur at other sites nationwide. For example:

- In 2003, we conducted a survey to determine how the Corps coordinates with state regulators during the assessment and cleanup of FUDS. We found that the Corps did not involve the states consistently, and that EPA had little involvement in the cleanup of most FUDS.[14] We found that the Corps informed states of upcoming work at hazardous waste projects 53 percent of the time and requested states' input and participation 50 percent of the time. We reported that federal and state regulators believed

[12]The John Warner National Defense Authorization Act for Fiscal Year 2007 required the Secretary of Defense to set four goals for the MMRP: (1) to complete preliminary assessments for active sites, other than operational ranges, and FUDS by September 30, 2007; (2) to complete site assessments at such sites by September 30, 2010; (3) to achieve remedy in place or response complete at pre-2005 BRAC sites by September 30, 2009; and (4) to achieve remedy in place or response complete at active sites, FUDS, and 2005 BRAC sites by a date to be established by the Secretary.

[13]GAO, *Environmental Contamination: Many Uncertainties Affect the Progress of the Spring Valley Cleanup*, GAO-02-556 (Washington D.C.: June 6, 2002).

[14]GAO, *Environmental Protection: DOD Has Taken Steps to Improve Cleanup Coordination at Former Defense Sites but Clearer Guidance Is Needed to Ensure Consistency*, GAO-03-146, (Washington, D.C.: March 2003).

that better coordination with the Corps regarding cleanup at FUDS would increase public confidence in the cleanups and improve their effectiveness.

- Some state regulators told us that inadequate Corps coordination has made it more difficult for them to carry out their regulatory responsibilities at FUDS properties and that, because of their lack of involvement, they have frequently questioned Corps cleanup decisions at FUDS. Conversely, when Corps coordination has occurred, states have been more likely to agree with Corps decisions. Several states also told us that they would like to see EPA become more involved in the cleanup process, for example, by participating in preliminary assessments of eligibility or providing states with funds to review Corps work. EPA also believed that a better-coordinated effort among all parties would improve the effectiveness of cleanup at FUDS and increase public confidence in the actions taken at these sites, but emphasized it did not expect its involvement to be consistent across all phases of work; rather, that it would increase its involvement at a site when conditions warranted—for example, if there were "imminent and substantial endangerment" or if it had concerns about the appropriateness of the cleanup.

We also found that EPA and DOD disagreed on EPA's role in the FUDS program. Although EPA is the primary regulator for the FUDS that are on the National Priorities List, the states are typically the primary regulatory agency involved for all other FUDS. EPA told us that its role at some of these unlisted FUDS should be greater because it believes it can help improve the effectiveness of the cleanups and increase public confidence in the program. DOD and some states disagreed with this position because they do not believe there is a need for additional EPA oversight of DOD's work at unlisted FUDS properties where the state is the lead regulator. We concluded in 2003 that the lack of a good working relationship between two federal cleanup agencies may hamper efforts to properly assess properties for cleanup and may, in some cases, result in some duplication of effort.

We also concluded in this 2003 report that a factor behind the historical lack of consistency in the Corps coordination with regulators could be that DOD and Corps guidance does not offer specific requirements that describe exactly how the Corps should involve regulators. To address these shortcomings, we recommended that DOD and the Corps develop clear and specific guidance that explicitly includes, among other things, what coordination should take place during preliminary assessments of eligibility on projects involving ordnance and explosive waste. We also

recommended that DOD and the Corps assess recent efforts to improve coordination at the national as well as district level and promote wider distribution of best practices; and work with EPA to clarify their respective roles in the cleanup of former defense sites that are not on the National Priorities List. DOD, representing the Corps and DOD, generally agreed with our recommendations and has since implemented additional changes to improve its coordination with regulators, including revising its guidance to include step-by-step procedures for regulatory coordination at each phase of FUDS cleanup. However, we have not reassessed DOD's efforts or reviewed its coordination efforts since our 2003 report.

In addition to better coordination with regulators, our past work has shown that the Corps frequently did not notify property owners of its determinations that the properties did not need further action, as called for in its guidance, or instruct the owners to contact the Corps if evidence of DOD-caused hazards was found later. In 2002, we estimated that the Corps failed to notify current owners of its determinations for about 72 percent of the properties that the Corps determined did not need further study or cleanup action.[15] Even when the Corps notified the owners of its determinations, we estimated that for 91 percent of these properties it did not instruct the owners to contact the Corps if evidence of potential hazards was found later. In some cases, several years elapsed before the Corps notified owners of its determinations. We concluded that this lack of communication with property owners hindered the Corps' ability to reconsider, when appropriate, its determinations that no further study or cleanup action was necessary.

As a result of our findings, we recommended that the Corps consistently implement procedures to ensure that owners are notified of NDAI determinations and its policy of reconsidering its determinations if evidence of DOD-caused hazards is found later. DOD has implemented this recommendation although we have not reviewed its implementation.

In conclusion, Mr. Chairman, as we move forward on the cleanup of the Spring Valley site, we believe that the lessons learned from DOD's national environmental cleanup programs provides valuable insights that could

[15]GAO, *Environmental Contamination: Corps Needs to Reassess Its Determinations That Many Former Defense Sites Do Not Need Cleanup*, GAO-02-658, (Washington, D.C.: Aug. 23, 2002).

guide decision-making and also inform the oversight process. The experience at the national level tells us that while not all the information that DOD needs is always available, it is imperative that the information that is available should be duly considered when developing cleanup plans and estimates. Moreover, involving regulators and property owners can also better ensure that DOD has the best information on which to make its decisions. Finally, it is important to recognize that emerging and unexpected situations can cause significant changes in both cost and time schedules and this could have funding implications as well for specific cleanup sites.

This concludes my prepared statement. I will be happy to respond to any questions from you or other Members of the Subcommittee.

Contact and Staff Acknowledgments

Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. For further information about this testimony, please contact Anu Mittal at (202) 512-3841 or mittala@gao.gov. Key contributors to this testimony were Diane Raynes, Elizabeth Beardsley, Alison O'Neill, Justin Mausel, and Amanda Leisoo.

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Mr. LYNCH. Thank you. Mr. Bailey, you are now recognized for 5 minutes.

STATEMENT OF HAROLD BAILEY

Mr. BAILEY. Thank you, Mr. Chairman. I am here today on behalf of several Spring Valley families who were unaware that their children were playing in soil laced with arsenic or that those children could find containers that once held poison gases.

I am holding a piece of a container for phosgene gas found by Frances Hansen's young child in their backyard in 2002. The Army and American University had rented a house to Ms. Hansen but failed to warn her and other Spring Valley families about the potential exposure to AUES weapons of mass destruction despite the historical, photographic, and physical evidence in their possession.

My law firm assists government officials who are assessing contamination left by the U.S. military. So let me explain why I think the Army and AU need to do more research to locate and remove WMD in Spring Valley. There is a 1918 photograph of the American University Experiment Station taken by Sergeant Maurer. It shows ceramic containers and metal drums near a burial pit located near the current boundary of AU and Glenbrook Road.

There was a criminal investigation into the Army's activities in Spring Valley in 2000. EPA investigators learned that the Army had obtained this Maurer photograph in 1993. So for 16 years the Army has known approximately where the Maurer Pit is but has not been able to locate its location.

In my experience, photographic evidence of a large burial site with metal drums means that advanced geophysical devices could locate that site. But as the ANC Commissioners will indicate, the past geophysical detection methods used by the Army didn't have the capability to locate burial sites at deep depths or in hard to reach locations. Without these more advanced geophysical methods to locate the Maurer Pit, Spring Valley residents will always have a gnawing feeling that a WMD site could be within several hundred yards.

One child in the Dudley family who played in the dirt in this area experienced acute skin irritation similar to the symptoms from exposure to lewisite. The Dudleys were never told of the Maurer photograph and never warned that the Army had found live shells on their property.

The May 1920 minutes of the AU Trustees record AU's acceptance of a proposition by the U.S. Government to compensate AU. Articles in the AU Courier newspaper explained that the Army had dug a pit deeper than the one into which Joseph was cast for the burial of $800,000 in chemical munitions. There are three points that indicate that is not the Maurer Pit, and neither have been found. There is no extremely deep pit that has been found. The munitions valued at $800,000 in 1919 dollars have not been found. And burying large amounts of explosively configured munitions along with mustard gas is not exactly a safe practice even in 1919.

Particularly troubling is that the Army and AU knew about the potential presence of WMDs since 1986 when an EPA historical photographic analysis showed ground scars indicating burial pits on or near AU. The 1986 report was credible evidence of potential

danger to Spring Valley families but this report was not disclosed until many years later. It reflects a pattern of failure to warn and failure to disclose material information under legal standards.

Let me summarize the AUES lawsuits that Congresswoman Norton asked me to cover: First, recovering compensation from the U.S. Government for disposal of munitions is unlikely under judicial interpretations of the Federal Tort Claims Act. The AUES disposals are considered non-compensable discretionary acts, regardless of the dangers that are created.

Second, AU is not protected by this discretionary act exemption. AU in fact settled a lawsuit after a Federal judge found that AU failed to disclose information about the burials to a home buyer.

Third, the parties settling the various lawsuits have sealed their court filings in many cases, thus preventing public disclosure of what the litigants know about AUES burials.

Finally, the lawsuits have been a blame game where the protection of public health and the environment of Spring Valley has not been addressed. The litigation is focused on monetary compensation rather than claims involving the Army or even EPA for failure to comply with Federal environmental statutes that govern cleanups at FUDS. In July 2001, AU sued the Army for $86 million. This lawsuit was an unsuccessful attempt to shift legal liability, but the fact is that AU had accepted the Government's 1920 propositions and compensation.

In conclusion, I believe that this subcommittee has the authority to ensure that advanced scientific techniques are used to locate the most dangerous WMD sites at Spring Valley. I ask that Congress ensure that these techniques are used before the Army stops its investigation or remedial activities.

Thank you.

[The prepared statement of Mr. Bailey follows:]

Testimony of Harold G. Bailey, Jr.
Garvey Schubert Barer Washington DC Office
Before the U.S. House of Representatives
Subcommittee on Federal Workforce, Postal Service and
The District of Columbia Regarding
The Spring Valley Formerly Used Defense Site

June 10, 2009

This testimony is on behalf of four families who came to live in Spring Valley but who were never told their houses were on or near a dump site for weapons of mass destruction (WMD). The Dudley, Teleki, Hansen and Bohlen Families were each unaware that their children would be playing in soil laced with arsenic from lewisite and other gases, or that those children could be digging up containers that had held poisonous gases. I am holding in my hand one of the containers that held WMD from the Army's American University Experiment Station (AUES) – a container that Frances Hansen's young child found in their backyard in 2002. Neither the Army, nor American University (AU) who rented the house to Ms. Hansen, ever warned her or the other three families about potential exposure to AUES WMD, despite the extensive photographic and physical evidence that both the Army and AU had long possessed.

But the injustices perpetrated by the Army and American University are in the past, and the four families are, to their enduring credit, more interested in protecting future generations of Spring Valley families. Consequently, the primary focus of this testimony is a summary of the evidence that indicates that the Army and AU are still making an insufficient effort to research, locate and remove WMD from six sites in Spring Valley. The second portion of this testimony is a summary of the AUES-related

litigation that has occurred over the past 15 years that Congresswoman Norton has asked me to discuss.

Credible Evidence of AUES WMD Sites Not Yet Identified and Remediated

My law firm assists government officials and private companies trying to assess the nature and extent of environmental contamination at former US military sites. I agree with the Army that this is a technically challenging and expensive task, but with AUES WMD the stakes are very high. The Army's past record of leaving Spring Valley without finishing the job means that this Congress should demand greater assurances before the Army leaves again. The Army cannot be held to an impossible standard of locating and excavating all the WMD materials buried around AU – so many parts of the area around AU were dump sited containing all kinds of AUES materials. Nor can the Army be expected to commit unlimited funds trying to remediate every bit of arsenic-contaminated soil on top of and under the ground in Spring Valley. In my view, the current and future residents of Spring Valley would be best served by a thorough and independent analysis of the sites most likely to contain large amounts of potentially dangerous WMD, followed promptly by a cost-effective excavation and destruction effort at those sites. Crossing these sites off the list of AUES areas of concern would go a long way to restoring trust and confidence in the Army's efforts at Spring Valley.

Based on the evidence I have reviewed over a ten-year period, there are six priority sites in and around AU that merit a new, hard look:

1. The Sergeant Maurer Pit

The Army has in its possession a 1918 photo taken at AUES by Army Sergeant Maurer showing ceramic containers and metal drums near a burial pit whose location can be generally identified as near the current boundary of the AU campus, Glenbrook Road and the Korean Ambassador's Residence. The photo includes a notation that the containers held mustard gas that was being dumped in the pit. There was a criminal investigation of the Army's activities at Spring Valley in 2000, and an EPA investigative report indicated that the Army obtained possession of the Maurer photo in 1993. See attached EPA CID Investigative Activity Report. The Army later acknowledged the existence of the Maurer photo and the general location of the Maurer Pit. See attached 1997 Army Memo. To date, the Army has not found tangible evidence of the Maurer Pit, but these containers could leak and pose a substantial hazard to groundwater and DC drinking water supplies. As pointed out in the District's 1996 Report on AUES (attached), the corrosion of chemical weapons containers and shells poses the continuing danger of a WMD release. On the other hand, if the contents of the Maurer Pit have already leaked out, or if the containers in the photo were emptied rather than buried, then there would be no poisonous residue in the soil.

Regardless of the current physical state of the mustard gas containers, the photographic evidence of metal drums means that advanced geophysical detection devices could locate potential drum locations. However, the past geophysical detection methods employed by the Army did not have the capacity to locate drums at deeper depths or in hard-to-reach locations. Also, additional photos of AUES buildings have

been found to help further identify the location of the Maurer Pit. Until the Army uses all photos of AUES buildings and more advanced geophysical methods to thoroughly investigate the area shown in the Maurer photo, then the Spring Valley residents will be left with the knowing feeling that a WMD site locatable to within several hundred square yards was never found.

I want to note that the Army has been aware for more than ten years of AUES burials in a pit at a residence on Glenbrook Road (Pit 3), and in past pure lewisite, mustard and arsine gas were found in Pit 3. Over the past year the Army has found additional live chemical weapons in Pit 3 that will be destroyed later this summer. According to the EPA CID investigation, there were reports of buried drums during the construction of the residence where Pit 3 was located. It is of course conceivable that the reported drums from the Pit 3 location could be the drums depicted in the Maurer photo, and that Pit 3 and the Maurer Pit are the same or closely-connected. But the discovery of over 200 intact, live WMD that are not mustard weapons at Pit 3 could also indicate that Pit 3 is a WMD disposal pit containing experimental weapons rather than the containers and drums of mustard gas. The intact weapons seem more likely connected with another burial location, the Osborne Pit, described below.

A Spring Valley family that built one of the first residences near these AUES burial locations, the Dudleys, were never told of the former AUES land use and the potential burial sites adjacent to their residence. One child in the Dudley family who frequently played in the dirt in these adjacent areas, experienced acute skin irritation, similar to symptoms of exposure to lewisite. Nor were the Dudleys told of the Maurer photo, Pit 3 and other pits near their residence containing large amounts of AUES-related materials,

including live shells. The only thing the Dudleys were told by the Army was that arsenic hot spots had been found on their former property, which is now the Korean Ambassador's Residence. The question of course is whether these arsenic hot spots are related to the Maurer Pit, Pit 3, or any other AUES burial pits near Glenbrook Road. Only more thorough geophysical testing can answer these key questions, but the expense of further excavation and the potential objections of the Korean Government obviously pose a challenge for the Army. But given the photographic evidence of the WMD, should cost and political concerns really be allowed to stop the search for the Maurer Pit? I urge both the Congress and the Army to re-visit Sergeant Maurer's Pit that will always be the unmistakable image of WMD at AUES.

2. The Osborne Pit

AU has to date refused to release publicly the minutes of its Board of Trustees following closure of the AUES, but the fact is that some of these minutes have been disclosed for many years. Attached to this testimony is the May 22, 1920 Minutes prepared by Trustee Albert Osborne recording AU's acceptance of a "proposition" by the U.S. government to compensate AU for damage by the Army to the AU campus. In addition, several articles in the attached April 1921 edition of the AU Courier newspaper reported an additional proposition regarding buried munitions, and why that proposition was made. The Army had dug a pit "deeper than the one into which Joseph was cast" for the burial of chemical munitions. The Courier states that the munitions were "taken back to the limit of the [American] University acres and there buried..." The Courier article valued the munitions at $800,000.

The location of this burial pit would most likely be at the western boundary of the AU campus, and indeed there have been numerous AUES burial pits and materials found throughout the entire down-gradient area ringing the current AU campus from Rockwood Parkway to Glenbrook Road. But there are three points that indicate that the Osborne Pit has not yet been located and would be a separate large burial site: 1) no extremely deep AUES pit, especially one dug from 1919 ground-level has been located, and 2) munitions valued at $800,000 in 1919 dollars have not been found (or at least such finds have not yet been disclosed by the Army); and 3) explosively-configured munitions of the Osborne references and mustard containers of the Maurer photo might not be safe choices for joint burial. As noted above, the munitions described for the Osborne pit could conceivably be those currently being found at Pit 3 or at other Army excavations along Glenbrook Road or Rockwood Parkway, but to date these excavations do not appear to have identified the large amount of munitions referenced by the Courier.

There is a 1919 inventory (attached) of the WMD at AUES that was prepared as part of a request to ship the WMD, and the large amount and variety of weapons could approximate the Courier's valuation of the munitions. For example, the inventory lists 1976 high explosive shells, over 1000 incendiary bombs, and over 100 air burst gas shells. There is much uncertainty whether this inventory is an accurate reflection of what remained at AUES in 1919, and whether any of the listed munitions were indeed transported. What are not in doubt are the multiple sources of credible evidence of large amount of chemical munitions remaining at AUES at the conclusion of WWI, and the fact that the Army has not determined or announced the location of any significant number of these munitions. As with the Maurer Pit, the munitions in the Osborne Pit are

locatable with advanced geophysical techniques, but there is no question that there is a significant challenge in finding the precise location of such a deep pit dug so long ago. But such challenges should not deter the Army from mounting a renewed effort to locate the pit described by the Courier.

What is particularly offensive to the four families is that the Army and AU have known about the possible locations of AUES burial pits since at least 1986 when an EPA Historical Photographic Analysis clearly showed evidence of AUES-related ground scars indicating excavation sites (potential burial pits) on the western edges of the AU campus. The findings of the 1986 EPA report made it clear that there was credible photographic evidence of possible burial sites on or near the property of the four families. But this 1986 EPA report was never disclosed to any Spring Valley residents until many years later. The key point is not that the 1986 EPA report could have conclusively shown exactly where the Maurer, Osborne or any other burial pit was located. Rather, the EPA report should have been immediately disclosed to potentially affected residents so that they could have drawn their own conclusions, and so that these families could have sought assurances from the Army that their residences were not located on or near the burial sites indicated in the photographs.

The nondisclosure of the 1986 report was the first in a series of Army and AU actions that had the apparent intent of withholding material information from Spring Valley residents. Starting in 1986, neither the Army nor AU chose to warn potentially affected residents near potential burial sites, and both the Army and AU failed to be transparent in their subsequent historical, technical and legal investigations. This pattern of failure to

disclose and warn continued for the four families through 2002, and is the prime motivating factor for my testimony today.

3. The Dalecarlia Reservoir Woods (AOC2/Zone 9)

In 1994, the Army conducted a geophysical survey of 14 acres of the woodlands to the east of Dalecarlia Reservoir. The Army found five live rounds and numerous fragments of munitions, but the Army did not perform a complete geophysical survey of the area. The Army is aware of 109 "anomalies" and 2 potential disposal areas in this "Area of Concern 2" (AOC2). One of the reasons that the EPA Criminal Investigative Division conducted an inquiry in 2000 was the allegation that hundreds of flags indicating potential magnetic anomalies in this area had been removed prior to excavating the anomalies. Regardless of whether the flags were actually removed, or why, a thorough geophysical survey of this area has not been accomplished to date. Four acres in the center of AOC2 where anomalies were identified have never been investigated.

More recently, in response to television new coverage, an individual has come forward with information that he had removed 55 experimental rounds from a shallow burial at the end of a ravine in the Dalecarlia woods. The Army was given approximately 20 of these rounds in 1984, but the Army failed to follow up on this information.

Given the close proximity to the DC water supply, and the past concerns about the completeness and credibility of the Army effort at this location, the Army's effort at Dalecarlia woods is another example of early-identified and critical potential AUES disposal locations that has not been thoroughly investigated or remediated. The previous excavations at Dalecarlia woods uncovered relatively few munitions, so completing a

thorough survey with similarly-few finds would help to restore confidence in the safety of the DC water supply and in the Army.

4. 52nd Court

In 1993, during construction of residential properties on 52nd Court by the Miller development company, a number of AUES munitions were discovered. As described below, Miller sued the Army for the expenses incurred in construction delays and disposing these munitions, but it is significant that the Miller company had a very long history in Spring Valley. The Millers had been purchasing property in the Spring Valley area since 1924, only four years after AUES was closed. There are reports that the Army left fences and signs regarding its activities after the Army left AUES, and many of the landowners adjacent to the borders of American University were personally aware of the Army's activities at AUES. Attached is a 1918 Army memo recording AUES use of private properties. So it seems implausible that the Millers would have no knowledge of AUES burial sites around the borders of American University. Yet the Millers have maintained in past congressional testimony that their family knew nothing of AUES munition burials until 1993.

More recently, the Army has been trying to obtain landowner consent to the placement of monitoring wells on 52nd Court. After an extended period when landowners refused to provide the Army with access for groundwater monitoring (and after it was clear that EPA would seek a court order to force access), the monitoring will apparently proceed. The failure of private parties to provide the Army with access to their land has been another challenge that the Army did not need. The excavation of Pit 3 as described above was significantly delayed by a refusal to grant access (and related litigation). The

lesson from these access refusals seems clear – given the manifest need to protect public safety from AUES WMD, the Army and EPA should make it plain to any resident of Spring Valley that access for investigational purposes is consistent with, and required by, federal environmental statutes. If any resident continues to refuse access for investigational purposes, then EPA should promptly utilize its legal authorities to obtain access.

52nd Court was one of the earliest significant AUES-related sites to be investigated by the Army. It would be another boost to the confidence of the community if the Army follows through on its newly-granted access and determines that groundwater has not been impacted by AUES contaminants. The large number of live and potentially live rounds found at 52nd Court (well over 140 munitions), and the extensive number of containers and loose contaminants found (approximately 95), have created significant concern about potential groundwater contamination.

5. The American University Public Safety Building

In late February 2009, mercury was found in a debris field behind the AU Public Safety Building. This should be no surprise, because a wide variety of AUES debris has been found at other locations near that Building, and mercury was used for shell fuzes at AUES. What would be a very unpleasant surprise is the possibility that AUES-related mercury is still present in the ground near or under the Public Safety Building. Beyond the significant technical challenges and financial costs associated with dealing with such a possibility, the threat to student safety and groundwater from such a scenario would be serious. AU's reluctance to inform its student body of the mercury contamination

continues the pattern stretching back to 1986 of failing to disclose/warn residents and students of credible evidence of AUES-related health and environmental risks.

6. The American University Parking Lot Adjacent to Nebraska Ave

Aerial photos show an additional potential AUES-related burial site on what is now the AU parking lot adjacent to Nebraska Avenue. I understand that the Army is considering an investigation of this site. Following up on aerial photo evidence is a tangible indication that the Army is being more pro-active on potential AUES-related burial sites. If nothing is found at this site, then the Army will have demonstrated that it has investigated this area.

There is one other point that I want to make that is not specific to any particular residence in Spring Valley. Because many of the AUES poisonous gas such as arsine, lewisite, phosgene and mustard are heavier than air, the air quality in the lower basement areas of several houses in the Glenbrook Road and Rockwood Parkway area should be tested. Good air quality findings from such testing would significantly address residents' concerns about exposure to these heavier-than-air AUES poisonous gases.

AUES-Related Litigation

Congresswoman Norton has requested that I address the various AUES-related lawsuits that have occurred over the past 15 years. There are several common factors in these cases:

(1) Recovering financial compensation from the US government for the acts of the Army at AUES is very unlikely under the current judicial interpretations of the Federal Tort Claims Act: the burials by the Army at AUES are considered non-

compensable "discretionary" acts, regardless of the dangers the Army created by burying AUES WMD.

(2) AU is not protected by the "discretionary act" exemption to the Federal Tort Claims Act; AU settled a lawsuit by a resident who bought a house near Pit 3, after a federal judge found that AU failed to warn/disclose information AU possessed about AUES-related burials near the residence.

(3) The parties to the lawsuits have sought to seal the court filings associated with these cases as part of the settlements; the actions sealing the court filings have prevented the public disclosure of material (and perhaps embarrassing) information about the actions, inactions or knowledge of the litigants regarding AUES activities and burial sites.

(4) The lawsuits to date reflect a "blame game" where the protection of public health and environment of Spring Valley is not addressed; the litigation to date has focused on individual claims for monetary compensation, rather than claims against the Army or EPA for failure to comply with federal environmental statutes governing cleanups at formerly used defense sites.

The litigation to date has had relatively little impact on the priorities or pace of the Army's investigations at Spring Valley. In the 1990's, the Miller Company sued the Army for expenses Miller incurred in connection with the 1993 discovery of AUES

munitions at 52nd Court. Miller obtained compensation from the Army after a federal judge found that the Army had "booby-trapped" 52nd Court. However, the Army still decided that no further response action was needed in Spring Valley, and declared its investigation over in 1995.

In July 2001, AU sued the Army for $86 million, claiming that this sum would be necessary to indemnify AU from the costs and liabilities associated with AUES contamination. Then and now, this lawsuit appeared to be a transparent effort to shift blame from AU to the Army, but the facts are that AU had long known about the AUES burials and accepted the government's 1920 "propositions" regarding those burials. In any case, the Army did not indemnify AU for $86 million, but the Army has continued to investigate AUES burials on and near the AU campus.

In 2002, the owner of a house on Glenbrook Road sued AU and the developer for failing to warn the homeowner of the existence of AUES-related contamination. After lengthy litigation in the federal and DC Superior Court, AU settled the case and sealed the court filings. This lawsuit did delay the excavation of Pit 3, where live WMD requiring destruction has been found because the Army could not obtain access.

At this point, I am not aware of any further significant litigation involving the Army, AU or Spring Valley developers. I am attaching one of the key opinions in the 2002 litigation against AU, as it states the key facts relating to AU's knowledge of AUES burials near Glenbrook Road.

Conclusion

We have frequently heard the Army and AU say that they are doing what they can to investigate AUES sites, but the real issue for this Subcommittee is whether they have

done what they should. From a legal and public policy perspective, the key question is whether there is credible documentary, photographic, technical or eyewitness evidence that would lead a person concerned about public safety and the environment to investigate these sites more thoroughly using advanced scientific techniques? Unfortunately, the past history I have related regarding the four families has often demonstrated that neither the Army nor AU has acted as if public safety were their predominant concern. Both the Army and AU have spent years trying to minimize the financial and public relations impacts of the AUES cleanup, and they must live with those decisions. But the Congress has a broader responsibility and authority to demand that all credible evidence be gathered and reviewed by unbiased experts, and that the WMD sites of greatest scientific probability be located and remediated. If this Congress does not ensure that these steps are taken before the Army ceases its investigational and remedial activities in Spring Valley, then I sadly foresee another family some day in the future paying a terrible price.

* * *

A number of public servants and public-minded individuals have assisted me over the years in understanding the facts about AUES, and providing written materials. Chief among those individuals who can be recognized by name is Charlie Bermpohl, the local reporter and writer who has worked tirelessly to uncover and disclose to the public the most important facets of the shrouded history of AUES. Another key contributor has been Ginny Durrin, whose video documentary is the most compelling visual record of

AUES. I believe that the information and records I am providing to the Committee are just a tiny portion of the credible evidence that exists on the six sites referenced in this testimony.

In closing I want to thank this Subcommittee for its aggressive oversight of the Spring Valley situation, and encourage the Subcommittee to inquire about the level of independent oversight being conducted by the District of Columbia and US EPA.

Documents for the record:

- EPA Criminal Investigation Division Investigative Activity Report, 9/19/00
- Army Memo discussing Maurer 1918 Photo, 3/20/97
- District of Columbia Dept. of Consumer and Reg. Affairs Report, July 1996
- American University Board of Trustee May 22, 1920 Minutes
- American University Courier 1919 Articles
- War Department Inventory for AUES February 10, 1919
- Memo and Map of Army use of private property for AUES, 1918
- Copies of Judicial Opinion

May 22, 1920.

A meeting of the Executive Committee was held at 10 a.m. at Judge Leighton's office. There were present B. F. Leighton, C. C. Glover, H. T. Galliher, C. J. Bell, H. S. Cooley, G. H. F. Swartzell and Albert Osborn; also Mr. E. D. Maxwell and the following three officers representing the Government: Lieut. Col. L. L. Corbin, Major R. H. Case, and Capt. H. L. Godwin, from the Construction Division.

The meeting was was called to consider a proposition of the Government in regard to reconditioning the grounds of the University, - offering in lieu of reconditioning the grounds, to give to the University eight (8) new buildings (see Sec. on plot).

A general discussion was participated in by Mr. Glover, Mr. Cooley, Mr. Bell, Mr. Leighton, Mr. Maxwell, and the three U.S. Officers.

Mr. Glover moved, seconded by Mr. Galliher, that we accept the proposition of the Government. The motion was carried, Mr. Cooley voting in the negative; and the president was authorized to make the proper release to the Government after the removal of the buildings now turned over to the University shall have been completed and the debris from the same taken away.

A motion to reconsider the question made by Mr. Cooley and seconded by Mr. Swartzell, was not carried - the vote being 2 yeas, 5 nays.

Approved. Albert Osborn
Secy

United States Environmental Protection Agency
Criminal Investigation Division

Investigative Activity Report

Case Number: 07

Case Title:
Army Corps of Engineers/Spring Valley

Reporting Office:
Baltimore

Subject of Report:
Interview of 7D

Copies to:

Related Files: 7C
9-26-00

Reporting Official and Date: 7C
RAC 7/19/00

Approving Official and Date:
SAC

On August 29, 2000, the reporting agent and SAC interviewed 7C 7D ., an environmental protection specialist ("EPS") with the U.S. Army Corps of Engineers ("USACE"), regarding his knowledge of the history of Spring Valley as a chemical weapons research facility in World War I and the ongoing clean up in the area by the USACE. was interviewed at home in Baltimore, Maryland. After being advised of the interviewing agents' identities', and the nature of the interview, provided the following information:

said that has been employed by the USACE as an EPS since October 1992, and began working on the Spring Valley project in January 1993. was given the task of writing a research plan for locating and analyzing historical documents related to activities that took place on what is now Spring Valley said that was physically stationed at the USACE resident office at Spring Valley from January 1993 until August 1993. While there, drafted a report about activities that took place on the American University ("AU") campus in world War I and through World War II. said that the northern part of AU was operated as Camp Leech which trained engineers in World War I, and the southern half of the area was utilized as a chemical warfare research station. 7C 7D

said that in the spring of 1993 met E J, an employee of the Natural Resources Defense Council ("NRDC provided with a photograph of a relative of OLSEN's who was shown on AU property in 1918 with a number of containers of what was identified as mustard gas. On the back of the picture it was written that the mustard gas pictured was being dumped into the "devil's hole." said that after reviewing this picture, came to believe that it was a photo of a disposal pit where mustard gas, and perhaps other chemical munitions, had been disposed of at the end of World War I when activities at the Army's chemical warfare research center came to an abrupt end due to the armistice. came to believe that the pit shown in the photo needed to be identified, and he told this to USACE personnel who worked in the resident office at Spring Valley. said that also told this to the USACE's but there was a disagreement over this issue. 7C 7D

was asked about working relationship with the management of the Spring Valley project, and said that at times it was stressful, but in general the people assigned to the project worked well together. said that in January 1993 the Army did not know what the 7C 7D

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7C

scope of the project was and who had oversight of the project, did not want to give out inaccurate information, so gave out limited information because that was the extent of what the USACE knew at the time. said that believes that the public thought the Army knew more, but in early 1993 the Army did not know the history of the site or the extent of any contamination, so it only provided the facts that it was aware of at the time.

was asked if the statement in the Record of Investigation ("RI") in 1995 which stated that no further action was required (9.2.2 in the RI) was accurate. said that thought it was accurate even though they (USACE and contract personnel) were never able to pin down the location of the pit referenced in the Mauer photo. said that there is a thorough record that was made of the USACE's investigation and clean up of the site, and from an initial list of 200 points of interest (POI's), they were able to narrow it down to 53 through analysis by EPA's Environmental Photo Interpretation Center ("EPIC"). said that each of the over 50 POI's was investigated. said that in an effort to be thorough in its site investigation, the USACE, through its prime contractor PARSON ENGINEERING, expanded the size of the POI's by 25%, and they then added an additional 10% random sample of properties in Spring Valley to do further analysis. said the 1995 Record of Decision ("ROD") should detail this sampling process. added that the project engineer from 1993-1994 could explain this plan further. However, then added that did not think that they could bring closure until they located the pit from the Mauer photo. But, added again that despite this still thought that the statement in the RI at 9.2.2 was not a false or inaccurate statement at the time. added that not everything done on the project was perfect.

was asked about the USACE's investigation and clean up at Mill Creek within Spring Valley, and whether that amounted to a public relations event as opposed to a legitimate environmental investigation. said that was a vocal Spring Valley resident who had raised a number of concerns to the USACE about trees that died near Mill Creek and other issues that said indicated there may be contamination at the Mill Creek area of Spring Valley. described as a "squeaky wheel" and said that the USACE conducted an excavation in the Mill Creek area to answer concerns even though they did not think that there was contamination in that area. The USACE went ahead on the Mill Creek excavation even though it was not located in the FUDs zone. The USACE found approximately 1,000 anomalies which were all junk at Mill Creek, and the entire episode was done to show that the area was not contaminated. said that in opinion Mill Creek was examined due to some dead trees and being a squeaky wheel.

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was then asked about USACE activity related to the Dalecarlia reservoir. said that the reservoir was built in 1855, and had heard about the pulling of flags from an area near the reservoir which may have been flagged due to anomalies located as part of a geophysical investigation of the area. said that learned about this in 1999, and believes that the flags were pulled because the area in question was outside of the FUDS zone and the USACE could not legitimately obligate contract money for that area. believes that the USACE managers may have been particularly concerned about this because the Mill Creek investigation was not located in the FUDs zone. said that EODT was the first contractor to work on the Spring Valley project, but its contract maxed out, and another

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contractor had to be brought on board. In terms of the flags being pulled, said that did not recall anyone instructing contractors or USACE personnel not to look in that area.

was then asked if was aware of any information indicating that munitions may be buried on the AU soccer field. said that EODT utilized geophysical investigative technology to look for buried munitions on the soccer field. EODT's personnel received indications of an enormous pit under the soccer field. However, as the USACE and contract personnel examined the area, they began to be concerned that the large broadcast towers located nearby might have caused interference with the equipment. said that EODT personnel went back to the soccer field on an evening when the broadcast towers were turned off and conducted another examination of the soccer field which did not turn up any indications, of a pit or buried munitions. said that records of the broadcast stations should show that the towers were not transmitting for a period of approximately five hours during the spring of 1993. The evening they were not transmitting was the evening that the USACE reexamined the soccer field. said did not know if the EPA was made aware of the conflicting results at the soccer field. 7C 7D

said in opinion, the USACE went to great lengths to examine different sources of information about the history of the site. said that at one point the USACE was advised by of the DC government that received a call from an individual named who claimed to have information about the burial of mustard gas on the AU campus. According to was told by that a called and said that in the 1930s was assigned to the civilian conservation corps ("CCC") under the supervision of a named W then allegedly said that in the 1930's participated in the burial of mustard gas on the AU campus that was disposed of in 80 foot pits that were dug by steam shovel. then went on to provide biographical information about said that was in the Army at one point (although was not assigned to any chemical warfare unit) and lived in New Jersey. said that was tasked to research this claim, and was able to determine that a did in fact work for the CCC in the 1930's, but was assigned to locations outside of Washington, D.C. also determined that KNOWLE died in 1988. However, could not verify any information at all about the individual who identified to as Ian MacFee said was given the directive by management (at the time) to utilize the resources needed to try and find MacFee. Despite an extensive effort, which included inquiries to Scotland and historical research, could find no evidence that Ian MacFee existed. 7C 7D Any luck finding this guy.

was asked if he had interacted with of the D.C. government, and said knew and thought was inaccurate in many of assertions about the Spring Valley project. was asked again abou response to assertion that the photo indicated a burial pit that had not been found. said that provided the information to and did not know what did with the information. went on to say that believes has grossly distorted the record of the Spring Valley clean up, and said that can document misquoting historical records. said that has also used the 7C 7D

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report that) wrote in 1994 to try and point out flaws in the Spring Valley project. said that also disputed an archaeological report that identified suspect glass as being from the 1930's thus post dating the World War I activity at AU. added that in July of this year made a comment that there was a possibility of an investigation into the clean up at Spring Valley. also raised the issue of the Dalecarlia anomalies which are outside of the designated work area for the USACE, but again added that this area was outside of the work zone and the USACE could not engage contractors to work in that area. 7C 7D

was asked about the Sedgwick trench, and said that did not believe that there was a disposal pit at the Sedgwick trench. said that during the World War I chemical weapons research there were probably thousands of animals killed, and the burial of these animals has never been located. said that was aware of the two cases of aplastic anemia that occurred adjacent to each other in Spring Valley. said that ATSDR (Agency for Toxic Substances and Disease Registry examined these two cases and said that there was a one in a million chance of such an occurrence. said a examined the data, and despite the coincidence, they did not feel there was a link to the previous use of the site as a chemical weapons research facility. 7C 7D

said that was also aware that the Spring Valley site was examined in 1986. said that the Army was alerted to the possibility of munitions being buried in the Spring Valley area by a reporter out of Denver who was doing a story on a researcher who experimented with radiation in the time around World War I. It was discovered through this reporter that this researcher did some work at the present day Spring Valley site. However, it did not appear that any radiation experimentation was done there. said that based on this information, the Army and EPA researched the area in 1986, but the EPA could not locate any pits through aerial photo interpretation, and the Army historian assigned to the project did not find any evidence of buried munitions. Because of this, the Army shut down its investigation of the site in October 1986. 7C 7D

said that ne developer of the property, also sued the Army around the time of the 1993 investigation because it contended that the Army may have been aware of hazards that it did not disclose to said that Army settled the suit for $2.8 million after it did not prevail on a motion to have the case dismissed. said that believes that may have known more about the history of the site than it revealed in the case. 7C 7D

was asked again why believed that efforts to have the pit identified in the photo were not successful. said that at one point when raised the issue of locating this pit, was told that was not an engineer, and the location of any pits should be left to engineers. said that did not follow up and ask why the pit in question was not investigated further. said that did not feel had hard enough evidence on the matter to pursue it. However, said that and of EODT were present when raised the issue of the pit in the photo to was asked why the Army went to such great lengths to locate yet did not thoroughly follow up on the location of the pit from the photo. said did not have an answer 7C 7D

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United States Environmental Protection Agency
Criminal Investigation Division
Case Number b2

Investigative Activity Report

to that question. said that was involved in the Spring Valley site as recently as June 1995, and added that is now the USACE's said that believes the current area being investigated by the USACE on the Korean Ambassador's property is the pit that saw in the photograph. said that the area was forested earlier, and the USACE's earlier investigation was off by about 100 feet. 7C 7D

was asked about reports of workers getting sick during the excavation work for new homes, and said that was aware of such an incident on a property that AU sold to a developer on Glenbrook Road. According to (a resident of the area) told that workers excavating a site uncovered a chemical that caused a number of them to get sick. heard that AU bought the property back from the developer as a result of this incident, and AU initiated testing of the site which identified silvex, a 1930's era pesticide as being present in the soil. said that also heard that a 55 gallon drum, perhaps containing remnants of silvex, was discovered at the site. 7C 7D

said that the USACE took soil samples from the bunkers on the property during the site investigation, and no contaminants were found to be present in these samples. said that the property was identified as POI 21, 22, and 23. concluded by saying that believes that the USACE made a real effort to document the decisions that were made in the Spring Valley project, and believed that there was also an effort by the USACE to make good decisions. said that could not recall if documented attempts to have the pit in the photo located. 7C 7D

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CENAB-PL-E 20 March 1997

MEMORANDUM FOR CENAB-PP-E (Sheila Bloom)

SUBJECT: FUDS Project Number CO3DC0918, Spring Valley

1.I have reviewed the report prepared "Final Report on World War I Poison Gas Production at the American University Experiment Station," by the District of Columbia Department of Consumer and Regulatory Affairs. Following are my comments

Page 1, para 2.: The DC government participated in the review of the proposed field investigations throughout their development. DC officials were often briefed on the status of work. Organizationally this office might not have been in place in 1993 but the DC government was included in the development of plans.

Page 2, 3rd full para: There was an anomaly review board that reviewed each anomaly and decided on a case by case basis if subsurface investigations were warranted. They used utility maps and other information to determine what an anomaly might be. They only excavated if there was no explanation. A lot of effort was expended check several hundred anomalies in Mill Creek, immediately north of the 52nd Court trenches and nothing ordnance related was found.

Page 2, last para: We tested in areas where we knew they conducted experiments. If there was contamination anywhere it would be here.

Page 3, 2nd full para: During new house construction during the summer of 1992 a chemical material was encountered. When earth was moved a noxious odor was noted. The next door neighbors dog went through the dirt and had a runny nose and watery eyes. This was reported to AU and they tested the site. The property had been purchased after being excessed by AU. There were several rows of a white substance found along with a buried rusted 55 gallon drum. AU took samples and had them tested. The white material was substance called silvex, it is used in defoliating vegetation. It was my understanding at the time that this material was not manufactured until the 1930s, so it could not be related to WWI experimentation. AU gave me a copy of the lab report but I can not locate it in my files.

Page 4, 4th full para: statement that 100,000 troops trained in gas warfare at the site is misleading. 100,000 engineer troops trained at Camp Leach. Camp Leach occupied half the campus. Troops were trained in a variety of engineering skills, there is no evidence they received gas warfare training at this location. I think they might have gone to Fort Belvoir for gas field training. Fort Belvoir had a "gas warfare" school during WWI.

page 9, 1st full para: a plat map showing the location of approximately 140 buildings at the experiment station in 1918 is available at the National Archives. We photographed the map, a print is available in the District. I do not know if specific building sites were tested when they did the field work.

page 9 3rd full para; This is a valid statement, but we did testing at AU and did not find any contamination.

page 9, 4th full para; they reference a "Cylinder storage building" I looked through the list of buildings and could not find this one. If building number is provided we could check it against the map.

page 9, last para; I do not believe mortars fired any "live" rounds. Documentary evidence suggests most testing was done by static firing. They did fire Stokes and Liven's projectiles ballistically. The rounds were filled with water and they were fired to see how a liquid load effected their flight. There is a posed photograph showing a Stokes and Livens battery. We know where the battery was located and know where the impact area was. The impact area was Point of Interest 18, area 4 times greater than the actual size of the POI was investigated and cleared.

page 10, 1st para; Naval Security Testing Station contamination. I do not believe this is related to the experiment station. We tested on the campus and in the testing ranges and found the area was clean. Their point about poison gas testing is valid, overall several thousand field tests were conducted. Again, we tested those areas and they were clean.

page 10, 3rd para; The Old Mustard Field. There was only one source that identified this in the historical documents, a map showing the extent of the experiment station boundary. The Mustard Field was a large blob drawn in the center. It was identified as a POI and tested for contamination.

page 11, 1st para; the newspaper story they cite exaggerated the extent of what actually happened. If there was an explosion of a buried munitions it would seem to me that unless it was very near the surface that any explosion would result in localized contamination of soil around munitions. Unless the surface of the ground was broken no agent would be released into the air.

page 12, 1st para; statement about potential sources is legitimate, unexploded UXO and buried cylinders would be potential sources.

page 12, 3rd para; because of the nature of the work at the experiment station I think they did things a little differently than at Camp Simms. Archival information suggests that they cleaned up all the scraps of metal after each experiment. Any duds would have been collected during the site clean up. The 52nd Court trenches had a "trash pit" at the site. I think they learned this would

be useful from the experience they had at the Sedgwick (southern) trenches and incorporated it into the 52nd Court trenches that were built in September of 1918. No dud rounds were found in the areas that were investigated.

page 13, 1st full para; I agree with this statement. Historical evidence supports the claim that there was at least one burial inside the fenced perimeter at the experiment station. In 1993 I met with Mr. Eric Olsen. His grandfather, William Maurer was a sergeant in the Chemical Warfare Service stationed at the experiment station during World War I. Mr. Maurer repeatedly told his family that they buried "cans of poison gas" after the end of the war. Mr. Maurer died several years before 1993. Mr. Olsen had pictures that were taken at the experiment station in 1918/19. One picture showed a burial hole. A frame building and utility wires are visible in the background. On the back of the picture was written "The pit, the most feared and respected place on the grounds of the university. The mustard gas was taken here to be destroyed in the hole called Hades." Then there was a Latin phrase that translated into "are you afraid." The photograph shows a pit with a soldier in a gas mask standing on the edge of it. Next to him are several glass and ceramic containers holding mustard gas. A large metal drum was also visible at the edge of the photograph. The only thing that is not clear is if the mustard was buried in the containers or was poured directly into the hole. The Board of Trustees reportedly gave the military permission to bury munitions on university property. In the American University newsletter there were two reports of a munitions burial at "the farthest extent of the university acres." The general location of the photograph corresponds to this description. I believe this pit still exists and that we did not find it during the first investigation.

page 13, 3rd para; archival investigation was very thorough and we did not find much information on the 5 points they make. We did find some shipping manifests showing 75mm shells were shipped to Edgewood Arsenal. They mistakenly combine Camp Leach with the Experiment Station. Camp Leach was quickly closed down and was gone by January 1919. The buildings were disassembled and material sold as scrap. Operations continued at the experiment station until 1920.. For a while the military considered purchasing AU outright and using it as a test station. The trustees wanted several million dollars and this was considered too much money. There were also safety concerns about having such an operation near a populated area. The distinction between the closure of Camp Leach and the experiment station is important in looking at closures. The government maintained research facilities at AU for several years after the end of WWI.

page 15, 3rd para; I made the same point above, there were two tenants at AU, Camp Leach and the experiment station. They were separate bureaucratic entities with different administrative procedures.

page 15, 4th para; the reference they cite as Appendix W is for Camp Leach, not the experiment station.

page 15, last full para; there are several sets of trenches visible in the 1918 aerial photograph. South of Massachusetts Avenue are the two sets of double ring circular trenches used by the experiment station. North of Massachusetts Avenue there are several sets of trenches associated with the engineer training activity at Camp Leach. Given the bureaucratic tension between Camp Leach and the experiment station I do not believe Camp Leach trenches would have been used to bury munitions. Additionally, Camp Leach north of Massachusetts Avenue was leased property. Historical information suggests that if burial did take place they took place on AU property, not on leased property.

page 15/16, last/first; operations at the experiment station did not stop on December 31 as called for in this memorandum. Scaled down operations continued until 1920 before they transferred to the Edgewood Arsenal.

page 16, 2 December memo; this memo refers to Camp Leach. Camp Leach should not have had any chemical materials to dispose of. Real property was transferred and buildings were disassembled and sold for scrap.

2. The documents attached as the Appendices do not provide any new information.

3. I believe several of the conclusions this report draws from historical information are incorrect. The failure to draw a distinction between Camp Leach and the experiment station is an important error. The archival documents indicate there was a lot of bureaucratic tensions between the two organizations. There was constant fighting over floor space in the buildings and the actual dividing line between the two units. They should be viewed as separate stand alone entities. The engineers at Camp Leach would have had little involvement with activities at the experiment station.

4. Based on historical information I believe there is at least one burial pit located inside the 1918 fenced perimeter of the experiment station. There is a photograph of a burial pit. There is also a 1927 aerial photograph that shows a ground scar in a location that could match the burial pit. There is also a first person account of burying materials at the experiment station at the end of the war. The area that represents the "farthest extent" of the university property is either undeveloped or currently owned by other parties.

5. Questions regarding this should be directed to Mark L. Baker at 2-0695.

Mark L. Baker
Planning and Environmental Services
Branch

Government of the District of Columbia
Department of Consumer and
Regulatory Affairs
Environmental Regulation Administration
Hazardous Waste Branch

FINAL REPORT ON WORLD WAR I POISON GAS PRODUCTION AT THE AMERICAN UNIVERSITY EXPERIMENT STATION

July, 1996

EXECUTIVE SUMMARY AND RECOMMENDATIONS

The accidental discovery of World War I unexploded poison gas shells at the American University Experiment Station (American University) site, on January 5, 1993, properly evoked an immediate emergency response. Altogether, 141 unexploded ordnance (UXO) were found, including 43 chemical (poison gas) shells.

Unfortunately, this urgency did not permit the orderly and usual sequence of operations for remediation of formerly used military sites. The Draft Proposed Military Range Rule (hereinafter, Range Rule), 32 CFR 339 4/15/96 stresses the need to examine the entire range after a range assessment/accelerated response (RA/AR) is completed. The Range Rule states,

> "Range Evaluations are detailed investigations of the Military Munitions employed on the Military Range, the other Constituents believed or known to be present, and the environmental setting....This information collection often is a complex, long term effort (e.g., groundwater monitoring) that demands careful planning before its execution. This phase includes evaluation of site safety, and potential human health and ecological impacts. Examples of when an RE might be conducted include: Military Ranges where chemical munitions were employed and where the RA/AR process shows a potential exposure from a chemical agent release."p.47

To our knowledge a total comprehensive environmental study was not done at the American University site. At the time of most of the work that was done, the District of Columbia's Defense Environmental Restoration Program funding had not been put in place, limiting the District's ability to oversee the project. Moreover, the Army lacked experience as well, because it was the first time the Army had conducted an ordnance and chemical warfare removal operation in a residential area. Although the American University site was identified by the Federal government in 1985, stakeholders were not informed until the buried munitions story emerged in the press in 1993. Indeed, it was not until 1994 that the Department of Defense recognized the need to refine its community involvement policy. Such failure to involve stakeholders from the inception is often cited for the failure of adequate remediation (Appendix A).

While the Range Evaluation did not occur, a very substantial historical research project and report was completed. The report is entitled: **The Brief History of the American**

University Experiment Station and U.S. Navy Bomb Disposal School, American University by Martin K. Gordon, Barry R. Sude, Ruth Ann Overbeck, and Charles Hendricks, (hereinafter referred to as Historical Report).

According to the Historical Report, at least 48 toxic or dangerous substances were tested on the site (Appendix B). In addition to the large variety of substances, large quantities also existed. The report states, "During the Experiment Station's brief existence, many of these structures were used to store enormous quantities of toxic chemicals, gases, and similar substances..."at p. 31 (Appendix C). Many of these experiments involved releasing great quantities of these toxic substances into the air and on the soil to see the effects on animals placed at various distances from the release point.

Several of these contaminants, such as mustard gas and arsenic, are extremely toxic and are carcinogens. Some can remain viable for long periods. Only a few of these chemicals have been tested for at the site, and then only at isolated locations. No random grid sampling of soil and groundwater was done. No survey has been conducted to determine if there are any adverse health effects to the residents of the area.

In addition, the final 1995 report on the American University site indicates that only 53 points of interest there were scanned with metal detectors in an effort to locate other buried munitions. During this limited scanning 2,000 anomalies were found (an anomaly is a reading indicating the presence of a metallic object underground). Of these anomalies, approximately 87 were excavated (there is some conflict in the reports over the precise number). This failure to fully investigate all buried metal is magnified by the inadequacy of current detection equipment.

According to the Range Rule, a Technology Demonstration at the Jefferson Proving Ground showed,

> "...that all of the demonstrators performed below expected detection and identification capabilities. Ordnance detection ratios fell below 65 percent...For example, if 100 ordnance items were located on a range scheduled for remediation, the best technology demonstrated at JPG would correctly identify 65 of the 100 UXO locations."p.19

Accordingly, since live chemical weapon munitions (CWM), as well as high explosive shells, were found buried at the American University site, and many toxic substances were released into the environment, we felt that a substantial research project was necessary in order to determine the potential for residual contamination and munitions on the site.

After completing a major portion of our research, we became convinced of an immediate threat to the health and safety of residents at the site. Accordingly, we prepared an Interim Report, containing most of these recommendations.

Subsequently, on April 2, 1996, another live munition (incendiary white phosphorous?) was found. The District of Columbia Department of Consumer and Regulatory Affairs, Environmental Regulation Administration (ERA) was not informed of this event until April 19, 1996. We have now been told that this shell was found inside of a house. While this munition would not have killed as many people as a poison gas shell, it could have quickly burned the house and occupants.

Additionally, on June 10, 1996, we were informed that a full glass chemical bottle with glass stopper had been unearthed along with the remains of several more, at the American University site. While we are awaiting a laboratory analysis, soil samples contained arsenic levels as high as 1200 parts per million, as well as other pollutants. To date, 40 cubic yards of contaminated soil have been removed. We were also informed that, 5 years ago, several workers were overcome during excavation procedures at the same site and hospitalized for respiratory problems. We feel strongly that these workers may have been exposed to poison gas from these broken bottles or a leaking munition disturbed during the excavation process.

It is our opinion that the remediation efforts did not address all of the areas of concern reflected in the Historical Report and Range Rule, and our own study, both with respect to the potential for contamination and the likelihood of more unexploded munitions on the site. This report details the basis for this conclusion.

Recommendations

The threat posed at the American University site requires that every part of the 600 acre site be surveyed with magnetometers and ground penetrating radar to a depth of 10 feet, with all anomalies intrusively investigated and cleared.

In addition, the entire site should have the soil at various depths sampled, as well as the groundwater sampled for the toxic substances listed below. This should be a random grid sampling comparing the results to off-site background levels.

Finally, a health survey of the residents should be conducted to determine if there is any elevated incidence of any disease processes, related to the hazardous substances listed.

In our opinion, the immense quantity of gas there, the lack of information indicating that any CWM were moved, the buried CWM already found, the numerous trenches providing convenient burial, compel the conclusion that more CWM still exist on the site. Moreover, the injuries and deaths from gas leaking out of rusty shells found on the European battlefields (see below), raises the specter of a release of poison gas in the future in a heavily populated area. Such a risk is unacceptable, and demands a thorough environmental assessment.

THE SITE

American University has been compared to a Superfund or National Priority List site. However, there are fundamental differences. First, the contaminants potentially present were not industrial chemicals, but were expressly designed to kill people. Second, many people currently live directly on the site, a significant factor in the risk assessment process. Only 20% of the Superfund sites have residential areas nearby. Third, the contamination is very old. While this reduces the expectation of volatile substances, it forces testing for breakdown products as well as the known contaminants, such as arsenic, which still remain. Fourth, the containers unearthed to date are shell casings which are thicker than the drums and cans usually associated with toxic waste dumps, increasing the likelihood of lethal concentrations.

There is mounting evidence that the American University Site encompassed a massive production facility for poison gas in addition to its development and experimentation functions.

The American University site is now considered to comprise more than 600 acres with more than 13,000 current residents. During WWI, more than 100,000 troops were trained in gas warfare at the site. There were 1200 chemists and engineers at the site, supported by more than 700 non-technical staff (Appendix D), performing war-related gas research and production in 1917-1918.

Our research further found that,

> "The Army attempted to contract out the production of war gases to a number of civilian chemical companies, but these firms objected immediately to the contracts because of the inherent dangers in the production of large quantities of war gases and because the demand for the product would not extend beyond the conflict. ...The Army thus found itself with no alternative but to construct its own production facilities. In December, 1917,

construction of plants to produce chemical agents began at Gunpowder Neck, Maryland. By the summer of 1918, the Edgewood Arsenal there had plants in operation ..." Leavenworth Papers by Maj. Charles E. Heller, Combat Studies Institute, Fort Leavenworth, Kansas, 1984, p.45 (Appendix E).

SPECIFIC QUANTITIES AND TYPES OF TOXIC SUBSTANCES

The Historical Report lists 48 dangerous substances: acrolein, acetophenone, acetyl chloride, acetylene-arsenic trichloride, acetyl fluoride, adamsite, aluminum chloride, aluminum arsenide, ammonium cyanide, arsenic trifluoride, arsine, benzyl cyanide, boron trifluoride, bromine trifluoride, bromobenzyl cyanide, butyl mercaptan, calcium arsenide, chloroacetic anhydride, chloroacetophenone, chloroacetyl chloride, chloropicrin, cyanogen bromide (bromocyanide), cyanogen chloride, diethyl sulfide, diphenyl sulfide, diphenylchloroarsine, hydrocyanic acid, iodine pentafluoride, kendalite, lewisite (chlorovinylarsine dichloride), magnesium arsenide, martonite, methyldichloroarsine, mustard gas, nitrogen peroxide, nitrosomethylurethane, phenylbromoacetonitrile, phenylimidophosgene, strontium chlorate, strontium permanganate, sulfur dichloride, sulfur hexafluoride, sulfur monochloride, superpalite (trichloromethylchloroformate), titanium tetrachloride, thionyl fluoride, thiophosgene, and zinc arsenide (at pps.24-25). In addition, we noted, from other sources, the use of anthracene, carbon bisulfide, coal tar, polarine oil, and selenium mustard.

Numerous reports speak to the quantity being produced at the American University site. Excerpts from a "Report of the Work Done at Bureau of Mines Experiment Station American University D.C. on War Gas Investigations During May, 1918" specify the quantities produced, as follows;

G-34. On May 5th, "...we made a successful run, producing 250 # of Crude G-34."(G-34 refers to gas #34, which we believe is Mustard. We have not been able to determine all of these code names with any degree of certainty). G-34 IS MUSTARD

G-43. "Small scale plant for making about 150 lbs. per day put into operation early in May." HYDROCYANIC ACID

G-67. "172.5 lbs. produced in first week of May completing the requirement." CYANOGEN BROMIDE

G-178. "50 lbs. of G-178 produced in the first week of May. Plant turned over to Mr. Dorsey." CYANOGEN CHLORIDE

G-337. "Production requirement was completed. Report and specifications were completed May 18th. and work discontinued." BROMOBENZYL CYANIDE

Nitrogen Peroxide. "80 pounds were produced. During May the method of production was changed, due to the very great increase in the demand. An apparatus has been set up in stoneware and a larger steel apparatus ordered."

Strontium Chlorate. "About two pounds made for experimental work and considerable work done on the development of a new method which is now in successful operation. This will produce a better product at a lower cost."

Arsenic Trichloride. "Started production May 18th. 192 pounds produced. Larger apparatus set up and operating to make about 35 pounds per day."

"Captain Lewis at the Catholic University, is making no report, as he has instructions to place nothing regarding his work in writing at this time. Captain Conant is also doing certain work with which you are undoubtedly familiar, and concerning which nothing is said."

"On May 21st. Mr. Rowland's division turned in the formal report of the manufacture of G-337 from Benzyl Chloride. Since that time apparatus has been ordered for construction of a new plant to produce three thousand pounds for G-337 per 24 hour day. The design of the plant layout has proceeded as fast as the blue prints were obtained. Excellent progress has been made here."

"On May 20th. the G-43 plant was turned over to this division. The apparatus for the production of 150 pounds of G-43 per 24 hours has been realized. 200 pounds were made for Mr. Rowland."

"The G-178 plant was also taken over on May 20th. and is now producing 15 to 20 lbs. of product per 24 hours. As soon as the 4 ton refrigeration plant is in operation; a large production of G-178 is anticipated.

"The design and purchase of the G-178 apparatus necessary to duplicate the 400 lb. per day French

> process is proceeding satisfactorily. This entails the procurement of much special equipment, such as a 20 ton refrigeration plant, enamel, lead and silver lined apparatus, etc." (Appendix F).

Of all the toxic substances listed above, Lewisite is the most deadly. It is thought to be seven times more lethal than Mustard gas. It has been called the "Dew of Death" as a single drop on the skin could be fatal.

The Merck Index, an encyclopedia of chemicals and drugs, ninth edition. Merck & Co. Rahway, N.J. states for Lewisite,

> "Caution: Extremely toxic! Produces severe vesication, even through rubber. If left on skin, as little as 0.5 ml may give rise to sufficient absorption to produce severe systemic effects; 2 ml may cause death." (Note: similar warnings do not accompany the other war gases.)

Actual animal test results graphically demonstrate our concern over Lewisite. A concentration as low as 0.34 mg/liter would kill dogs in 7.5 minutes. The scientists extrapolated that 1 part per million would cause serious effects in man if breathed for several hours (Appendix G).

Both Lewisite and its' constituent chemicals were manufactured at American University. Lewisite was found on glassware apparatus recovered during the removal operations which also testifies to its long term viability. The process for making large quantities of Lewisite was perfected at American University and 150 tons of Lewisite were manufactured in Willoughby, Ohio in the summer of 1918.

Another research reference states,

> "In the spring of 1918 a team based at the Catholic University, Washington, D.C., discovered Lewisite:...The first batch of 150 tons of Lewisite was at sea, on its way to Europe when the Armistice was signed." A Higher Form of Killing by Robert Harris and Jeremy Paxman, Hill and Wang, New York, p.32, (Appendix

SPECIFIC STRUCTURES

We have determined that the following structures existed at the site: History Building, Dispersoid Laboratory No. 2, Ohio Hall Building, Pharmacological laboratory Annex., Physiological Laboratory, Old Man Test Building, Machine Shop Storage Shed, Paint Shop, Man Test House - Including Stack, Smoke Lab. No. 1, Smoke Lab. No. 2, Incendiary Laboratory,

Special Pyrotechnic Laboratory, Shell Storage Pit, Levens Gun Pit, Shell Loading Plant, Chemical Research Laboratory, Transformer Shed, Original Bomb Pit - Outside of Fence, Chemical Engine Shed, Reclamation Building, Explosives Laboratory, Fireworks Storage, General Shop, Toxic Storage Shed, Toxic Storage Shed (second), Canister Laboratory, General Storehouse, Safety Building, Bacteriological Lab., Mechanical Building, Cylinder C. Acid Storage, Disperoid Shed Lab. No. 2, Disperoid Laboratory No. 1, Pharmacological Laboratory, Explosives Magazine, Fire Cage, Wire House, Shack No. 1, Shack No. 2, Shack No. 3, Shack No. 4, Volatile Inflammable Building, Munitions Plant, Chemical Engine Shed No. 2, Chemical Engine Shed No. 3, Chemical Engine Shed No. 4, Machinery Shed, Shack No. 5, Disperoid Storage Lab. No. 4, Warehouse & Office, Explosive Service Building, Organic Research Shack No. 1, Organic Research Shack No. 2, Dangerous Explosive Lab. No. 2, Dangerous Explosive Lab. No. 1, Chemical Ice House, Oil Storage, Oil Storage(2), 10 Cu. M. Explosive Chamber, 10 Cu. M. Explosive Chamber (second), Storage Shed, 10 T. Refrigeration Plant, Latrine, Acetylene Plant, Furnace Shed, Shack No. 10, Shack No.__, Furnace Shed, Shed, Tank, Shack No. 6, Lead Burners Shop, Photo Chemical Laboratory, Shack No. 7, Shack No. 8, Shack No. 9, Smoke House, Explosive Warehouse, Concrete Gun Pit, Fragmentation Box, Armor Plate Bomb Proof, Lead Furnace House, Mustard Laundry, Major Tolman Bomb Pit - Outside Fence, Capt. Burrell Bomb Pit - Outside Fence, Shed - Outside Fence, Explosive Tank Shelter - Outside Fence, Powder Magazine No. 1, Powder Magazine No. 2, Detonator Storage House, Bomb Pit Bridge, Fire and Flame Laboratory, Oil Storage Shed, Colored Men Latrine, White Men Latrine, Blacksmith Shop, Concrete Storage Pit, Electrolytic Lab., Forge Shop, Shed, Gas Generator, Supply Lab. and Office, Mustard Shed, Drum Platform, Toxic Storage Shed, Mustard Storage Shed, Storage Shed, Storage Shed, Nitrating Shed, Boiler House, Dog Test House, Dug Out Blanket House, Lt. Waddell's Lab., Open Shed, Incendiary Lab. Shed, Detonator Shed, Bomb Filling Shed, Concrete Pit Explosive Encl., Oil Storage Shed, Latrines & Washrooms, Q.M.C. Storehouse for Research Div.

In addition to the structures identified on the document from which we took our above listed Points of Interest, the Corps has listed other Points of Interest drawn from aerial photographs, on site observations, and other sources. It is also possible that some of the Pits listed below correspond to some of those identified in our list above:
Circular trenches, Possible Pit, Small Crater Scars, Possible Pit, Possible Pit, Possible Target or Test Site, Possible Test Area, Possible Target or Test Site, Possible Firing or Observation Stalls, Possible Target or Test Site, Scattered Ground Scars, Possible Graded Area, Circular Trenches, Pit, Ground Scar, Possible Munition Storage Pad Area, Possible Pit,

Small Crater Scars, Old Mustard Field, Ground Scar, Shell Pit, Shell Pit (2), Shell Pit(3), Probable Pit, Possible Trenches, Small Crater Scars, Probable Trench or Ditch, Probable Trench or Ditch, Ground Scar, Training Trenches, Training Trenches(2), Training Trenches(3), Training Trenches(4), Training Trenches(5), Training Trenches(6), Training Trenches(7), Mill Creek, Major Tolman's Field, Static Test Fire Area, Baker (Arsenic) ~~Laboratory~~. VALLEY

Altogether, there were about 164 structures and earthworks identified by the District and the Corps of Engineers. However, only 53 Points of Interest have been intrusively investigated. Although some of these points encompassed more than one structure, many clearly have been omitted. Indeed, many of these structures have not been located on any known maps, supporting our recommendation that the entire 600 acres needs to be examined (Appendix I). 1918, AVE ARCI

An undated attachment to a letter dated October 27, 1918 detailing the relationship between the War Department and American University states,"....There are about 135 such buildings and small structures and the cost of their construction has been about $400,000.00....About $775,000.00 has been spent on equipment at American University..." (Appendix J).

The Historical Report at p.23 says that there were 153 structures by war's end. Spills, dumping or burial of small quantities of toxic substances could have occurred at any of these structures, necessitating extensive soil and groundwater testing.

One document indicates the expenses for various projects at the American University site. Of particular interest, it details the second largest expenditure for a cylinder storage building, indicating a very large structure. This could have been an extensive burial site (Appendix K).

DISPERSION TESTS

Numerous documents detail tests of chemical shells at the American University site. Some shells were attached to the top of poles or placed in the ground and fired electrically. Others were fired from mortars, designed to detonate on impact. In either case, glass bottles were placed on the ground or in circular trenches, to establish the concentrations of the heavier than air gas at known distances from the shell explosions.

We found trench maps and test reports from American University indicating that many Livens projectiles as well as smaller 75-millimeter artillery shells were tested with poison gas (Appendices E,F,and G). In particular, we noted tests with arsine and magnesium arsenide. Arsine was very heavy and settled rapidly to the ground. In one test 60 pounds of arsine were released. Similar quantities of other arsenic compounds were released. Arsenic is a known carcinogen and being a metal, would likely remain intact in the soil even after many years. Unfortunately, the arsenic soil test data we have available is for areas away from many of the probable test sites. Arsenic soil test data from the Naval Security Station, leeward from American University, reveals an elevated arsenic level approximately 1 foot underground, which could be compatible with a 75 year old deposition. Soil above and below this narrow band shows very little arsenic (Appendix L).

We found diagrams of the early delivery system using cylinders and the location of the cylinder storage building. Tremendous amounts of gas could be stored in even small cylinders. Some of the shells experimented with at American University were also very large. For example, a 12 inch Naval chemical shell was developed. The 8 inch Livens projectile was another large shell, developed primarily to carry poison gas.

Also, one Point of Interest identified previously was the Old Mustard Field, a 500 foot diameter area covered repeatedly with mustard gas, a known carcinogen.

REMAINING UNEXPLODED CHEMICAL ORDNANCE

Some of the munitions previously found contain liquified poison gas which is designed to vaporize when the shell ruptures on impact and likewise will vaporize if it rusts through. Since the similar WWI Livens projectiles we examined at Camp Simms are badly pitted and corroded, reducing their original thickness by 75%, any shells still buried at the site are nearing the point where they will corrode through, causing a release of poison gas into the environment, with untoward consequences. A memorandum dated February 2, 1993, by General George E. Friel, on the emergency response, states, "Inspection of the munitions revealed heavy corrosion with the potential for leaking." (Appendix M).

The Range Rule also adds the problem with deterioration of explosive fillers. It states,

> "As they deteriorate over time, some explosives may form sensitive crystals that could detonate if subjected to heat, shock or friction. Chemical munitions contain

> chemicals that present additional safety risks. High explosive fillers, deteriorated explosives, and chemical munitions are a few examples of Military Munitions where the filler itself requires special safety considerations, even if the fuzing mechanism is no longer capable of firing."p.16

This raises the level of potential devastation where old explosive shells are buried together with chemical shells, as was the case at American University, because a hypersensitive explosive filler could detonate rupturing many adjacent corroded chemical munitions, greatly increasing the amount of agent released. In a 1918 accidental gassing of an area residence at American University, 8-10 pounds of mustard gas was sufficient to blister the resident some 1200-1500 feet from the release (Appendix N). The sparse population of the area at that time doubtless reduced the number of casualties. Since a single Livens projectile has 30 pounds of gas, the specter of several of these rupturing with an adjacent explosive detonation is easily appreciated.

Experience with the leftover gas shells found on the WWI European battlefields conclusively demonstrates that the gas in these shells remains viable, and that the shells will corrode through releasing the gas. A very definitive article on the hazards of remaining WWI gas munitions is titled, "The Soldiers Moved On. The War Moved On. The Bombs Stayed." by Donovan Webster, from The Smithsonian Magazine, February, 1994. The article consists of interviews with the French "de'mineurs" who find and destroy the live munitions on the European battlefields. Since 1946, 630 of these experts have been killed. In 1991, alone 36 farmers were killed.

> "What's the de'mineurs' least-favorite type of Bomb? I ask. 'The toxic ones,' they all reply. I ask why. 'Two reasons,' Belot says. He lifts his right hand into the air, holding it as if he's gripping something loosely. 'First, you never know how solid their skins are. They are often very rusty, so they may leak gas and kill you as you lift them. Also, they are hard to destroy....(Since we spoke, Belot has been gravely injured by a poison-gas shell. He survived, but to what degree he can expect to recover is not known as this story goes to press.)" The author continues, "This time we find a World War I British 155-millimeter shell sitting next to a house-sized pile of sugar beets. The beets await a collection truck that will take them to a sugar refinery; the bomb awaits us. As Deleuze lifts the bomb from the ground, he tilts it back and forth. From inside the corrosion-pitted shell comes a sloshy <u>swish, swish</u>. 'Hear that?' Deleuze asks. 'That's mustard gas.",pps.29-30 (Appendix O).

It should be noted that there were 1.3 million casualties (many non-fatal) from gas in WWI, principally from mustard gas. There are two potential sources for gas exposure at American University: (1) individual unexploded ordnance resulting from the dispersion testing; and (2) gas shells and cylinders, intentionally buried, when the operation ended.

agree

A significant but unknown percentage of misfires UXO (duds) is expected. Again the Range Rule is instructive.

> "It is not until after a Military Munition has been employed and failed, in total or part, to function properly that it becomes UXO. Due to the complex design of many Military Munitions employed, some percentage of them are almost certain to become UXO."p.13

There were many shells fired during the dispersion testing which must have left many isolated dud or UXO rounds. For example, on fired Stokes mortars at Camp Simms, several unexploded (dud) shells were found resulting from failure to detonate on impact. A similar number of exploded Stokes mortars were also found. While the final numbers are not in yet, a 50% dud ratio is emerging. Similarly, one of three Livens projectiles was a dud. This is extremely high, most likely due to the early developmental stage of the mortar at this time.

they cleaned up after exp. - no battistic proj

Additionally, the extensive experimental work at American University on the development of better fuse mechanisms confirms our suspicion that duds were commonplace. This experimental work on developing improved fuzing mechanisms is detailed in many reports. One example citing the difficulties in finding a way to seal the small powder charge separated from the liquified gas by a steel diaphragm is detailed in a paper by Richter, Burrell, Clayton, and Meigs covering April 3, to May 18, 1918. The report states,

> "It is most important that the powder (black powder at the base of the shell designed to expel the gas on detonation) be kept dry. Several kinds of mixtures were tried, such as paraffin, paraffin mixed with wax, a glue composed of resin, gelatin and glycerine, and glue as manufactured by the LePage Co." (Appendix P).

There is no way of knowing how many unsatisfactory shells were produced and tested before arriving at the best solutions or just how effective the chosen method was in most cases. However, it appears that it took four people a month and a half to solve just one problem with one type of shell, indicating a substantial number of dud shells. Similar research details an extensive effort to develop an "all ways" fuse for the Stokes and Livens mortars, suggesting more

malfunctions. In all probability, there are numerous isolated dud rounds which must be located and cleared.

BURIAL OPERATION

A very significant risk at the American University site is the likelihood that many chemical munitions and cylinders were buried when the project was abandoned at war's end. Our research seeks to identify possible burial sites as well as determine the potential amount of chemicals that may have been buried.

Again the Range Rule is instructive. It states,

> "The historical and then-acceptable practice by DoD was to bury certain Military Munitions....a number of burial sites still exist....In fact, buried munitions can involve greater safety risks than UXO, because the number and types of military munitions may not be known."p.75

Because the remediation efforts at American University did not address all of the areas of concern reflected in the historical report, serious questions remain over the adequacy of the search for unexploded ordnance as well as the survey for residual contamination from the toxic substances used in the research. There are five areas of research findings which bear on the issue of whether or not a potential for more buried CW munitions exists: (1)burial occurred at other sites, (2)gases and shells were produced in extremely large quantities; (3)the entire site was shut down quickly at wars end; (4)there were rumors of large scale burial operations; and (5)there is a lack of evidence that the leftover munitions were turned over to other departments or moved elsewhere.

First, past experience at other sites indicates a tendency to bury excess munitions. And, of course, buried CW munitions have already been found at the American University site.

A publication entitled Non-Stockpile Chemical Material Program -Interim Survey and Analysis Report by U.S. Army Chemical Material Destruction Agency, April 1993, states,

> " 5.4 Types of CWM Burial Sites. One of the most difficult problems associated with buried CWM is the lack of available information. Even at well documented burial sites, the condition of the material in the subsurface is usually unknown. Even

> when many sophisticated geophysical procedures are employed in attempting to determine the identity and condition of the buried material, until excavation and positive identification can be made, the actual hazards associated with the material remain relatively unknown. Archeological type excavation by hand is frequently employed in uncovering CWM, since mechanical means may cause a release or detonation. Robotics are being considered for use in excavating CWM....5.4.3 Small Explosives Sites. This site category represents the most difficult scenario in terms of destruction....The small explosive sites represent two classes of hazard in a relatively unknown condition, the explosive hazard and the chemical agent hazard....exploratory excavations will be more hazardous if explosives are present. Mitigation of the risk of CW agent release becomes a difficult technical task when coupled with the unknown condition of the material."pps.35-36.

The document also states,

> "In most cases, these sites served more than one purpose. Ranges were often used to dispose of leaking or defective munitions. Many historical references, primarily during and immediately after World War II, cite instances where chemical weapons were buried because of leaks discovered during transportation or in storage. In some cases, munitions and other containers were drained into holes, covered with lime or open-pit burned and finally covered with earth."p.A-ii (Appendix Q).

Second, as we have seen above, the production of chemical warfare agents was very large. The operation had 1200 chemists and engineers, and 700 support personnel.

Information bearing on the number of rounds sent to American University is one objective of our research. A memorandum from Edgewood Arsenal dated June 4, 1918 described the loading of 75mm gas shells. Of the 56,800 shells loaded by the Hall Lamp Co., only 25% did not show leakage. The memorandum indicates that 200 shells were sent to American University for testing (Appendix R). Another memorandum dated June 18, 1918, states, "Shell with a lining of electrolytically deposited lead have been tested at American University and pronounced satisfactory. 1000 of these shell are being purchased for more extensive test..." (Appendix S). The file date on this document suggests that the shells may have been shipped sometime later.

Thus twelve hundred shells may have been sent to American University, shortly before its closing. From test reports and the shells recovered, we are only able to account for 107 of

these, leaving 1093 unaccounted for gas shells in just the 75mm size (Appendix T). We were unable to locate any information on the number of Livens, Stokes or other gas shells sent to American University.

A letter dated November 8, 1918, in response to concerns raised by the Commissioners of the District of Columbia, stated, "....I have to inform you that the American University is being confined more and more every day to research problems. The large experiments with gases developed at the University are being made at Lakehurst N.J. and other proving grounds." (Appendix U).
This letter also supports the concept that shells ordered earlier may not have been completely used up.

As previously noted, a map showed a shell filling plant at American University. Also, there were numerous reports on the methods employed to load 75mm shells and Livens projectiles, clearly indicating that some were loaded on site (Appendix V).

Third, the abandonment of the American University site happened very fast, as the following excerpts from the documents show. Some even spoke in terms of one month.

The Experiment Station, — no — the end is for Camp Leach - not a
"...was abandoned in January, 1919, and ordered salvaged." Encyclopedia of Historic Forts by Robert B. Roberts, MacMillan Publishing Company, New York, at page 136 Camp Leach (Appendix W).

The Chief of Engineers in a memorandum dated November 30, 1918, ordered the Commanding Officer at Camp Leach (part of American University),
"To the end that certain land in use by the Government at Camp Leach may eventually be restored to the condition existing before government occupancy, you will proceed with such filling in of trenches, pits, dugouts, and works of a similar nature as can well be done at this time; as such work will be more difficult after the ground becomes frozen." (Appendix X).

Above, we listed 124 structures as points of interest and an additional 39 trenchworks listed by the Corps of Engineers (Appendix I). Obviously, these trenches would have been an easy place to bury chemical munitions.

A memorandum dated December 4, 1918, states,
"On account of the cessation of hostilities and the instructions received to demobilize the Chemical

> Warfare Service as soon as possible, all research work of the Chemical Warfare Service at the American University Experiment Station will be terminated before December 31, 1918 and the only further work pertaining to this service now contemplated at the Station will be the preparation of reports necessary to complete proper records of the various investigations conducted there." (Appendix Y).

A memorandum dated December 2, 1918 states,

> "The Secretary of War directs: I. That the Commanding Officer, Camp Leach, D.C. be directed as follows: 1. It has been decided to discontinue the use of Camp Leach with the least practicable delay, and to dispose of all supplies, equipment and transportation....Direct them to dispose of all supplies, equipment and transportation now at Camp Leach, in such a way as will be in the best interests of the Government, and to salvage such property as it is considered necessary to salvage for the best interests of the Government." (Appendix Z).

The use of the word "dispose" for supplies means burial to us. Whereas, "salvage" for property means to sell or keep. Since there did not appear to be much interest in surplus poison gas after the war, a reason cited by chemical companies for declining the offer of production contracts, it does not seem that existing stockpiles could be sold, leaving only the alternative of disposal.

By July, 1919, only 18 people were left at the site (Appendix AA), from approximately 1900 original employees.

Fourth, there were rumors of large scale burial of munitions at the site. In the Historical Report it states,

> "The USATHAMA (U.S. Army Toxic and Hazardous Materials Agency) study incorporated materials from American University and concluded that there was no evidence to confirm rumored large-scale burials of munitions. But it 'did highlight two sites that would be likely candidate locations if burial had occurred. Although instances of small scale burial at American University were not documented per se, a prudent assumption would have been that such disposal did indeed occur..."p.4 (Appendix BB).

Fifth, the munitions apparently could not and were not turned over to the Ordnance Department. In a memorandum dated September 16, 1918, from the Director, Chemical Warfare Service to the Executive Officer, Research Division, American University, it states,

> "Concerning removal of explosives from various points where they are stored, wish to state that it is my opinion that these explosives were purchased by, and are the property of the Research Division, and therefore cannot properly be turned back to the General Stores of the Ordnance Department. Confirmation of this can be obtained from the Pyrotechnical Division. The question of the removal of these explosives from the depots from where they are stored is a matter strictly for the Research Division to settle." (Appendix CC).

A memorandum dated December 5, 1922, requesting regulations on the handling and storage of chemical munitions states,

> "Although it is true that the Ordnance Department has a relatively small quantity of chemical ammunition on hand at the present time, it is thought to be very important that this material should receive proper care." (Appendix DD).

Not only is there no evidence that the "enormous quantities" of toxic substances and munitions known to have been there, were moved, but these two memoranda seem to indicate that the chemical and explosive munitions were not moved to the ordnance department facilities at Aberdeen.

CONCLUSION

From the historical documents, the Military experience at other ranges, and the fact that UXO has already been discovered on-site, unexploded and buried chemical and high explosive ordnance is certain to remain at the American University site. Although quick and commendable efforts were done to check 53 key areas and to remove ordnance accidentally discovered, we believe that the bulk of the work still needs to be done as stated in the recommendations. Our view on the need for a complete site investigation with a study of environmental contamination, health impacts, and a search of the entire area for individual UXO and buried stockpiles is also confirmed by the proposed Range Rule.

Last we underscore that this site represents the first site in which the Corps of Engineers conducted a removal action, where residents live on top of an old chemical munitions range. This lack of experience with populated sites may account for the divergence of views. In conclusion, the presence of 13,000 people on the site demands the complete and thorough analysis recommended above.

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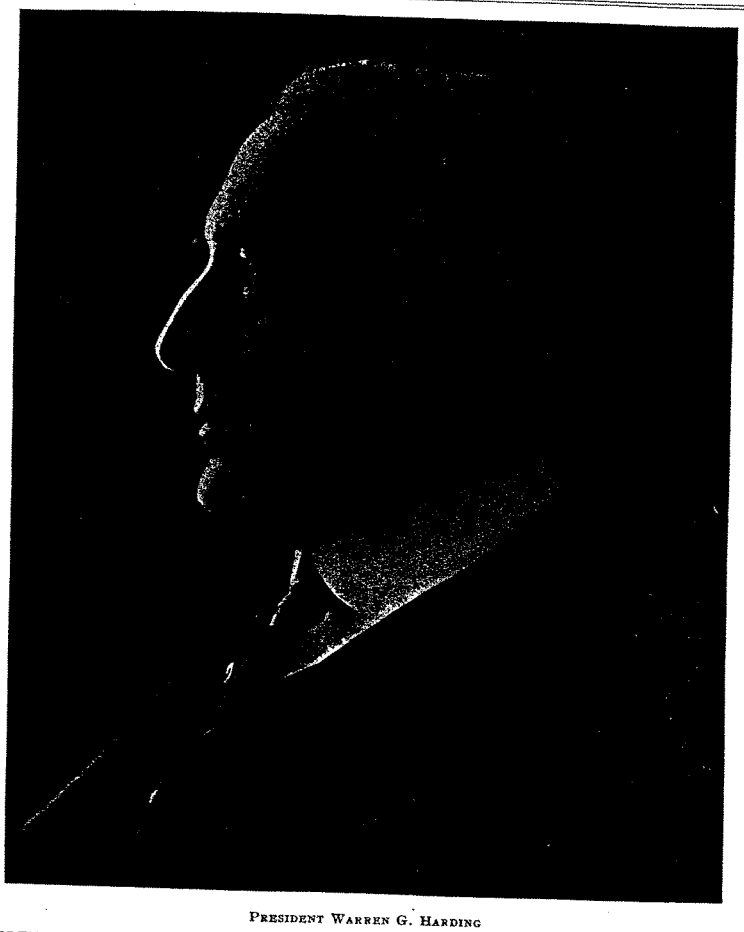


PRESIDENT WARREN G. HARDING

PRESIDENT HARDING ACCEPTS TRUSTEESHIP.

The following correspondence has taken place between the Chancellor of the American University and the President of the United States:

The American University.

Bishop John W. Hamilton, Chancellor.

April 7, 1921

The Honorable Warren G. Harding,

Washington, D. C.

My Dear Mr. President:

You were unanimously elected a member of the Board of Trustees of the American University at the meeting held last December. The Honorable William J. Bryan, a member of the board, was [illegible]

President McKinley was a trustee when the University was founded, and President Roosevelt had been a trustee at the time of his death for nearly fifteen years.

We will be pleased to receive your letter of acceptance for the records of the University.

Yours sincerely,

JOHN W. HAMILTON.

703 Stoneleigh Court,

The White House, Washington, April 8, 1921.

My Dear Bishop Hamilton:

I have received yours of April seventh, notifying me of my selection on the Board of Trustees of the American University, and am writing to advise you of my acceptance of the position. I do this with some misgiving as to the measure of active service I may be able to render because public duties in other directions are extremely engrossing. I shall hope, however, to be of some service and am taking this opportunity to assure you of my good wishes for the institution.

Most sincerely yours,

WARREN G. HARDING.

Bishop John W. Hamilton,
703 Stoneleigh Court,
Washington, D. C.

CONVOCATION DAY.

The University is making special, unusually special, preparation for Convocation Day, Wednesday, June 8th. The exercises will be most attractive and highly interesting. The meeting of the Trustees will be held in the College of History at ten-thirty o'clock in the forenoon. Luncheon for the Trustees will be served at one o'clock sharp in the University building.

The exercises will begin with the flag raising. Some one or ones—"sure," no doubt about it—will furnish that flag. Major General William Mason Wright will preside. The presiding officer will make a brief address and request a representative of the Fixed Nitrogen Division to raise the flag. One of the city clergymen, assisted by others as aides, will act as chief marshal.

The Chancellor will preside in the outdoor auditorium. Representative clergymen from the different denominations will conduct the devotions. Addresses will be delivered by the Honorable Warren G. Harding, President of the United States; the Honorable J. J. Jusserand, the French Ambassador, and the Honorable N. W. Rowell, King's Counsel and leader of his party in the Canadian Parliament. The music for the occasion will be furnished by the United States Marine Band. Arrangements are being made for extra trolley cars to run from the city to the University during the afternoon.

DEAN FREDERICK JUCHHOFF.

Dr. Frederick Juchhoff, the dean of the new graduate School of Business Administration, comes to us from the historic old College of William and Mary, in Virginia, where, during the past two years, he has been professor of economics and head of the school of business administration. During the summer sessions of 1915, 1916, 1917, 1918, 1919 and 1920 he served as professor of economics and finance in the University of Virginia.

Dean Juchhoff is a graduate of Kansas City University, where he took the bachelor's and doctor's degrees, of the law schools of Ohio Northern University and the University of Maine, receiving the LL. B. and LL. M. degrees, and of the school of commerce of Northwestern University. He also pursued graduate courses in the University of Chicago for several years.

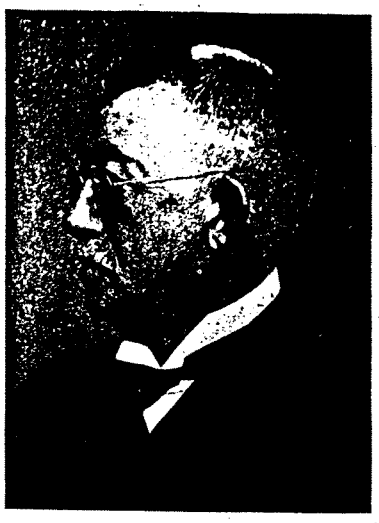
The career of Professor Juchhoff as an educator has been unique. Beginning in 1906, he was for two years instructor in commerce in Berea College, Kentucky; for five years he was a teacher in the public high schools of Chicago, at the same time instructing in several of the evening law schools, of one of which he was elected dean. For one year he was associate professor of commerce and finance in the James Millikin University, Decatur, Illinois, and the following two years was head of the department of accountancy of the municipal University of Toledo, Ohio. In addition to the academic appointments mentioned, he has for several years held a number of professorial lectureships, among which is that in economics in the Richmond School of Social Work and Public Health and in jurisprudence in the Medical College of Virginia. He has been a regular lecturer in our school of Diplomacy and Jurisprudence since its opening. For several years he served as editor of the accountancy and law departments of the Business Journal, of New York.

Dean Juchhoff is the unusual combination of the sound scholar, progressive educator, and keen business man. His practical business experience was obtained in the practice of public accountancy and in connection with one of the banking houses in St. Louis. He has been on the directorate of several corporations.

The new school of business administration is, like the other schools already established, a professional-graduate school, open to men and women who have received their bachelor's degree from an accredited college. The work of the school is divided into a number of major study groups, among which are accountancy, transportation, finance, banking, economic theory, foreign trade, etc. The staff of the school includes a number of the leading specialists and economists in the country, each devoting a few hours a week to teaching his specialty. Among these men are found former professors in the University of Nebraska, Tulane University, Columbia University, University of Maryland, Dartmouth College, University of Kansas, and Northwestern University.

The new school begins its work October third under most favorable conditions; already a number of applications for admission have been received.

DEAN FREDERICK JUCHHOFF



DR. BARTLETT L. PAINE

WE MUST HAVE ANOTHER FLAG.

There is a firm and durable flag pole set in eight or ten feet deep of cement, on the campus of the American University. It is nearly one hundred feet high. During the occupancy of the grounds by the United States Army the soldiers permitted the national colors to float in all weathers until the colors were all gone and the national emblem was badly worsted. They came to the University then and asked the loan of a fine large bunting flag, promising to care for it better than they had done for their own. But when that promising contingent was ordered to France, they were succeeded, time after time, by some fresh troops —very fresh—and they, having made no promises, had forgotten to bring their obligations to the University, and one morning they brought the flag back with several more than thirteen stripes in it; but the additional ones were openings nearly the length of the flag and all of them had been made for the accommodation of the weather; and instead of keeping the flag intact, they had divided the red and white stripes from each other, and the whole emblem was only fit to "stop a hole to keep the wind away." The boys were sorry, but claimed they were utterly unwilling because "unable to be held responsible for the winds." There you are; that flag cost twenty-five dollars, in the good old times, "befo' the war." That was not all of the story. "The boys" pulled so hard at the cord they broke it. Now we must get a steeple-chaser to carry up this time a *wire* rope, adjust it to the pulleys, and make ready for the colors. All this we will do. But who will give us the money for another flag? Please let enough of our readers speak up—at least, to take a share in its purchase, if no one feels patriotic enough, or all are too poor for any one to give us the whole flag. If we should get two flags, one from the North and another from the South, that will be all right: we need one for week days and another for Sundays.

RECENT GIFTS OF MONEY.

Acknowledgment of sums less than $5.00 is to be regarded sufficient receipt therefor.

Bishop Hamilton Lectureship Fund—$25.00, W. R. Wedderspoon; $3.00, A. C. Stevens.

General Fund—$60.00, Estate of Mary and Susan Bayard; $4.00, A. L. Wiley; $1.00, Dr. Isabel H. Lamb.

McKinley Memorial Hall—$10.00, J. L. Gardiner, $5.00, Wm. B. Anderson, Jas. A. Huston; $3.00, C. E. Hill, A. S. Watson, C. C. Jordan, Benjamin Rowe; $2.00, S. E. Shafer, E. B. Thompson, J. O. Taylor, E. L. Trotter, L. Bennett, O. L. Chivington, W. M. Brooks, F. J. Beisel, C. S. Dopp, Claude Young; $1.00, Cameron Harmon, C. M. Yost, O. L. Sample, G. A. Law, G. E. Tifft, P. C. Wolf, C. A. Hughes, J. C. Jackson, G. F. Cramer, J. E. McCloud, S. D. Kilpatrick.

Asbury Memorial Fund—$15.00, Don A. Allen.

Franklin Hamilton Memorial—$5.00, E. O. Jones, C. E. Allen, E. J. Westfall; $2.00, W. C. Hartinger; $1.00, Perry Robinson, J. B. Workman, L. B. Bowers.

Chancellor's House Fund—$17.00, G. W. Taylor; $10.00, W. D. Reed, $6.00; Bernard Gibbs, J. W. Campbell; $5.00, John F. Black, C. E. Allen, C. W. Flesher, C. E. Goodwin, Daniel Westfall, H. P. Magill; $4.00, W. J. Vaughn, C. E. Dalley, B. F. Newman; $3.00, H. H. Barr, E. C. Rickenbrode, H. B. Workman; $2.00, J. P. Burns, E. D. Hulse, L. B. Bowers, Roy McCuskey; $1.00, J. B. Neff, C. F. Anderson, F. J. Raab, V. W. Doolittle, P. L. Flanagan, H. A. Coffman, W. L. Gearhart, Maurice Monroe, C. H. Frampton, W. M. Shultz.

Americanization School—$5,000.00, Mrs. Annie M. Swift; $1,000.00, John C. Letts, W. S. Corby; $400.00, George F. Washburn; $100.00, W. H. Morgan; $50.00, W. E. Massey; $25.00, Wm. H. Chadwick, Oscar P. Miller, Wm. T. Rich, Edgar C. Linn, John T. Lord, Sewell S. Watts, J. H. Pfister; $10.00, Wm. A. Quayle, H. A.

Moses, Mrs. Jeannie R. Field, W. O. Hoffecker, Mrs. M. H. Kinney, J. Luther Taylor, C. S. Woolworth, Albert R. Kerr, G. W. Crabbe; $5.00, Lloyd Dorsey, Jr., W. L. Caswell, S. B. Goff, Jr., N. B. Fisk; $4.00, Mrs. J. E. Fisher; $3.00; E. M. Thomas, J. S. Whittington, W. J. Carr, Mrs. Rosa Badgely, Lee M. Bender, J. Milton Patterson, $2.50, G. E. Hiller; $2.00, W. C. Winotsky, Roxa King, Mary A. Lewis, H. H. Eldridge, J. W. Cochran, O. R. Higgins, G. Russell Matthews, Mrs. Belle C. Williams, Nellie D. Chatfield, J. D. Chadder, Frederick Cramer, L. F. Mulhall, S. S. Hall, Jr.; $1.00, E. G. Bond, J. H. Guyton, F. W. Huth, Mrs. W. F. Kein, Mrs. G. T. Leach, J. R. Macauley, C. M. Snyder, M. B. Warwick, B. W. Welbourn, P. L. Whittington, Ida R. Bentley, G. O. Sapp, Mary H. Frost, G. H. Hyde, Virginia Moore, L. F. Garfield, W. H. Alderson, Granville Hooper, S. O. Neal, L. A. Bradley, Mrs. Minnie House, M. E. Wheatley, Geo. M. Osborne, Harry Titus, Emma P. Bruce, F. A. Armitstead, W. R. Davenport, Mrs. A. L. Norton, J. W. Keller, Orinda Bryant, John A. Ames, Vinnie L. Hall, E. O. Taylor, A. B. Taylor, Mrs. A. B. Taylor, Mrs. W. O. Baughman, Mrs. John Dendel, A. W. Prentiss, G. E. Pomeroy, Lloyd Dent, Harry E. Miller, O. M. Wenrich, Mrs. A. F. Smith, Phil Foot, Florence E. W. Carpenter, G. M. Towle, J. H. Smith, Mrs. J. Howard Creamer.

LAWYERS NOT HEIRS—A GOOD AND GREAT WILL.

Lawyers are as much entitled to their living as the preachers where both make it the same way. There is no more reason why the lawyer should not be a good man than the preacher. It is a mistake to say that there are conditions and circumstances in which a lawyer who is honest cannot earn a livelihood.

The law is an honorable profession and calls for honorable men, and it is a violation of trust to dishonor the calling. Honor always "breasts the blows of circumstance." The courts and the daily walks of life have provided versatility of employment adequate to all kinds of talents and times and places in the law as certainly as in other vocations. No profession is ever so crowded that there never "is no room at the top," and well up in the middle.

The prolific source of temptation to good conduct seems to be round and about wills. "Wheresoever the body is, thither will the eagles be gathered together." Certain lawyers make a practice of running down wills for the purpose of becoming joint-heirs in the large sense of the inheritance. Great sympathy with lucrative promises furnish the approach to the broken hearts and untutored minds of the beneficiaries. Of such partners in the testament it may well be said "The weeping of an heir is laughter under a mask."

Some account is given in another column of the "Courier" of the great and good will recently probated at Lincoln, Nebraska.

The Department of Jurisprudence in the American University was created as an offset to cheap lawyers with their practice of lawyering. To find the moral quality of the law and establish the moral character of the lawyer is the aim of the instruction given by the high-minded Dean and Faculty.

DOCTOR BARTLETT L. PAINE.

The American University is not without friends in distant parts. A contribution was received within a few days from Walla Walla in Washington. The Chancellor had written to a German brother soliciting a small sum toward the purchase of a reference library for the school; the response came with double the amount requested.

Now comes the news that a good friend, who had assisted the Chancellor from time to time, as far away as Lincoln, Nebraska, has shown his confidence in the University by the munificent remembrance of the institution in his will by making a gift to it of nearly or quite $70,000. The last expression of his kindness before this great gift was a message to the Chancellor from Florida, accompanied by a basket of beautifully and carefully selected fruit from his large grove of young trees just come into bearing.

Doctor Bartlett L. Paine, this friend worth having, was not simply a man of large means, but a brother beloved whose money was a good servant and ran on many a Christian errand for his Master. He was a devoted churchman and gave his service to St. Paul's Church in Lincoln until he became distinguished, for his name is in all the churches.

His death is lamented by many a person, little and unknown, as well as the circle of friends which included many more than resided in his own city. His will is said to be one of the most remarkable ever probated in the western country. The original draft consists of 135 paragraphs and nearly every one provides for a separate bequest. Two codicils are added containing 35 paragraphs. His personal gifts are many. The bequests are scattered so widely, the ends of the earth will speak his name gratefully. Nearly or quite a million dollars is loosened for world-wide service. "The residue of the estate is thought to be more than $400,000. Of this amount the American University received two-twelfths."

THE NEIGHBORS WITHIN OUR GATES.

Sydney Smith usually mixed a grouch with his smart sayings, but he always managed to get no little common sense in his growls. He had a good agricultural notion in his head when he said, "Whoever can make two ears of corn or two blades of grass grow where only one grew before deserves better of mankind, and does more service to his country than the whole race of politicians put together."

When the armistice was signed, and the Chemical Warfare Service removed from the campus of the University, the War Department asked the privilege of the University Trustees to permit the Fixed Nitrogen Research Division to occupy the chemical laboratory, used hitherto for war purposes temporarily, and the buildings connected therewith, for giving to every Cincinnatus who returned to his plow the ability to grow the two grains of corn for the previous one, and likewise the two blades of grass.

The Fixed Nitrogen Research Laboratory was founded by an order of the Secretary of War, dated March 29, 1919, and has been operated with a budget of $300,000 a year from funds which were made available to the President of the United States by the National Defense Act of June 3, 1916.

The laboratory has a total personnel of between 110 and 120 persons, fifty of whom are chemists. The total equipment for purposes of chemical researches has a value of approximately $399,000.

The following outline and personnel of the plant in the Ohio or McKinley building will give some idea of the technical task in hand, and the able and skillful workmen who are devoting their gifts to taking from the air and nature's chemistry—an inexhaustible resource—a never-failing supply not only for fertilizing the soil, but for numerous other purposes.

Arc Section.

Dr. S. Karrer, Ph. D. in Physics, University of Illinois, is Chief of the Arc Section. The fixation of nitrogen by the Arc Process is of fundamental importance, and in event of national emergency nitrogen may be obtained quickly by this process. For the advancement in the improvement of this method involves a more complete knowledge of the processes which take place in the path of the electric arc. For that reason the work at present is confined largely to a thorough fundamental and scientific study of the chemical actions which take place in the path of an electric discharge.

Cyanamid Section.

Dr. J. M. Braham, Ph. D. in Chemistry, University of Illinois, is Chief of this section. The work in the Cyanamid Section involves the perfecting of processes as well as the utilization of products from the huge nitrate plant built in the State of Alabama during the war. Many interesting and valuable discoveries benefiting the industrial nitrogen interest, more specially agriculture, have been developed in this department.

Haber Section No. 1.

Dr. A. T. Larson, Ph. D. in Chemistry, Harvard, is Chief of the Haber Section No. 1. The work consists mainly in the developing and testing at low pressures of catalysts used in the manufacture of ammonia which is the fundamental step in the fixation of atmospheric nitrogen by the Haber Process. A large amount of technical and scientific information on catalysis has been obtained. Dr. Larson is accredited with being America's expert in this line of research.

Business Office.

Mr. H. M. Frampton, Business Manager. The work consists of handling anything not of a purely scientific nature at the Laboratory.

General Shops.

Mr. F. J. Berchtold in charge. The work involves repair, maintenance and specially constructed parts of chemical apparatus.

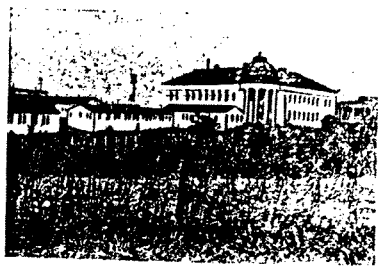
Machine Shop.

Mr. L. F. Kirk, in charge. The work involves purely machine work of high grade, thus requiring exceptional skill.

Haber Section No. 3.

Dr. R. O. E. Davis, Ph. D. in Chemistry, University of North Carolina, is Chief of Haber Section No. 3. This section is investigating methods of recovery of ammonia from the mixture of hydrogen and nitrogen gases after they have passed over the catalyst in the ammonia synthesis operation. The method must be adapted to suit the catalyst and no substance deleterious to the catalyst introduced into the gases, while at the same time the removal should be as complete as possible. A number of solid and liquid absorbents for ammonia are being investigated.

Dr. R. C. Tolman, Ph. D. in Chemistry, M. I. T., is Director of the Laboratory. He was formerly head of the Division of Physical Chemistry at the University of Illinois, and has published considerable research in chemistry and physics—including a book on the theory of relativity. He is the discoverer of the theory of the relativity of size.



McKinley Memorial Hall from Southeast

The Haber Catalyst Testing Plant has involved a Government investment of some hundred thousand dollars and has been built to test Haber catalyst for the combination of nitrogen and hydrogen to form ammonia at pressures of 1,500 pounds to the square inch and at temperatures of from 800 to 1,100 F°. The plant is complete with hydrogen and nitrogen manufacturing installation, holders, compressors, high pressure purification system, and eight reaction bombs for testing. The plant operates twenty-four hours per day and has operated without a break-down for a year. There are no other similar installations that are known to have operated more than a week continuously.

The Section under which this high pressure development and testing work comes is in charge of Mr. R. S. Tour, formerly Chief of the Technical Department of U. S. Nitrate Plant #1, built at Sheffield, Alabama, during war, for the Haber synthesis of ammonia, and later a member of the U. S. Fixed Nitrogen Commission, investigating the Processes of Nitrogen Fixation in Europe.

There is also located at the American University grounds another branch of the Nitrate Division, which employs draftsmen, engineers, mechanics, computer, etc., and which has for its purpose the engineering redesign and development of U. S. Nitrate plant #1 at Sheffield, Alabama. In case emergency should require, or national policies desire that Plant #1 should again be brought into operation, it is hoped that this section will have the necessary plans and organization for the reconstruction and operation.

This branch of the Nitrate Division at the Laboratory is directed by Mr. R. S. Tour, who has been mentioned above in connection with the U. S. Fixed Nitrogen Laboratory Section for High Pressure Experimentation.

Mr. E. J. Fox, B. A. Chemistry, Richmond College, Chief. Work in this section involves analytical work for all the research sections of the Fixed Nitrogen Research Laboratory. Between two and three thousand samples are handled in this section each year, requiring between five and six thousand separate analyses. Considerable research work on analytical methods has also been done [illegible]

Name.	Designation.	Degree.
Lamb, Arthur B.	Director	Ph. D.
Tolman, Richard C.	Research Chemist	Ph. D.
Braham, Jos. M.	Research Chemist	Ph. D.
Karrer, Sebastian	Asst. Ionic Physicist	Ph. D.
Larson, Alfred T.	Catalytical Chemist	Ph.D., P.S., M.S.
Allison, F. E.	Research Chemist	Ph. D.
Bartlett, Edw. P.	Soil Biochemist	Ph. D.
Krase, Herbert J.	Chem. Engr., Gr. II	B.S.
Goddard, W. J.	Asst. Catalytical Chem.	M.S.C.
Haggard, Roy S.	Jr. Me. Eng. on High Pres. Ap.	B.S.
Test, Chas. D.	Analytical Research Chem.	BME, EE Eng., A.C.
Guernsey, E. W.	Chem. Engr., Gr. II	B.S.
Krase, Norman W.	Asst. Explosives Chem.	B.S., C.E.
Richardson, C. N.	Associate Chemist	B.S.
Bright, Arthur C.	Asst. Catalytical Chem.	B.S., E.Ch.E.
Clennon, Wm.	Glassblower	None
Goldstein, Edwin J.	Chem. Engr., Gr. II	S.B.
Hetherington, H. C	Research Chemist	A.B.
Huisken, A. H.	Assistant Chemist	M.S.
Kuentzel, Ward E.	Chem. Egr., Gr. II	B.S.
White, Ernest C.	Jr. Catalytical Chemist	A.B.
Durgin, Chas. B.	Jr. Catalytical Chemist	B.S., C.E.
Brooks, Adin P.	Associate Chemist	A.B.
Gang, Wm. H.	Control Chemist	None
Hartmann, A. A.	Jr. Me. Eng. on High Pres. Ap.	None
Hoenshel, H. D.	Organic Chemist	B.S., M.S.
Vanick, Jas. S.	Research Opr. in Metall.	B.S.
Coe, Dana G.	Junior Chemist	A.B.
Dodge, Ralph L.	Junior Chemist	A.B.
Fox, Edw. J.	Chemist	B.A.
Gittings, L. D.	Junior Chemist	A.B.
Jacob, K. D.	Chemist	B.S.
Lundstrom, F. O.	Jr. Catalytical Chemist	None
McCormick, J. A.	Chemist	B.S.
Newton, Wm. L.	Chemist	A.B.
Whittaker, C. W.	Junior Chemist	B.S.
Barker, F. A.	Junior Chemist	B.S.
Black, Chas. A.	Chemical Engineer, Gr. II	A.B.
Blair, Jas. S.	Junior Chemist	A.B., A.M.
Carpenter, J. R.	Junior Chemist	None
Clarkson, Fuller	Junior Chemist	B.S.
Moore, A. R.	Jr. Physicist	
Smith, Alvin D.	Junior Chemist	B.S.
Wulf, Oliver R.	Junior Chemist	B.S.
Yee, Jew Yam	Junior Chemist	B.S.
Hohl, H. E.	Ordnance Draftsman	B.S.
Houghton, J. D.	Ordnance Draftsman	None
Hawkins, Walter	Asst. Chemical Engineer	None
Gaddy, V. L.	Chemist	None
Pinck, L. A.	Junior Chemist	B.S., Ch. E.
Johnston, E. H.	Chemical Laboratorian	None
Smith, Louis	Junior Chemist	Ph.B. Brown
Young, Chas. H.	Junior Chemist	B.S.
Brown, Chas. W.	Junior Chemist	B.A.
Sherman, M. S.	Junior Chemist	B.S.
Kelly, Mary A.	Junior Chemist	B.S.
Kebler, Mabel A.	Junior Chemist	A.B.
Camburn, C.	Copyist Draftsman	None

CONGRESS BEGINS WELL.

Say a good word for the Democrats! We have heard so much of how things have been going wrong, let us say in honor to whom honor is due that there are numbers of men in the minority who are honoring the new administration as one that is no longer a partisan administration, but a government of the people, to whom all the people owe their allegiance. The example set in the House of Representatives was very properly a religious one to begin with. When the party of the majority announced the candidate for the Chaplaincy, immediately a Representative from Georgia arose and moved that the election be made unanimous and for the first time, as far back as the writer can recall, no such instance is to be found in the Congressional Record. We congratulate the new Chaplain sincerely and assure ourselves by what we know of him that he will be a religious adviser whose devotions will be in the interest of every member without so much as to entertain any thought of differences. But as highly as we esteem the distinguished divine, let it be said we honor not a whit less the highly honored gentleman from Georgia who has brought to himself and the party for which he has spoken a worthy and honorable distinction by this noble example. "Harmony is always understood by the crowd."

ONE OF OUR TRUSTEES.

The Reverend A. J. Palmer one of the earlier, as well as the present, members of the Board of Trustees of the American University, who has just rounded out his fifty years in the ministry, with three or four years additional in the army during the Civil War has been commemorating his remarkable career with a Memorial Address, delivered before the New York Annual Conference pursuant to a vote of that body. The address is so well written, racy and rich in the recital of historic associations and incidents that it is running as a serial in the New York Christian Advocate. The Doctor holds the primacy of having been the youngest soldier enlisted in the Union Army, being only fourteen years, six months, and twelve days old, and serving with distinction as a private during the Civil War. The story reads like Abbott's History of Napoleon, graphic, exciting and entertaining. He was one of "Strong's Fighting Brigade" that assaulted Morris Island and was decimated at Fort Wagner. He was included in the twenty-eight who had been abandoned in the bastion after they had captured it, but who were surrounded by the Confederates, taken prisoner and sent from one prison to another until only six survived. After nine months of confinement he managed to escape from Libby Prison and to furnish Secretary Stanton and President Lincoln with valuable information. His associations with Chaplain McCabe, officers of the War Department, General Grant, and the President, make interesting reading. Some account is given of the origin of the Doctor's famous lecture entitled "Company D, the Die-no Mores" which, with Chaplain McCabe's "Bright Side of Life in Libby Prison" and General John B. Gordon's "The Last Days of the Confederacy," was heard from ocean to ocean. Doctor Palmer is now Annuity Secretary of the Board of Foreign Missions.

A HUNDRED YEARS IN WASHINGTON.

We do not know of any man or woman who has lived in Washington a hundred years. But there are some other living interests beside the Congress of the United States which have been in the city so long. Instead of bringing to them a second childhood the years have added to their activities, prestige and influence. And they are highly honored for their long life and increasing usefulness.

George Washington University lays claim to this distinction. On the mathematics of the husband and wife who declared they were both one hundred years old because the two were one, the Institution has established the validity of its claim. The old gentleman said he was sixty-seven years old and his wife was thirty-three; if that doesn't make them a hundred, what does?

The old gentleman in this instance was a Baptist until he married, and since he married outside the fold he went with his wife out in the wide, wide world and at present they have no affiliations. But they are highly esteemed for their work's sake. Their children rise up in great numbers to call them blessed. They are in good society and have many of the best of friends. The President is in the thought of many persons eminently qualified to sit in the council of the nations.

As announced in a previous number of the "Courier," that it would be, the anniversary of the University was observed on its one hundredth birthday and was celebrated with becoming exercises and orderly stateliness. President Collier appeared at his best to direct the exercises and confer honors on the distinguished guests who represented a number of different nationalities and included some of the noblest men and women in their respective walks in life. Twenty-seven degrees were generously bestowed with gracious hospitality and the recipients thus made honorary members of the Alumni Association. The addresses in the several convocations were all of a very high order and reflected great credit upon the University, as well as upon the speakers themselves, all of whom recognized the dignity and importance of the occasion. We congratulate the highly honored President and his distinguished Faculty and Board of choice Trustees.

OUTSIDE SCHOOLS ON THE CAMPUS.

The American University has entertained on the Campus during the last four years schools of great celebrity. The one hundred thousand soldiers quartered first and last on the grounds during the war were in training from the day they arrived until they were called to the colors. They were at school. Here were the civil engineers, the foresters, the camouflage, and the Chemical Warfare Service. This last came into existence to match the wits and savagery of the Germans. The Bureau of Mines was granted the free use of the Ohio or McKinley Building to manufacture gas. Then gas masks followed with explosives. A few chemists were selected from the universities and manufacturing chemical laboratories with which to begin. When the armistice was signed two thousand chemists, with their assistants, were employed in the largest laboratory this side of the sun or other burning stars. There were munitions on hand, including multiplex gas and an invented explosive many times dynamite, valued at $800,000. When it was ascertained for a fact, after the first announcement, a false alarm, that the fatal stop or proceedings in the field was actually on paper, and the Commander-in-Chief, so near to a crushing victory, had given away to his feelings, as was reported, and the armies of the aliens were going home singing "We were not whipped; we'll up and at 'em again," disarmament began at the University. It was begun by the destruction of munitions? The numerous collections on hand, just ready to go overseas, was valued at nothing now but the expense of putting them away. As "this was to be the last war," permission was given to go far back on the University acres, to dig a pit deeper than the one into which Joseph was cast, bury the munitions there and cover them up to wait until the element shall melt with fervent heat, when the earth and the works therein shall be burned up.

When the Chemical Warfare Service was removed from the grounds of the University the War Department asked to have the Nitrate Division occupy the Ohio Building and temporary structures round about for an experiment station. A glowing account of the School and plant is given by Mr. H. O. Bishop in the Washington Star. We reproduce a part of his paper here. He says:

It sounds mighty like a fairy story to say that it is possible to reach up into the sky and pluck something out of it that men can put into their gardens and farms that will make the ground richer and the crops greater. Nevertheless, that's exactly what is going to take place in every nook and corner of this vast and beautiful country of ours.

Here in Washington is located the greatest nitrogen research laboratory on the western hemisphere for the investigation and discovery of the cheapest and most effective methods of procuring nitrogen fertilizer from the skies. This world-famed laboratory is housed in the buildings of the American University. It is technically known as the fixed nitrogen research laboratory and was founded by an order of the Secretary of War, March 29, 1919, by authority of the National Defense Act.

It is generally conceded that the scientists at the head of this institution are the ablest men in their line of work that America has thus far produced. The present director is Dr. Richard C. Tolman, formerly head of the Division of Physical Chemistry of the University of Illinois. During the war he served as a major in the chemical warfare service. He is the man who developed the famous toxic smoke candle, planned to be used by the allied armies in the spring drive, but which was unnecessary on account of the signing of the armistice. Four millions of these candles were in process of manufacture when the war ended.

The first director of the laboratory was Dr. Arthur B. Lamb, now professor at Harvard. He is still connected with the laboratory in the capacity of consulting engineer. Dr. Alfred T. Larson, who knows more about ammonia catalysis than any man on earth, is the head of the catalyst division. The chief of the cyanide section is Dr. Joseph M. Braham. Capt. R. S. Tour conducts the catalyst testing plant. Dr. Sebastian Karrer is in charge of the electric arc section, and H. M. Frampton is the business manager in charge of the entire outfit.

It costs about $300,000 annually to operate this laboratory, but the ultimate value of the discoveries of this notable group of scientists can only be estimated in terms of billions. Their job is to learn how to harness nitrogen and make it work for us in the years to come, just as the Franklins, Edisons and others learned how to harness electricity.

The first chemical used in warfare seems to have been gunpowder—or a combination of potassium nitrate, sulphur and charcoal. This use first occurred about the year 1250. It was revolutionary in its effect upon munitions. The chemical development was at first slow, but gradually increased until today. The strength of an army is not measured by its man power alone, but in great measure by its power to inflict damage through the intelligent and up-to-date use of chemical ordnance.

Today the various branches of the Army, or the infantry, artillery, cavalry and air service, all rely in great measure for their offensive power upon the tremendous force turned loose on the enemy by the detonation of the explosive charge contained in the shell or bomb or by the momentum of the bullet developed by the burning of smokeless powder. The Navy is similarly dependent.

It is doubtful if any man in the United States has given the subject of nitrates and fixed nitrogen, for use both in times of war and peace, more careful study than Col. J. H. Burns of the Nitrate Division of the Ordnance Department of the United States Army. Here is a remarkably interesting statement from him, in which he covers the subject of gunpowder.

The statement has been made that nitrates and fixed nitrogen are indispensable for strictly military purposes in the manufacture of powder and explosives, and for peace purposes in the manufacture of fertilizers and chemicals.

It is, therefore, apparent that powder, explosives and chemicals are the heart of munitions, and it can be truthfully stated that fixed nitrogen is the heart of powder, explosives, and chemicals.

After giving a technical and scholarly account of the "slight affinity existing between nitrogen and other elements furnishing a peculiar character to its compounds," he states further:

The demand for fixed nitrogen for peace pursuits can be divided into two main classes—fertilizers and the chemical industry.

Nitrogen for fertilizers: The three essential elements of a complete plant food are fixed nitrogen, phosphoric acid and potassium. And of these three, nitrogen is claimed to be the most important, and it is the most expensive.

Fertilizer has, of course, since the earliest days of human history, been used in the growing of plants. As chemical development has progressed, study has been made of just what elements are needed and in what form they should be used to properly sustain and develop plant life. And as a result of this, knowledge has been gained as to the inorganic or mineral materials that can be used to augment as fertilizers the organic substances previously used. And one such substance is fixed nitrogen in one form or another.

Chemists have long recognized the atmosphere, of which four-fifths is nitrogen, as the huge reservoir that must ultimately be relied upon to supply our needs in the way of nitrates or other fixed nitrogen compounds. The very aloofness of nitrogen or its refusal to combine or stay combined with other elements, which gives it so much value in explosives, on the other hand, causes tremendous difficulty relatively in harnessing it. The artificial fixation of atmospheric nitrogen by chemical or electro-chemical means has, however, been developed in recent years, and several methods are in actual operation.

In all cases it is necessary to force the combination of nitrogen with some other material. This combined nitrogen can then be manufactured chemically, so as to produce the desired material.

There is every reason to believe that the Government will eventually increase the size of the nitrogen research laboratory out on Massachustts Avenue, until it becomes the greatest institution of its kind not only on the western hemisphere, but in the entire world.

TAKING OFF OUR HATS.

Every number of the "Courier" which goes out to the readers brings some interesting responses, showing that there is no little interest in the success of the American University. We have never printed any of these letters, but that the friends of the institution may know that there are readers who enjoy every bit of news concerning the advance movements of the school, and at the risk of enjoying a bit of commendation in public, we print the following letter from among the many that enter the office of the editor:

THE METHODIST BOOK CONCERN,
Oliver S. Baketel, Editor.
150 Fifth Avenue, New York.
April 20, 1921.

Bishop John W. Hamilton, D. D.,
Stoneleigh Court, Washington, D. C.

My Dear Bishop:

I have read with much interest almost every line in the recent number of "The American University Courier," and enjoyed it greatly. It certainly looks as if you were doing something with the prospect of doing more. You are surely to be congratulated on the purchase you have made in the downtown section.

I hope the work will continue to grow, and that you will see before you die that institution in such a position and doing such work as was hoped for by those who were its founders.

Wishing you much success in everything you undertake, I am sincerely yours, O. S. BAKETEL.

TABLE TALK.

Mrs. Henry Baker, whose husband was one of the retired and venerable preachers of the Baltimore Conference, died recently and in her modest will left her piano to the University.

The large brick house occupied during the last Administration of the Government by the Postmaster General is given over to school purposes. The first floor is occupied by the University for lectures and recitations. The unusually large drawing room, which will accommodate nearly or quite one hundred persons, is admirably adapted to the varied uses of the school. The second story and basement, which is finished in rooms, are occupied by the Bureau of Commercial Economics, that offers illustrated lectures in the large lecture room in almost every department of knowledge —trade, politics, science, letters and religion. The upper story is furnished for the residence of students where a half dozen can be very comfortably accommodated.

The American University Courier

PRO DEO ET PATRIA—FOR GOD AND COUNTRY.

PUBLISHED QUARTERLY BY THE AMERICAN UNIVERSITY.
Massachusetts and Nebraska Avenues, Washington, D. C.
ALBERT OSBORN, Editor

25 Cents a Year—Free to Contributors of University Funds

Form for Will.

I give and bequeath to "The American University," a corporation in the District of Columbia, the sum of (insert amount), and the receipt of its Treasurer shall be a sufficient discharge to my executors for the same.

APRIL, 1921.

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Bishop Luther B. Wilson, N. Y.

came along just as it was needed. Now no more buildings are called for to house the five departments of instruction provided for and an eligible vacant lot now offers itself for the location of an ample assembly hall.

COAL BY THE CARLOAD.

When the prophet said "There shall not be a coal to warm at, nor fire to sit before it," think you he had Washington in mind? When the winter winds began to blow, and the chill of December poured with the angry waters over the Great Falls of the Potomac, we were told there were one thousand households in this city, no one of which had a hod of coal. The University had about a half dozen tons, but what was that in a building of forty-two rooms, with the outside walls of cold white marble?

The caretaker, with a prudence worthy of the professors, said, "Let us pin some copper reflectors to the walls, and turn on the fire-juice from the telegraph poles." It was done. The Secretary and bookkeeper took their places between the copper cups, and turning first one side and then the other, they imagined for a time that they kept warm.

Just then there came a Christian voice out from the neighborhood of mines saying, "Could the University use a carload of coal?" The telephone was not short enough for the quick reply. We all grew warm thinking of it—a whole carload of coal! Every lump was a diamond. Mrs. Sarah B. Cochran, of Dawson, Pennsylvania, who donated the coal, never can know how warm it made the hearts of students, faculty and Trustees as the mercury went up from poverty to plenty.

RECENT GIFTS OF MONEY.

(Acknowledgment of sums less than five dollars is considered sufficient receipt therefor.)

McKinley Memorial Hall—$6.00, Alex. Kerr, C. E. Bacon; $5.00, M. E. Baker, V. J. Stafford; $4.00, W. F. Burris; $3.00, J. A. Sumwalt, C. B. Lenfelt, F. W. Davis, John Boon, W. D. Cater; $2.00, B. D. Beck, G. M. Bing, J. W. Kirkpatrick, C. E. Flynn, J. F. Hageman, S. J. Cross, W. H. Wylie, W. C. Brewer, Wm. Richards, A. W. Armstrong, C. S. Buchtel, D. J. Shenton, Elias Handy, W. C. Smith, Jasper Weber, E. M. Holmes, W. E. Hardaway, H. C. Smith, E. E. Higley; $1.00, J. E. Jacklin, F. S. Conger, H. W. Cope, J. G. Walker, S. H. Caylor, T. H. Worley, J. F. O'Haver, D. W. Noble, I. T. Scull, W. S. Rader, M. O. Robbins, F. M. Westhafer, W. J. Cain, A. B. Storms, E. C. Searles, D. C. Challis, J. M. Walker, N. P. Barton, W. E. Harvey, G. L. Kleinschmidt, W. H. Cable, C. W. Hohanshelt, Mrs. B. F. Miller, G. D. Crissman, W. C. Smith, J. M. Ryder, E. A. Thomas, J. W. Anderson, H. A. Doughty.

Franklin Hamilton Memorial—$5.00, S. P. Crummett.

Chancellor's House Fund—$10.00, J. R. Crandall; $5.00, Norman LaMarche, W. E. Marvin; $4.00, E. E. Whittaker; $3.00, A. D. Moon, E. A. Armstrong, W. M. Puffer, J. A. Hoffman, H. B. Green; $2.50, S. P. Crummett; $2.00, N. E. Hulbert, W. S. Culp, F. H. Townsend, C. C. Campbell, M. L. Fox, T. P. Bennett, D. D. King, W. B. Theobald; $1.00, C. E. Wakefield, J. H. McCune, R. Woodhams, R. G. Finley, Mrs. C. F. Colburn, N. F. Jenkins, Mrs. Richards.

Asbury Memorial Fund—$25.00, O. W. Willets; $10.00, D. A. Allen.

General Fund—$428.00, Geo. H. Maxwell; $10.00, A. L. Wiley, Geo. C. Coon.

Bishop Hamilton Lectureship—$4.00, G. K. MacInnis; $3.00, R. W. Wilcox; $2.00, C. E. Weed.

Americanization School Fund—$5,000.00, Mrs. Annie M. Swift; $1,000.00, J. W. Sparks, Charles Gibson; $50.00, W. O. Shepard; $25.00, E. H. Bell; $20.00, H. C. Conrad; $10.00, C. L. Hubbard, C. E. Goodwin, W. H. G. Gould, F. W. Greene; $5.00, C. E. Kelso, H. G. Budd, L. A. Bennett, A. W. Hewitt, M. S. Daniels, B. P. Wheat; $3.00, F. B. Bell, Carrie M. Brown, Fred Everhart, Mrs. L. Jacques, Jr.; $2.00, F. J. Mackenzie, W. R. Mowbray, Sue M. Johnson, R. P. Parrott, E. W. Blakeman, C. M. Olmstead; $1.00, W. F. Atkinson, W. C. Bradley, D. H. Harper, W. W. Howeth, R. K. Stephenson, Mrs. J. L. Weiland, W. W. Keays, S. S. Andrews, Carrie A. Casson, Thos. Lawson, W. McRoberts, J. E. Kundert, V. I. McKim, J. E. Woodward, Ephraim Smith, H. G. Love, H. J. Fehl, U. S. Landstreet, Mrs. Margaret Hill, Mrs. George Northrup, Mrs. Emil Sulzer.

COMBUSTION VOLUNTARY, IF NOT SPONTANEOUS.

During the progress of the war the activities of the Chemical Warfare Service were so varied and comprehensive that it was necessary to construct about seventy-five subsidiary buildings in which to carry on experimentation with the chemicals and gases. Powerful poisons and noxious substances were absorbed by the wood used in some of these temporary buildings. Seventeen of these structures, deemed too highly impregnated with these dangerous elements to be salvaged for the lumber in them, were devoted by the Government authorities to be destroyed, and on January 26 and 27, 1921, under the supervision of the fire department of the District of Columbia, were burned to ashes. For the photograph of the fire from which this illustration herewith shown was taken, we are indebted to Mr. Howard D. Hoenshel, of the Fixed Nitrogen Research Laboratories, now utilizing the finest chemical apparatus installed in our McKinley Memorial Hall.

Slow, Too Slow, the War-Clouds Lift.

Slow, too slow, the war-clouds lift
Their murky folds and darkly drift
To deep oblivion's dismal vale.
Come, breath of Heaven, a cleansing gale;
Faith, hope and love, blow from on high,
Make war's defeated squadrons fly
From swift retreat to utter rout,
Till all the sons of God shall shout,
The morning stars again shall sing;
Till round the world the welkin ring
With "Peace on earth, to men of good-will,"
And the sea of human strife be still.

A. O.

A BURNING VILLAGE.

Worse than a deserted village is a town on fire. There is a mortal dread of fire anywhere if it is not under control. The fire alarm startles even the firemen; they go forth as to battle. When the Government turned the fire on certain of the Chemical Warfare buildings that had been erected on the Campus of the University and which had been saturated with war gas and other dangerous chemicals, and the volumes of dense black smoke rolled away over the hills, the thought in the city was that there was a great fire in the University buildings. Many persons rushed to the ground to find the city fire department in full control. The fumes emanating from the burning buildings were suffocating a hundred yards away.

Some persons called it great waste to burn up a village of good houses. But if that were waste what of $800,000 worth of munitions that had been manufactured in the buildings on the University grounds and had not yet been started overseas? If the war had gone on, and there had been no munitions on hand, then what of the waste of human life? War is waste from start to finish. The lumber in the seventeen buildings that were burned was so impregnated with the infamous gases that it could never be used

The American University Courier

To the Senate & H. R. of the United States Ex7 pg2

The undersigned citizens of the United States respectfully ask that you will take measures to secure an amendment to the Constitution that shall plainly authorize Congress to abolish slavery in the States —

A LINCOLN MANUSCRIPT NOW FIRST PUBLISHED

To the Senate & H. R. of the United States. The undersigned citizens of the United States respectfully ask that you will take measures to secure an Amendment to the Constitution that shall plainly authorize Congress to abolish slavery in the United States.

when taken out of the buildings and the buildings could not be left there for another war, and they could not be used where they were without the workmen wearing masks. The munitions were taken back to the limit of the University acres and there buried in a pit that was digged for them. Would that it were as deep as the cellar of Pluto and Proserpine. *Requiescat in pace.*

WHAT IS WANTED NOW?

We do not say "What is wished for now?" The word *wanted* signifies *need*. It is always encouraging to know that something is needed—that means advance, growth, at least it affords the privilege of helpfulness. It is far more inviting to have need of money for growth than for debt, though the only thing to do with a debt is to pay it.

It is the season of the year when things should soon be growing everywhere. Why not the University? The extension requires for the increasing number of students the use of another building. The large four-story building on the corner of 19th and F streets, soon to be vacated by the Postmaster General will be occupied by the new Department of Business Administration. The large drawing room extending the whole length of the building affords an adequate lecture room capable of accommodating from one hundred to one hundred and fifty students. The room must be furnished for this purpose.

This requires a teacher's desk and chair, with chairs for the students, maps for the walls, and shelves for the reference library. The students' chairs can be bought for three dollars apiece, the arm chair for the instructor for five dollars, the maps about ten dollars each. Here is the opportunity for helpful giving. The larger givers have *bought* the building, one constant helper having contributed ten thousand dollars.

We can, therefore, with good grace, ask our friends all over to send us in the price of a chair or map or dictionary. Will not someone give us twenty-five dollars for the desk, and another twenty-five dollars for an American Flag?

AN ANTI-SLAVERY MANUSCRIPT OF ABRAHAM LINCOLN NOW FIRST PUBLISHED.

John Marston Goodwin, Second, was the third clerk to E. M. Stanton, Secretary of War in Abraham Lincoln's Cabinet. It was his duty to receive and distribute the mail of the President and Secretary and to keep the files of important papers.

When the change of administration occurred many documents not required for the permanent records were subject to his disposal. The only interest belonging to numbers of them were their associations and the sentiment connected with the autographs of the writers. Others were so related to the historic events and incidents of the war period as to give them something of far more value than the mere matter of sentiment.

The few lines in the handwriting of the President which are printed herewith constitute the first draft of a heading to a petition that the President suggested to a delegation of citizens who called upon him to express their desires concerning the exciting and all-important slavery question. It is so worded as to give an unmistakable impression of his own judgment of the legislation that should be enacted.

The petition suggests the evolution of events and process of development in the mind of the President that led up to the issuance of the Emancipation Proclamation. Nicolay and Hay say in their life of Lincoln, "In tracing the anti-slavery policy of President Lincoln his opinions upon some of the prominent features of these laws (concerning slavery) become of special interest." He studied the signs of the times and the movements of Congress so as to keep in the lead and yet be sure of his following. His mind travelled from the consideration of returning slaves who had gotten over the lines into the army to their owners, to their confiscation as property, contraband of war, compensation of their owners, gradual emancipation by the

Ex 7 pg 5

DESTRUCTION OF GAS-IMPREGNATED BUILDINGS OF THE CHEMICAL WARFARE SERVICE
(*Note Form of Man's Head and Face in the Smoke*)

COPY

WAR DEPARTMENT
AMERICAN UNIVERSITY EXPERIMENT STATION
CHEMICAL WARFARE SERVICE, N. A.
WASHINGTON, D. C.

February 10, 1919.

From: Thomas Cutler, Research Division, American University, Washington, D.C.

To: Chief, Field Service, 19th & B Sts., Munitions Bldg.,
Attention: Capt. A. L. Hodges.

Subjects: Shipping Orders.

1. It is requested that the shipping orders be issued in order that we may send from this station the following list of material:

Cylinders, Medium caliber pressure (L.C. 3000#)	75
Holders, Rubber cylinder	
Checks, Gas, cannon (copper)	444
Gaggs, Medium Caliber Pressure	300
Curtis, Gauge, Medium caliber pressure	48
Barrels for Vickers Machine Gun	1
Belts, ammunition for Vickers Machine Gun	6
Guns, [illegible] for Vickers Machine Gun	3
Bombs, Mk. I., Incendiary Drop	1
" Mk. II "	1081
" Mk. III "	99
Bomb, Mark II Smoke	26
Bombs, Mk. I Smoke	79
Bomb, Mark III, Smoke	97
Adapters and Boosters, Mark II (unloaded)	84
" " " " IV (unloaded)	200
" " " " V (unloaded)	540
" " " " VI (unloaded)	250
Boosters, Mark II	25
Shells, Mark II (Air Burst Gas)	48
Shells, Mark II, 75 mm. Gas	175
Shells, 75 mm. High Explosive	1976
Shells 3" High Explosive	82
Shells, 75 mm. Shrapnel, gas	258
Shells, 75 mm. Shrapnel, gas, fuse, base bursting charge	48
Shells, 4.7, Cannon Steel	189
	329

2. We have stored at Curtis Bay [illegible] ance Depot, 2000 lbs. T.N.T. grade 2. It is requested that we be advis[illegible] we can be released from accountability for this material.

Orders — Shipping [illegible]
C.W.S. — [illegible]
Fwd (Bomb [illegible] at [illegible]

Encl. 6

REPRODUCED AT THE NATIONAL ARCHIVES

November 26, 1918.

From: Chief, Research Division, C. W. S., U. S. A.

To: The Director, C. W. S., U. S. A.
Att: Lieut. Col. W. J. Noonan, Chief of Administrative Section.

Subject: List of Tracts and Acreage used by American University Experiment Station.

1. The following is a list of the different tracts leased and used by the American University Experiment Station.

COMPLETE LIST OF THE LEASED GROUND

American University	63.69	acres
Chas. C. Glover	6	"
Chas. A. Spalding	77.8	"
Horace D. Waters	28.7	"
Louis Cunningham	15.83	"
Robert D. Weaver	68.4	"
TOTAL	260.42	"

2. The following tracts have also been used by the American University Experiment Station.

Agnes V. Scott	10.5	acres
John R. Scott	6.75	"
Girls Reform School	185.65	"
TOTAL	202.90	"

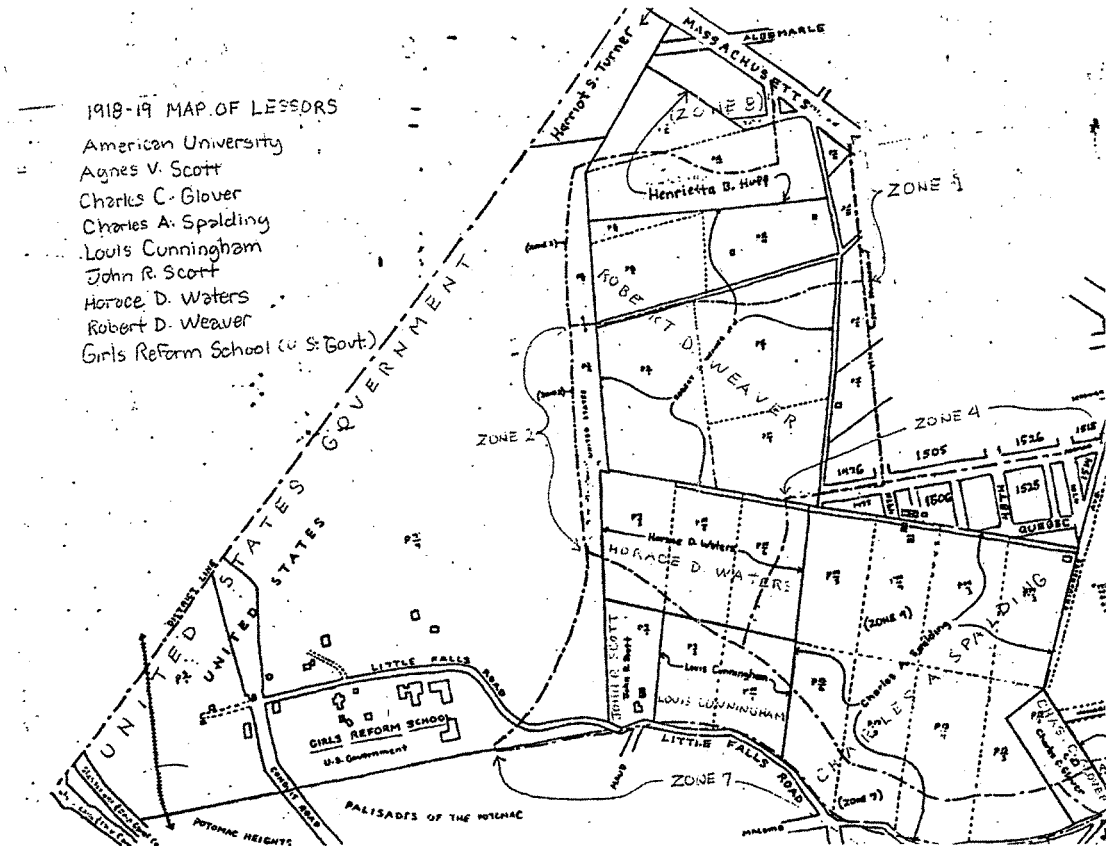
3. The total acreage used by the American University Experiment Station has been 463.32 acres.

G. A. BURRELL
Colonel, C. W. S., U. S. A.
Chief, Research Division.

By:

D. L. WILLIAMS
Captain, C. W. S., U.S.A.
Executive Officer.

NOV 27 1918


1918-19 MAP OF LESSORS
American University
Agnes V. Scott
Charles C. Glover
Charles A. Spalding
Louis Cunningham
John R. Scott
Horace D. Waters
Robert D. Weaver
Girls Reform School (U.S. Govt.)
UNITED STATES GOVERNMENT
UNITED STATES
Harriot S. Turner
MASSACHUSETTS
ALBEMARLE
ZONE 1
ZONE 2
ZONE 3
ZONE 4
ZONE 7
Henrietta B. Huff
ROBERT D. WEAVER
HORACE D. WATERS
Horace D. Waters
Louis Cunningham
LOUIS CUNNINGHAM
Charles A. Spalding
CHARLES A. SPALDING
Charles C. Glover
CHARLES C. GLOVER
1505
1506
1525
1526
QUEBEC
LITTLE FALLS ROAD
GIRLS REFORM SCHOOL
U.S. Government
PALISADES OF THE POTOMAC
POTOMAC HEIGHTS

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FILED
JUN 03 2002
NANCY MAYER-WHITTINGTON, CLERK
U.S. DISTRICT COURT

THOMAS P. LOUGHLIN, et al.,	)	
Plaintiffs,	)	
v.	)	Civil Action No. 02-152 (ESH)
UNITED STATES OF AMERICA, et al.,	)	
Defendants.	)	

MEMORANDUM OPINION

Plaintiffs have brought these personal injury cases,[1] alleging a variety of torts against defendants American University ("American" or "AU"), the United States of America, and Glenbrook Limited Partnership, Lawrence N. Brandt, Inc., Lawrence N. Brandt, and Robert Brandt (the "Glenbrook-Brandt Defendants"). The central claim of plaintiffs – the Loughlin family, Patricia Gillum, and Camille Saum – is that defendants negligently failed to warn them of the presence of munitions, highly toxic chemicals, and chemical warfare agents in the Spring Valley neighborhood in which they lived. AU has moved to dismiss all causes of action for failure to state a claim pursuant to Fed. R. Civ. P. 12(b)(6). Its main argument is that the University owed no legal duty to plaintiffs. Based upon consideration of the pleadings and the record, the Court finds that AU did owe a legal duty to plaintiffs, and that at least at this stage, plaintiffs' allegations are sufficient to withstand challenge. Defendant's motion in each of the

[1]The three actions are *Loughlin v. United States*, Civil No. 02-152; *Gillum v. The American University*, Civil No. 02-294; and *Saum v. The American University*, Civil No. 02-349.

three actions will therefore be denied. This Memorandum Opinion constitutes the Court's opinion as to American's motion to dismiss in all three cases.

BACKGROUND

According to the complaints, in 1917, AU offered President Woodrow Wilson the use of its 92-acre campus in northwest Washington to support the war effort against Germany. The government accepted and established the American University Experiment Station ("AUES") on the property a short time later. By the end of the war, there were nearly 2,000 military and civilian personnel researching chemical warfare agents at AUES. Projects and field tests were conducted on the manufacture and use of gases, toxic munitions, grenades, incendiary devices, and flaming liquid weapons. This research included the use of highly toxic chemicals, including mustard gas, cyanide phosgene, arsenic, and lewisite. According to plaintiffs, AUES was the world's second largest poison gas production facility at the time. (Gillum Compl. ¶¶ 9-13; Loughlin Compl. ¶ 15.) On November 29, 1918, immediately after the war ended, the AUES drastically reduced its personnel and testing, and within one year, the station was closed. (Gillum Compl. ¶ 14.)

Plaintiffs allege that American knew that its property had been contaminated, but failed to remove the hazardous materials or to warn neighbors or future purchasers of the dangerous condition. For example, plaintiffs assert that in 1917, AU approved the use of a rear portion of its property for a bomb pit. (Loughlin Compl. ¶ 16.) They contend that American pursued a claim against the Army for restoration of the grounds in 1919, but that the following year, AU accepted the Army's offer to construct eight buildings for the University instead of cleaning up the property that had been damaged by the chemical weapons testing. (Loughlin Compl. ¶¶ 17-

18; Gillum Compl. ¶ 15.) Plaintiffs contend that at approximately the same time, American "published information stating that it gave permission to the Army to bury highly toxic munitions and other dangerous chemical materials on the American University property . . . ." (Loughlin Compl. ¶ 20.) In 1954, AU discovered buried munitions while building a television station and tower. (Gillum Compl. ¶ 17.) In 1986, American requested an Environmental Protection Agency analysis of the area, which indicated possible burial sites of munitions and gases. (Gillum Compl. ¶ 18.) The same year, an Army study concluded that "it can be inferred that laboratory quantities of toxic materials were disposed of on-site prior to or following the transfer of personnel and equipment . . . ." (Gillum Compl. ¶ 19.) AU then sought indemnification from the Army in the event that anyone was injured by the toxic chemicals or munitions that had been buried on the property. (Loughlin Compl. ¶ 26.)

Plaintiffs assert that numerous toxic materials were unearthed from the former site of the AUES beginning in the 1990s. In 1992, laboratory equipment and a closed 55-gallon drum were discovered while the Glenbrook-Brandt defendants, who had bought property from AU, were excavating near the future home of the Loughlins. (Loughlin Compl. ¶ 31.) In June 1996, landscapers unearthed laboratory glassware and broken bottles contaminated with arsenic and sulfuric acid on property adjacent to the Loughlins' land. (*Id.* ¶ 41.) In February 1999, the Army discovered a 75-mm projectile containing mustard gas buried only six inches deep in the yard next door to the Loughlins' home. (*Id.* ¶¶ 46, 49.) In 2001, hundreds of contaminated artillery shells and pieces of laboratory equipment were found within several feet of the Loughlins' property. (*Id.* ¶¶ 53-54.) Environmental studies conducted since the early 1990s have revealed

dangerous levels of arsenic and other hazardous material. (*Id.* ¶¶ 39, 41, 47, 49-50; Saum Compl. ¶ 20.)

Plaintiffs were residents of this neighborhood in Spring Valley. Thomas and Kathi Loughlin are the parents of Nora and Hannah Loughlin, and they resided at 4825 Glenbrook Road from March 1994 to September 2000. The Loughlins purchased their home from the Glenbrook-Brandt defendants, which had in turn bought the property from AU. Both children were born while the Loughlins lived at 4825 Glenbrook. In 1997, Kathi Loughlin was diagnosed with a brain tumor. (Loughlin Compl. ¶ 44.) In 1999, the Loughlins were forced to relocate for several months to allow the Army Corps of Engineers to remove hazardous materials from two pits immediately adjacent to their property. (*Id.* ¶ 48-49.) The Loughlins had to move again later that year after high levels of arsenic were detected on their property. (*Id.* ¶ 50.) Patricia Gillum was the Loughlin's live-in nanny from July 1994 to April 1999. Gillum has been diagnosed with and treated for actinic keratosis, which is a possible indicator of arsenic exposure and future cancer. (Gillum Compl. ¶ 50.) Camille Saum was born in 1944, and lived at 5040 Sedgwick Street from 1947 to 1964. She has suffered from a variety of autoimmune and blood-related problems since her childhood, including pernicious anemia, renal stenosis, and actinic keratosis. (Saum Compl. ¶ 42.)

Plaintiffs contend that they were unaware of the Army's use of the property for the testing of chemical weapons during World War I, and that their health problems were caused by exposure to chemical agents on the former AUES site. The Loughlins have brought claims for negligence and failure to warn against AU, the Glenbrook-Brandt defendants, and the United States, and for fraud, deceit, and outrageous conduct against AU and the Glenbrook-Brandt

defendants. Gillum's only remaining claim is for negligence against AU and the Glenbrook-Brandt defendants. Saum's sole outstanding claim is for negligence against AU.[2] This Opinion addresses only those claims that have been brought against AU.[3]

LEGAL ANALYSIS

American has moved to dismiss the complaints against it for failure to state a claim pursuant to Fed. R. Civ. P. 12(b)(6). Under Rule 12(b)(6), dismissal is appropriate only where a defendant has "show[n] 'beyond doubt that the plaintiff can prove no set of facts in support of his claim which would entitle him to relief.'" *In re Swine Flu Immunization Products Liability Litigation*, 880 F.2d 1439, 1442 (D.C. Cir. 1989) (quoting *Conley v. Gibson*, 355 U.S. 41, 45-46 (1955)). The allegations in plaintiffs' complaints are presumed true for purposes of a 12(b)(6) motion, and all reasonable factual inferences should be construed in plaintiffs' favor. *Maljack Productions, Inc. v. MPAA*, 52 F.3d 373, 375 (D.C. Cir. 1995); *Phillips v. BOP*, 591 F.2d 966, 968 (D.C. Cir. 1979).

I. Negligence Claims

Negligence, like all of plaintiffs' claims against AU, is a question of state law. Under District of Columbia law, which is applicable in this case, "a person is liable to another only if '(1) the defendant owed a duty of care to the plaintiff, (2) the defendant breached that duty, and

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[2]The claims against the United States of Gillum and Saum were dismissed without prejudice for failure to exhaust administrative remedies.

[3]In their opposition, the Loughlin plaintiffs note that they intend to seek leave to amend the complaint to add a claim of civil conspiracy, which defendant argues would be futile. Because the Court is not permitted to issue advisory opinions on possible claims, it need not address the viability of a potential civil conspiracy claim. *Michigan v. Long*, 463 U.S. 1032, 1042 (1983).

(3) the breach of duty proximately caused damage to the plaintiff.'" *Thomas v. City Lights School, Inc.*, 124 F. Supp. 2d 707, 709 (D.D.C. 2000) (quoting *Brown v. Consolidated Rail Corp.*, 717 A.2d 309, 311-12 (D.C. 1998)). Defendant has moved to dismiss plaintiffs' negligence claims against AU (Gillum Compl., Count I; Saum Compl., Count I; Loughlin Compl., Counts II-III) on the ground that it owed no duty to plaintiffs. Its rationale is four-fold. First, defendant argues that plaintiffs' alleged injuries were not reasonably foreseeable to AU. Second, it contends that AU owed no duty as a vendor to plaintiffs, who were the subvendees or the guest of the subvendees of the property in question. Third, it asserts that the negligence claims cannot be based on a duty owed by AU either to its neighbors or to the general public. Fourth, it argues that the alleged knowledge of the Glenbrook-Brandt defendants, as the interceding owners, of the condition of the property extinguishes any duty that may have been owed by AU.

A. Liability as Possessor of Land

Defendant attempts to characterize plaintiffs' cases as a vendor-subvendee dispute. This is an oversimplification. In fact, plaintiffs have alleged that AU has a legal duty not only as the vendor of the Spring Valley properties that they purchased, but also as the owner of neighboring land. (*E.g.*, Loughlin Compl. ¶ 37; Gillum Compl. ¶ 45; Saum Compl. ¶ 36.) The Restatement (Second) of Torts § 364, which has been adopted in the District of Columbia, *Brown*, 717 A.2d at 316, sets forth a negligence standard for the creation or maintenance of dangerous or artificial conditions by a possessor of land.

> A possessor of land is subject to liability to others outside of the land for physical harm caused by a structure or other artificial conditions on the land, which the possessor realizes or should realize will involve an unreasonable risk of such

> harm, if . . . (b) the condition is created by a third person with the possessor's consent or acquiescence while the land is in his possession, or (c) the condition is created by a third person without the possessor's consent or acquiescence, but reasonable care is not taken to make the condition safe after the possessor knows or should know of it.

Restatement (Second) of Torts § 364.[4] In *Brown*, the court found that section 364 potentially subjected the defendant to liability for a damaged bridge vent through which a metal plate fell, injuring a driver who was passing underneath. 717 A.2d at 316.

Plaintiffs have pled facts to support a finding of negligence against AU under either section 364(b) or (c) for damage caused by the chemical agents – an artificial condition – that were buried on its land. Plaintiffs have alleged facts sufficient to indicate that American knew of the way in which the Army was using its land at the time, or alternatively, that AU failed to take reasonable care in making the condition safe after it learned of the buried chemicals and munitions. Under the common law rule that "a landowner should be held to the duty of common prudence in maintaining his property in such a way as to prevent injury to his neighbor's property," *Brown*, 717 A.2d at 316 (citing *Dudley v. Meadowbrook, Inc.*, 166 A.2d 743, 744 (D.C. 1961)), AU may be liable for negligence.

B. Liability as Vendor

Even under AU's transaction-based characterization of the action, however, plaintiffs' allegations are sufficient to withstand a motion to dismiss. The general rule, as set forth in section 352 of the Restatement (Second) of Torts, is that "a vendor of land is not subject to

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[4]Section 364 was also included in the original Restatement of Torts, which was published in 1934, and was not materially modified in the Restatement (Second), which went into effect at approximately the same time that Saum moved out of Spring Valley. This section therefore applies to all of the events in these cases.

liability for physical harm caused to his vendee or others while upon the land after the vendee has taken possession by any dangerous condition, whether natural or artificial, which existed at the time that the vendee took possession." Section 353 of the Restatement, however, sets forth an exception to that principle.

> (1) A vendor of land who conceals or fails to disclose to his vendee any condition, whether natural or artificial, which involves unreasonable risk to persons on the land, is subject to liability to the vendee and others upon the land with the consent of the vendee or his subvendee for physical harm caused by the condition after the vendee has taken possession, if
> (a) the vendee does not know or have reason to know of the condition or the risk involved, and
> (b) the vendor knows or has reason to know of the condition, and realizes or should realize the risk involved, and has reason to believe that the vendee will not discover the condition or realize the risk.
> (2) If the vendor actively conceals the condition, the liability stated in Subsection (1) continues until the vendee discovers it and has reasonable opportunity to take effective precautions against it. Otherwise the liability continues only until the vendee has had reasonable opportunity to discover the condition and to take such precautions.

Restatement (Second) of Torts § 353.[5] Section 353 has been adopted in the District of Columbia in the context of a homebuilder and purchaser, *see Caporaletti v. A-F Corp.*, 137 F. Supp. 14, 17-19 (D.D.C. 1956), *rev'd on other grounds, A-F Corp. v. Caporaletti*, 240 F.3d 53 (D.C. Cir. 1957), and in Maryland with regard to land transactions, *HRW Systems, Inc. v. Washington Gas Light Co.*, 823 F. Supp. 318, 351 (D. Md. 1993) (citing *Council of Co-Owners Atlantis Condominium, Inc. v. Whiting-Turner Contracting Co.*, 517 A.2d 336, 346 (Md. 1986)).[6]

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[5]Like section 364, section 353 was in effect at all relevant times. While section 353(2) did not appear in the original Restatement, it was included in the Restatement (Second), which was published in 1965.

[6]"[S]ince the District of Columbia derives its common law from Maryland, decisions of Maryland courts on points not determined by the Court of Appeals for the District of Columbia or by the Supreme Court [] are, if not completely controlling, nevertheless, of great weight . . . ."

Under section 353, a vendor's liability turns on both the vendee's knowledge of the dangerous condition and the vendor's own actions in concealing or merely failing to reveal the condition. Both of these elements are questions of fact – what did the Glenbrook-Brandt defendants know with regard to the buried munitions, and did AU actively conceal the existence of the chemicals on its land? *See HRW Systems*, 823 F. Supp. at 351 ("[T]he precise timing of the lifting of [the vendor's] duty to third parties must be calculated in relation to the knowingness of the seller's behavior. If the seller actively concealed the condition, then liability continues until actual discovery and a reasonable opportunity to take precautions against the hazard."). As in *HRW Systems*, "a determination of the knowledge of both plaintiffs and defendants is crucial, both as a threshold issue and in determining liability. Given the circumstances of this case . . . this determination is one which the Court cannot make at this stage in the proceedings." *Id.*

C. ***Rosenblatt* and *Mobil***

In response, defendant contends that these cases should be governed by *325-343 E. 56th Street Corp. v. Mobil Oil Corp.*, 906 F. Supp. 669 (D.D.C. 1995) [hereinafter *Mobil*], and *Rosenblatt v. Exxon Co.*, 642 A.2d 180 (Md. 1994). The courts in both of those cases held that the defendant property owners owed no duty to subsequent subvendees for damages suffered from dangerous conditions on the land, even though the defendants had allegedly contaminated the property themselves. *Mobil*, 906 F. Supp. at 681; *Rosenblatt*, 642 A.2d at 189.[7] Two factors compelled this conclusion. First, the courts found that there was "no relationship between the

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Gerace v. Liberty Mutual Insurance Co., 264 F. Supp. 95, 97 (D.D.C. 1966).

[7]The *Mobil* court based its analysis almost entirely on *Rosenblatt*, and adopted the legal conclusions reached in that case. *Mobil*, 906 F. Supp. at 676.

parties which would have made it foreseeable that an act or failure to act by [defendant] would result in harm to [plaintiff]." *Rosenblatt*, 642 A.2d at 189. Second, the courts were "unwilling to impose upon a lessee of commercial property a duty to remote successor lessees for losses resulting from a condition on the property that could have been discovered with reasonable diligence prior to occupancy and thus could have been avoided." *Id.*

Neither factor is present here. First, another judge in this District has already ruled that the risk of future harm to any subsequent occupant of AUES land was not only reasonably foreseeable, but "obvious." *Miller Cos. v. United States*, 963 F. Supp. 1231, 1243 (D.D.C. 1997). Second, these cases involve residential property, not commercial real estate. While the common law doctrine of "caveat emptor" may apply to the sale of commercial property, *Mobil*, 906 F. Supp. at 678, neither *Rosenblatt* nor *Mobil* addressed its viability with regard to a purchaser of residential property. Rather, the courts noted that the doctrine was sensible in the context of "subsequent users who are able to avoid the harm completely by inspecting the property prior to purchasing/leasing it . . . ." *Id.* Unlike *Rosenblatt* and *Mobil*, however, in which the plaintiffs leased commercial land that they knew or should have known had previously been occupied by gas stations, the Court cannot say as a matter of law that the plaintiffs here – as well as the Glenbrook-Brandt defendants – would have been able to discover the defects in the property by inspection. The prior landowner was a university, not an oil company, and plaintiffs have alleged that the hazardous materials were not readily discoverable, because they had been buried in the ground. Thus, the rationale of *Rosenblatt* and *Mobil* cannot be used to impose a

burden of inspection on the plaintiffs in this case, who were buying residential property and had no reason to know of the prior use of AU's land.[8]

To the extent that *Rosenblatt* and *Mobil* are relevant, they both recognize a property owner's duty as a neighbor, which is similar to that embodied in section 364 of the Restatement. As the *Rosenblatt* court stated,

> When an owner or occupier of land engages in activities which are related to such ownership and occupation and which are abnormally dangerous in relation to the particular site, we place upon the actor the burden of bearing the risk of any harm to neighbors which arises from the activity, notwithstanding the absence of fault on the part of the actor. This burden is justified when weighing the rights of the actor, who benefits from the activity, against those of the occupants of the neighboring land, who do not benefit and have no way of avoiding the harm . . . that may result from a dangerous activity on adjacent land. . . . [T]he occupier of land owes a duty to occupants of neighboring land to use care when conducting activities so as to avoid causing harm to the neighboring land.

642 A.2d at 188-89. *See also Mobil*, 906 F. Supp. at 679. Consequently, *Rosenblatt* and *Mobil* do not preclude the claims of plaintiffs as subvendees (or their guest); moreover, they support the proposition that a landowner owes a duty to its neighbors when it allows or engages in abnormally dangerous activities on its land. Thus, plaintiffs' negligence claims will not be dismissed, since it cannot be concluded that AU had no duty to the plaintiffs.

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[8]In fact, the rule of caveat emptor has become increasingly disfavored. *Cf. T&E Industries, Inc. v. Safety Light Corp.*, 587 A.2d 1249, 1258 (N.J. 1991); Prosser & Keeton on Torts § 64 (5th ed. 1984). In *T&E Industries*, the court found that caveat emptor should not apply to a claim of strict liability "when a seller who has engaged in an abnormally dangerous activity and disposed of the by-products of that activity onto the property markets the land. With knowledge of its activity and of its use of the land, the seller is in a better position to prevent future problems arising from its use of the property." 587 A.2d at 1258.

II. Fraud, Deceit, and Misrepresentation Claims

Having established that AU has a legal duty to those potentially harmed by the artificial condition on its land, the Court finds that the Loughlins' claims for deceit and misrepresentation (Count IV) and fraud (Count VI) are cognizable. The elements of a claim for fraud[9] are "(1) a false representation, (2) in reference to a material fact, (3) made with knowledge of its falsity, (4) with the intent to deceive, and (5) action taken by [plaintiff] in reliance upon the representation, (6) which consequently results in provable damages." *Railan v. Katyal*, 766 A.2d 998, 1009 (D.C. 2001). Fraud can arise from nondisclosure, but "mere silence does not constitute fraud unless there is a duty to speak." *Kapiloff v. Abington Plaza Corp.*, 59 A.2d 516, 517 (D.C. 1948). Although defendant contends that it owed plaintiff no duty, the Court disagrees. The duty to disclose to neighbors or potential land purchasers dangerous conditions on one's own property is implicit in the duties elaborated in sections 353 and 364 of the Restatement. And each of the other elements of a claim for fraud has been alleged by the Loughlins. (*See* Loughlin Compl. ¶¶ 79-97; 118-35.) Defendant's motion to dismiss these counts is therefore denied.

III. Outrageous Conduct Claim

The Loughlins' final claim against AU is for intentional infliction of emotional distress, (Count V).[10] "In the District of Columbia, intentional infliction of emotional distress has three elements: '(1) extreme and outrageous conduct on the part of the defendant which (2)

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[9]The Court will construe plaintiff's deceit and misrepresentation claim as a cause of action for fraud.

[10]Although this claim is styled as a cause of action for "outrageous conduct," the parties have construed it under the theory of intentional infliction of emotional distress. (Def. Mem. at 21; Loughlin Opp. at 34 n.8.)

intentionally or recklessly (3) causes the plaintiff severe emotional distress.'" *Sturdza v. United Arab Emirates*, 281 F.3d 1287, 1305 (D.C. Cir. 2002) (quoting *Howard Univ. v. Best*, 484 A.2d 958, 985 (D.C. 1984)). Defendant challenges plaintiffs' claim under the first two prongs of this test.

Under District of Columbia law, "[m]ere insults, indignities, threats, annoyances, petty oppressions, or other trivialities" do not rise to the level of "extreme and outrageous" conduct. *Jung v. Jung*, 791 A.2d 46, 50 (D.C. 2002) (citing *Waldon v. Covington*, 415 A.2d 1070, 1076 (D.C. 1980)). Instead, intentional infliction of emotional distress occurs "only when the conduct goes beyond all possible bounds of decency and is regarded as atrocious and utterly intolerable in a civilized community." *Id.* As to the second prong, "the tort of intentional infliction of emotional distress requires a high standard of intent, that is, the intent must be to actually cause emotional harm and it must be specifically directed toward the person complaining of the emotional harm." *Witherspoon v. Philip Morris Inc.*, 964 F. Supp. 455, 463 (D.D.C. 1997).

In *Miller*, Judge Sporkin described the events alleged in the Loughlin complaint – the Army's practice of burying chemicals and contaminated weapons in Spring Valley.

> When it buried live munitions, the Army had in effect "booby-trapped" the land. The live munitions were buried so close to the surface that subsequent preparation of the land for development by the plaintiffs resulted in unearthing of the munitions. It had to be obvious to the Army when it embarked on its disposal project that any subsequent user of the land may well need to excavate below the surface for subsequent construction. It should have been recognized that such a reasonable use of the land obviously would have exposed the subsequent user to serious bodily harm or possibly even death if one of the unexploded munitions was discharged inadvertently. . . . No department of the government can so callously conduct itself, placing segments of the public in serious jeopardy, without appropriate warning of the hazards that exist. . . . The Army in this case created the hazard and literally "covered it up." . . . Why the Army has resisted

> discharging its obligations demanded by the law and the public interest is inexplicable.

Miller, 963 F. Supp. at 1243. Under the court's characterization of the events at issue, the Army's actions were "utterly intolerable in a civilized community," *Jung*, 791 A.2d at 50, and therefore "extreme and outrageous." Moreover, Judge Sporkin found that the Army should have known that any subsequent user of the land – a specific individual – would be exposed to severe harm. Plaintiffs have alleged that AU was an active participant in this behavior. These allegations, against the backdrop of *Miller*, are sufficient at this stage to state a claim for intentional infliction of emotional distress.[11]

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[11]Defendant's contention that "intentional infliction of emotional distress claims fail where they are based on the alleged concealment of contamination in connection with a land sale and/or the damage to subsequent or neighboring property owners caused by contamination" (Def. Rep. at 26-27) is inaccurate, and the two cases it cites are inapposite. In *Dusoe v. Mobil Oil Corp.*, 167 F. Supp. 2d 155 (D. Mass. 2001), plaintiffs' intentional infliction of emotional distress claims were denied at summary judgment based on the evidence in the record, not at the motion to dismiss stage for failure to state a claim. *Id.* at 165-66. In *Haney v. Castle Meadows, Inc.*, 839 F. Supp. 753 (D. Colo. 1993), plaintiff's claim that defendant failed to disclose that the property he purchased was partially contaminated was dismissed because there was "no evidence of reckless or actual exposure." *Id.* at 758. But the court specifically noted that "a party's actions in intentionally exposing another to hazardous substances can constitute outrageous conduct." *Id.* (citing *Field v. Philadelphia Elec. Co.*, 565 A.2d 1170, 1182-83 (Pa. 1989) (workers stated claim based on defendant's intentional venting of radioactive steam at them)). Plaintiffs have alleged that defendant's outrageous conduct in covering up the presence of buried munitions was intentionally and recklessly directed at subsequent landowners, which is sufficient to state a claim for intentional infliction of emotional distress.

CONCLUSION

For the aforementioned reasons, defendant American University's motion to dismiss is denied.

A separate order accompanies this opinion.

Ellen S Huvelle

ELLEN SEGAL HUVELLE
United States District Judge

DATED: 5/21/02

Mr. LYNCH. Thank you, Mr. Bailey.

I will now yield myself 5 minutes for an opening question. Ms. Mittal, in your testimony you indicated that at least the first mistake, the first of several mistakes on the part of DOD, is that they did not make a good assessment of the likelihood that munitions, mustard gas, or any other harmful substances were actually on the site. Yet they issued a "no action necessary" and a rather clean assessment of the site. Is that due to the fact that records that could have been reviewed were classified, was it just a lack of initiative on the part of DOD and the Corps, or was it an assumption made by the DOD? Can you determine what was at the basis of that significant error on their part?

Ms. MITTAL. What we have seen when we have looked at the Corps' decisions to claim that a site does not require further action is that oftentimes they just don't look at all of the information that they have available to them.

When they made the decision in 1986, they had actually sent information to EPA. They had photographs that they had contracted with EPA that they wanted EPA's technical input on. Those photographs were not received by EPA until 1993. But the Corps had already made a decision in 1986 that they were going to go ahead and say that this site didn't need any further action.

That was what we found at the national level as well. When we looked at "no action" indicated sites across the country, we found that in 38 percent of the cases the Corps either didn't obtain the information it needed, it had incomplete files, it did not conduct the site visits that it needed to do, or it just ignored some of the information that it had available to it.

What we found was that a large part of this was because the guidance that the Corps had developed was not very explicit on what investigators need to do in terms of looking at the documents, what they need to document, and how they need to assess the documentation. So that is why we recommended that they definitely needed to improve their procedures and improve their guidance.

Mr. LYNCH. Mr. Bailey, you have been deeply involved in this. Do you agree with that assessment? Is that sort of where they went wrong?

Mr. BAILEY. I do. I think there have been numerous examples where there was information available. I mentioned this 1986 photographic analysis that I think should have been widely shared. There was a great deal of information available that didn't get to the right places. I agree with that.

Mr. LYNCH. Let me ask you then, each of you, having been involved in the process since 1995 and going forward, do you think that DOD has changed their approach? You mentioned inadequate guidance existing prior. Have we gotten our act together here?

Ms. MITTAL. Well, we know that DOD and the Corps have made changes in response to our recommendations. We have not gone back in and done an in depth evaluation to see if those changes have resulted in positive action. Our concern is that recently a State association of waste managers basically came out and found that they are still very concerned about the decisions that DOD and the Corps are making. So it sounds like the problem still exists out there. We just have not gone back and taken a look at it.

Mr. LYNCH. Mr. Bailey.

Mr. BAILEY. I have significant concerns that there are some potentially serious burial sites that have not been thoroughly looked at from the perspective of historical, eyewitness, and other information. If we don't look at that information and they close it, and it comes up again, then we will know we have failed. So I would encourage the Corps and AU to use advanced geophysical techniques, to use additional research techniques to get to the questions that I have raised in my testimony. My written remarks are of six sites that I think are important that have not been properly analyzed as your question suggests.

Also, the destruction of chemical weapons that is going to go on this summer, there is a question, I believe, in the community about what exactly is going to go on with that destruction. I recognize there are national security concerns about destroying chemical weapons and that information. But I think some of the ANC Commissioners who are going to be testifying later have serious concerns about what chemicals are coming into the District, what is being destroyed, what is going to be leaving the District, and where the chemical weapons after they are neutralized are going to be sent for ultimate destruction.

Mr. LYNCH. Thank you. At this time, I would like to yield 5 minutes to the ranking member, Mr. Chaffetz.

Mr. CHAFFETZ. Thank you, Mr. Chairman. The GAO issued a report on the Spring Valley cleanup and testified before a subcommittee back on June 26, 2002. I recognize you may not have participated in that. In the GAO's prior testimony before Congress, it was stated that there was data on 58 properties in the District of Columbia where "hazards resulting from Federal activities have been found." Is that still the case and how much progress has been made on any of those cases?

Ms. MITTAL. We currently are doing work looking at the whole FUDS program. We are collecting information but we have not completely analyzed that information yet. We would be happy to share that with you as we develop the information that we have.

Mr. CHAFFETZ. Yes. Given that there were 58 properties within the District of Columbia that were identified previously, we would certainly appreciate an update on the broader scope of everything that is happening within the District. We would also appreciate an update on what progress, if any, has been made in terms of those cleanups, including the locations of those outstanding sites.

Congress was also told by the GAO in 2002 that "a number of independent uncertainties continue to affect the program of the Spring Valley cleanup." Can you give us further insight into the specifics from your vantage point, Ms. Mittal, regarding what has been cleaned up? Can the community be given definitive answers about any remaining health risks or costs or where your perspective is as to how far along this progress is?

Ms. MITTAL. Unfortunately, we have not done a comprehensive assessment of Spring Valley since 2002. Most of the work that I have sited is at the national level where we have been looking at the FUDS program and the overall Defense Environmental Restoration Program.

Mr. CHAFFETZ. Is there something that is going to be specifically done? Is there a target date as to when you think it will be complete? Is it something that is close to completion?

Ms. MITTAL. At this point in time, we have not done a thorough reassessment of the Spring Valley cleanup.

Mr. CHAFFETZ. Is there one in progress?

Ms. MITTAL. There is not one in progress and we have not been requested to do one. So I really can't give you the more detailed information that you are requesting at this time.

Mr. CHAFFETZ. OK. Mr. Bailey, if you had to highlight your biggest concern moving forward, if you had to really highlight this is my No. 1 concern, what would that be?

Mr. BAILEY. Congressman, the area at the corner of Glenbrook Road and Rockwood Parkway—I am a Superfund lawyer and I am used to dumps and messes—is a dump site. The trouble is that there is credible historic evidence of burial pits that could contain chemical weapons, containers of mustard gas, or large amounts of explosively configured chemical munitions. If the Corps never finds these very deep pits and dispels thoughts of maybe there is nothing there, maybe it has all leaked out, we will never know.

Those are inhabited places. The Korean ambassador's residence is there. There are other residences around. So until the day comes that the Corps can find these deep pits or completely dispel the credible evidence that we have, that they are not there, then we won't know. Like I said, there will be the gnawing feeling that we would have after they left.

Mr. CHAFFETZ. As I recall, did you say that you thought there were six of these?

Mr. BAILEY. My written testimony goes through the six sites that I think are the most important. Obviously, there are many areas of concern that have been looked at over the years. In terms of priority now, based on my experience of 10 years with the project, those are the ones that seem to be the most important ones.

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

Mr. LYNCH. The Chair now recognizes the gentlewoman from the District of Columbia, Ms. Eleanor Holmes Norton, for 5 minutes.

Ms. NORTON. Thank you very much, Mr. Chairman. Ms. Mittal, do you agree with the new cost estimates for the Army Corps' 2 year plan that it is using as it proposes to exit?

Ms. MITTAL. The numbers that we have, we got from the Corps' report to the Congress. We have not gone back and independently evaluated whether those numbers are accurate.

Ms. NORTON. Well, I think that in light of your testimony about how the Corps has underestimated the cost of cleanup, that would seem to be important to do.

Mr. Bailey, I am concerned about your testimony about the deepest burials. You say they were either buried and may no longer, of course, be viable or were poured out. Where would they have been poured out?

Mr. BAILEY. Yes, Congresswoman. This is an example of a container that at one time was in tact and probably contained a phosgene gas. Over time, or even at the time, it was broken and the contents were released.

Those of us familiar with chemical weapons know that oftentimes when the chemical weapon is released, it is neutralized and no longer harmful. But the trouble is that we don't know. We don't know whether there are in tact containers buried; we don't know whether there are explosive munitions buried that we haven't found.

Ms. NORTON. What did the Army give as the reason for not finding the Maurer Pit?

Mr. BAILEY. I concur that it is a difficult technical task because some of these things could be down 20 or 30 feet. The types of geophysical detection devices that I use in my practice in Superfund might not reach.

Ms. NORTON. What about the kind that the Army uses?

Mr. BAILEY. Well, they are the same, by the way. The same contractors that the Army used, I used.

Ms. NORTON. So you are saying it doesn't exist, the technology doesn't exist?

Mr. BAILEY. The technology at the time did not exist. The technology is getting better. One question I hope the committee will explore is what are the most advanced techniques that could be used to reach down further and see better.

Ms. NORTON. So what would be the evidence then of whether or not there was anything harmful there if it was buried that deep?

Mr. BAILEY. Well, unfortunately the only evidence you would find that it is harmful would be in groundwater monitoring. That, I know, is going to be discussed later. If you detect it in groundwater monitoring wells, that would be one indication. But if these things are in tact, as they have found in tact shell elsewhere in this area, you won't know until you actually dig it up what is there.

Ms. NORTON. Is it clear that the perchlorate in the groundwater is traceable to the ordnance?

Mr. BAILEY. It is likely but not sure. One thing that we do know is perchlorate was used in fuses, the fusing of artillery, so it seems likely that it comes from there. I know other Members have had perchlorate in their districts. It comes from a wide variety of things. It is likely, Congresswoman, likely.

Ms. NORTON. Given what you say about a site like this where there can be ordnance buried so deep that it might never be found, we are faced with the question of whether the Army Corps should leave the site. How are we to know whether the Army Corps should leave the site and engage in some lesser activity such as, for example, monitoring?

Mr. BAILEY. There are two criteria that Superfund types of situations would suggest. One is if the groundwater wells that are being dug and going to be dug show contaminants that are below the risk based criteria set by EPA in Region 3. Then you have some assurance that the groundwater that goes eventually into the Potomac and other areas would not be a concern, and that things aren't leaking into there. It is a much more difficult question, Congresswoman, for buried munitions to find out what the criteria for that are. But my personal criterion is that advanced geophysical techniques are used in the spots where historical evidence and photographic evidence show them to be. If there is a finding of nothing——

Ms. NORTON. But I thought you said that equipment was not available.

Mr. BAILEY. Not at the time. Most of this geophysical activity took place 10 years ago. The number of new geophysical investigations, I really don't know. But certainly a number of the original geophysical mapping was with technology that is fairly old.

Ms. MITTAL. May I add to that?

Ms. NORTON. Yes, Ms. Mittal.

Ms. MITTAL. I really think there are three things you need to consider based on our experience with sites nationwide.

One is the transparency of the decisionmaking. I think both of you mentioned earlier that it is really important, now as the Corps makes a decision to leave the site, that it shares the information that it is using to make that decision with regulators. One of the things that we have found nationwide was that the Corps often doesn't involve the State regulators and the EPA in that decisionmaking process. It is very important that they do that because the State regulators and EPA can ensure that the actions that the Corps has taken comply with the regulatory standards. What we have found nationwide is that, more often than not, it does not happen. So that transparency is really important before the decision to leave the site happens.

The second thing that we would strongly recommend is that they should share with the community and the stakeholders a long term monitoring strategy. Obviously, there are a lot of things that we don't know about this site. We don't know where they are buried. But in the event that some new hazard is detected in the future, there should be a robust, long term monitoring strategy for the site.

The last thing that I would recommend is that the Corps really needs to do extensive outreach with the residents of Spring Valley. One of the things that we found when we did our nationwide work is that the Corps often doesn't contact the property owners and tell them how and what they should do in the event that additional contamination is discovered. So we believe that before the Corps pulls out, they need to make that outreach to the residents. Because it is a partnership. The residents can help the Corps identify new hazards if they come available, but they have to know who to contact and what to do in that kind of situation.

So those are three things we would definitely recommend.

Ms. NORTON. Thank you. I know I am over time. I just want to clarify one thing in that answer if I may, Mr. Chairman.

What you have just said mentioning regulators suggests that the Corps should not leave on the basis of its own evaluation, but only after regulators have certified that in their independent judgment it is safe to leave at this point. Is that your testimony?

Ms. MITTAL. We think that will add to the public's confidence in what the Corps has done if the regulators are involved in that decisionmaking process.

Ms. NORTON. Thank you very much. Thank you, Mr. Chairman.

Mr. LYNCH. Thank you.

Let me just again for further clarification ask a last question. I know that in my own district back in Massachusetts we had a similar situation, although it was private oil companies that had caused

the problem back then. Sometimes the community views Federal agencies as the same. It is all the Federal Government. So sometimes, unfairly or not, there is the suspicion that there might be collusion there among the Federal agencies, especially in cases like this where mistakes have been made. The lack of trust can be pernicious.

We found that in at least one of those cases we were able to appoint an independent licensed site professional to be chosen by the local community, a licensed and qualified professional to look behind all of the data and all of the research to really give an extra level of approval to the cleanliness or the remediation that had occurred. Is that something that you might recommend here?

Ms. MITTAL. I think it makes a lot of sense to do something like that. In our work what we have found is that the State regulators can oftentimes provide that balance as well. The State regulators have a responsibility to ensure that whatever cleanup has been done has been done according to State requirements. So they can provide that distance between the Federal entities and the community. They could function in that form as well.

Mr. LYNCH. Right. In closing, I do want to say I was happy to hear your recommendations regarding ongoing monitoring. I hope the agencies were listening closely to that suggestion because I think it is a solid one.

At this time I would like to yield 5 minutes to the gentleman from Missouri, Mr. Clay, for 5 minutes.

Mr. CLAY. Thank you, Mr. Chairman. Let me thank you and Delegate Norton for prompting this hearing, for bringing this important issue to this committee. Delegate Norton is to be commended for representing her constituents.

Ms. Mittal, let me ask you, would you characterize the DOD's and the Army Corps' behavior in this issue as irresponsible, as reckless, as one that endangers the lives of citizens in this community and in others?

Ms. MITTAL. That is a hard question to answer. What we have found is that the Spring Valley site is actually one of the better sites when you look at the national profile of FUDS sites. The Baltimore District is one of the districts that we have highlighted. It has been very proactive in reaching out to the States that it works with.

The Corps, EPA, and the District established a partnership, which is very rare across the country, to actually work together on the site. The Corps also established a means of communicating with the public. That is also very rare across the country. The other thing that we have noticed is that this has been a site that has received extensive funding. It is a high priority site, and it receives funding before a lot of the other sites nationwide.

So it is very hard to make that sort of statement knowing that there are a lot of positive things that have happened at this site which we don't see happening across the country.

Mr. CLAY. Sure. I can certainly share an experience with you that I had a couple of years back about a munitions site that was active during World War II and was just left there with contaminants. In the first congressional district of Missouri, we had an environmental cleanup of a munitions plant. The community still has

some concerns in Saint Louis of chemical contamination in the soil, groundwater contamination, and the testing of residents for health reasons.

Could you supply us with documentation on the followup testing and assessments that were done on the Saint Louis Army Ammunition Plant? It is called the SLAAP site. Can you inform me of the followup testing on groundwater and if it has been done with the state-of-the-art isotopic analysis that will be used in Spring Valley? Will we or do we already have a remedial investigation report that summarizes all samplings and all cleanup actions taken? Include a baseline human health and environmental risk assessment. Could you help me with that?

Ms. MITTAL. I can tell you, sir, that we probably don't have that sort of detailed information. We only end up collecting that kind of information from the agency when we are asked to review a particular site in detail. We have not looked at the Saint Louis site in detail, so we would not have that information available to us right now. I am sure that the Corps could provide that information to you much faster than if we went to the Corps and then got the information. So I would strongly recommend asking the Corps for that information.

Mr. CLAY. OK. I am asking you, here, in this hearing. I am going to ask the Corps next when they get up here.

Ms. MITTAL. We will be happy to work with you.

Mr. CLAY. The experience in Saint Louis has been that they did some cleanup of the site and quickly rushed to transfer the property to the State of Missouri, who is now trying to peddle it off to the city of Saint Louis. That is irresponsible behavior when you think about it. This site sat there for 60 years and they didn't have the decency to clean it up, to make it safe for the surrounding community. And now they want to peddle it off to the State and to the local community.

I think it is reckless behavior. I think it is irresponsible. You show no respect for health and safety of that community. You do have a responsibility when you contaminate a community. You need to clean it up. Clean up your mess. Clean up your waste that you leave there. Don't just leave it for somebody else. It is tragic.

I can't wait to get to the next panel. I yield back, Mr. Chairman.

Mr. LYNCH. Thank you, Mr. Clay. The Chair now recognizes the gentleman from Ohio, Mr. Kucinich, for 5 minutes.

Mr. KUCINICH. Thank you very much, Mr. Chairman and members of the committee. My questions go to Ms. Mittal. Did you have access to the records of the Department of Defense going back to 1916 or 1917?

Ms. MITTAL. When we did our original Spring Valley review, we had access to all of the Department's records on the site.

Mr. KUCINICH. When you said onsite what did you mean?

Ms. MITTAL. For the site. Whatever was in the file for the site, we had access to that information.

Mr. KUCINICH. Are you confident that you looked at each and every record that was available through the Department of Defense? There weren't any records that were shielded from your attention based on what may have been at that time national secu-

rity concerns that may have continued to exist even though it was so many years ago?

Ms. MITTAL. I am quite confident that if we were aware that something existed that we would have had access to it and that we would have been able to obtain it. I did not personally work on the project at that time so I can't confirm everything we looked at. But I am quite confident that if we were aware that a document existed, we would have obtained it.

Mr. KUCINICH. There weren't any projects labeled top secret at that time? I would assume that if you have a munitions and a chemical weapons facility that was operating at that time that it may have been top secret. Is it possible that any information that may exist has not been seen by the GAO that might be relevant to this investigation?

Ms. MITTAL. I will double check and get back to you on that, sir.

Mr. KUCINICH. I think that would be good if you did that with the idea that it may be a separate classification. It could have been for just the knowledge of a few people only, and because so much time has passed, it may still be there. The reason I raise this question is this: Have you had access to any longitudinal studies or any epidemiological studies relative to people who are in the Spring Valley area and who have been in the Spring Valley area since it has been built up?

Ms. MITTAL. When we did the 2002 work, a lot of the studies that have happened have happened after that. So we did not. We did look at the earlier work that had been done, but not at the ones that have been done subsequently.

Mr. KUCINICH. Were students at American University who may have been in and around the grounds there over the period of time that we have knowledge that this existed, were students surveyed or canvassed to see if they may have any adverse health effects as a result of coming into contact with some of the sites?

Ms. MITTAL. Do you mean as part of our study? No, we did not do that.

Mr. KUCINICH. Do you know of any public health studies that have been done that go beyond the testing that the University testifies to? They tested defined campus populations for arsenic poisoning.

Ms. MITTAL. I believe the ATSDR did a study where they sampled students that had been around the American University Campus at the Children's Development Center. So there was a comprehensive study done by ATSDR.

Mr. KUCINICH. But have there been any other studies in terms of long term studies? Because some of these chemicals are bioaccumulative and you may see effects later on in life and not see them immediately.

Ms. MITTAL. I am not aware personally of any of those studies.

Mr. KUCINICH. Mr. Chairman, I just call it to your attention. You have been doing much more work on this and are much more familiar with it than I am, but I just wanted to raise the attention of the Chair and members of the committee that it might be helpful to find out what other kinds of public health studies relate to the population in the Spring Valley area, including the students at American University over a period of time and people that are

graduates of the University. Just kind of take a long period of time and see if any particular types of incidents show up of certain kinds of diseases or ailments.

My time has almost expired. I am grateful for the work of this committee and for GAO's continuing interest in this. The fact that this was discovered by accident in 1993 should give all of us on this committee pause about other sites that are formerly used defense and military munitions sites. So Mr. Chairman, thank you very much for this.

Mr. LYNCH. I thank the gentleman. We will followup on the health information as to what might be available.

The Chair now recognizes the gentleman from northern Virginia, Mr. Connolly, for 5 minutes.

Mr. CONNOLLY. I thank the Chair. I particularly want to thank the chairman for holding these hearings that are clearly of importance to all of us in the National Capital Region, especially those who live in the District of Columbia.

I have an opening statement, Mr. Chairman, and I would ask unanimous consent that it be entered into the record at this point.

Mr. LYNCH. Without objection.

Mr. CONNOLLY. I thank the Chair.

[The prepared statement of Hon. Gerald E. Connolly follows:]

Statement of Congressman Gerald E. Connolly

Subcommittee on Federal Workforce, Postal Service, and the District of Columbia

Environmental Restoration Program at Spring Valley

June 10th, 2009

Madam Chairman, thank you for convening this hearing on the persistent hazards of ordnance remnants from a former World War I testing site in the District of Columbia. Lest anyone think we can consign this to a localized issue, there are important lessons that we can learn about long term planning for military facilities.

Thanks largely to the work of my predecessor, the federal government recently transferred the Laurel Hill site, a former prison, to Fairfax County. This site is now the home to a brand new County park, an arts facility, and will be home to limited development, which will be used to finance restoration of historic buildings. This transfer has been an unmitigated benefit to the County.

In contrast, Spring Valley residents are now living in the 9th decade of an interminable struggle to identify and remove contaminants from what is now a residential neighborhood. From arsenic-contaminated soil to perchlorate in well water, the residents of this neighborhood are now dealing with costly and dangerous contamination of their homes.

Fortunately, representatives of the Army have told me that they will remove any and all contamination from this site. I welcome this attitude and the role of this Committee to ensure that the Army fulfills this task. Since residents of the neighborhood were not aware of this contamination until 1993, it is unfair to hold them responsible for moving to a neighborhood in which contamination was not known to be a problem.

The lessons from this experience extend beyond the interaction of the Army and one neighborhood in Washington, D.C. Other neighborhoods also are suffering from equally dangerous contamination, such as a community in eastern Loudoun County that has trichloroethylene-contaminated groundwater as a result of a small landfill where chemicals were dumped illegally. Even seemingly small dumpsites, such as drycleaners and gas stations, can produce extraordinarily high clean up costs in the future.

The Bush Administration led an effort to let the "polluter pays" provision of Superfund expire. As a result, taxpayers got saddled with the cost of cleaning up pollution from private companies. As the Spring Valley case shows, clean ups of this scale are tremendously expensive. Whether we are cleaning up contamination from a public or private entity, this Committee should systematically consider what we can do to save taxpayer money and protect public health over the long term.

A start is to reinstate polluter pays, and Congressman Blumenauer has introduced legislation to do this. In addition, we may wish to consider what proactive steps we can take to avoid extremely high clean up costs in the future.

Mr. CONNOLLY. Ms. Mittal, how many such sites might there be that we know of throughout the United States where we have either unexpended ordnance or testing grounds that could negatively affect residential communities?

Ms. MITTAL. I would have to go back and double check on how many affect residential communities. I do not have that information. I do know that there are 4,700 sites that are considered formerly used defense sites in the Corps' data base.

Mr. CONNOLLY. Are you aware of anybody who has segregated those 4,700 sites in terms of who they impact?

Ms. MITTAL. I am sure that information can be derived.

Mr. CONNOLLY. If you could get it back to the committee for the record, that would be very helpful because we need to look at the scope of the problem.

If I could followup on something Congressman Clay was asking about, when a property owned by the Federal Government, any part of the Federal Government including the Army, if it is discovered subsequent to the transfer to a local government or to a private entity that in fact there is some kind of environmental problem, legally who has the obligation to clean that up?

Ms. MITTAL. To clean it up? If it is determined that the site was owned by the Government, controlled by the Government, and that the activity that caused the contamination was a result of Government activity, then it is the Federal Government that has responsibility under CERCLA to clean it up.

Mr. CONNOLLY. That is understood in whatever contractual arrangement there is in the transfer, is that correct?

Ms. MITTAL. I believe so.

Mr. CONNOLLY. I had an experience locally, here at the Lorton Prisonsite that was transferred to Fairfax County. When we discovered certain environmental problems on the property, it was the responsibility nonetheless of the Federal Government, the transferring agent, to clean up that site. So I assume similar provisions apply to any Federal agency that may own such land.

Ms. MITTAL. I am familiar with the CERCLA requirements but Mr. Bailey might be——

Mr. BAILEY. Congressman, this is a much more unique situation. Here the American University Experimental Station was leased by the Army from American University. Private land owners around the area then conveyed their property to property owners. And American University, of course, conveyed property subsequently.

The problem, of course, is that there was a failure to disclose a dangerous condition as the law requires. In D.C. law and Federal law there is a requirement to disclose a dangerous condition. That was never done here. That is the essence of the entire problem.

Mr. CONNOLLY. It is a very good point you are making. Mr. Chairman, it sounds to me like this may be one of those areas that needs to be clarified in the law. As Ms. Mittal said, though we don't know how many impinge on or are connected to residential communities, if there are 4,700 sites one can imagine there could be other similar such problems.

Did I understand you, Ms. Mittal, to respond to the gentleman's from Ohio query that there has not been a comprehensive health

assessment of nearby residents and students attending American University with respect to this?

Ms. MITTAL. No. There actually have been a couple of studies done. One was done by ATSDR. Another one was done by Johns Hopkins. What I think the Congressman was asking was about long term studies. I am not aware of any long term studies.

Mr. CONNOLLY. Following the long term effects?

Ms. MITTAL. Yes.

Mr. CONNOLLY. OK, I understand. All right. Like my colleagues, if I can, I am going to wait for other questions for the next panel. I thank you both for being here.

Thank you, Mr. Chairman. I yield back.

Mr. LYNCH. I thank the gentleman. There being no further Members with additional questions, since we obviously did not exhaust all areas of inquiry, I would like to give you each an opportunity. You will have just 3 minutes each if there are areas of your testimony that have not been touched upon adequately, if you want to amplify a certain area that you think is very important, or if there is an area that hasn't been asked.

I appreciate the frank testimony by each of our witnesses on this panel.

Ms. Mittal, I would like to allow you 3 minutes if there are some areas of concern that you have that haven't been touched upon yet at this hearing.

Ms. MITTAL. I appreciate it. Thank you. I think the important thing to remember is that these are not easy sites to clean up. We do not have comprehensive information. The contamination occurred 75 or 90 years ago in some cases. The technological capacity that we need to detect, identify, and then actually do the cleanup is not always there. We need to recognize that this is a very complex and challenging process. It is not always easy for the Corps to know everything that they possibly need to know when they start cleaning up a site. So I just want to emphasize that.

Mr. LYNCH. Thank you. I appreciate that. Mr. Bailey.

Mr. BAILEY. I would just add that the Congresswoman's point about the lack of estate involved in this process is something that I urge you to cover more. The amount of resources the District of Columbia has had to devote to independent oversight has been limited. I do sites all around the country, and this is a unique site in the respect that other sites have great resources—scientific, analytical, and legal—to employ independent oversight and make sure that the Corps is doing the right job. Unfortunately, that has been lacking in this case, in my view. I would urge the committee to question other witnesses on that particular point.

Mr. LYNCH. Thank you, Mr. Bailey.

At this point I would like to dismiss our first panel. Thank you for your willingness to come forward and help the subcommittee with its work. We bid you good day.

With that, I would like to call up our second panel. Good afternoon and welcome. We want to welcome our second panel and thank you for your willingness to come forward and help the subcommittee with its work.

It is the custom before this committee that all witnesses providing testimony shall be sworn. May I please ask you to rise and raise your right hands?

[Witnesses sworn.]

Mr. LYNCH. Let the record reflect that all the witnesses have answered in the affirmative. As you saw with the first panel, the green light will indicate you have 5 minutes to summarize your written statements which have been accepted into the record. The yellow light indicates that you have 1 minute remaining to summarize your statement. The red light means that your time for your statement has expired.

Let me introduce our second panel: Mr. Addison Davis assumed his duties as the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health in 2005. Mr. Davis provides executive leadership for the Army Environmental Policy Institute and the Army's four regional environmental offices. He serves as the executive agent for a number of critical Department of Defense activities.

Colonel Peter Mueller assumed command of the Baltimore District on July 14, 2006. Colonel Mueller's major command and staff experience include assignments as the Commander of the U.S. Army Corps of Engineers, Charleston District in South Carolina. He is a registered professional engineer in the Commonwealth of Virginia.

William C. Early was appointed Acting Regional Administrator for the Environmental Protection Agency in April 2009, temporarily leaving his post as Regional Counsel. Mr. Early has received several bronze medals for his efforts in support of the regional Hazardous Waste Enforcement Program.

Mr. George S. Hawkins is the director of the Department of Environment for the District of Columbia. He launched and now chairs the Mayor's Green Team, which coordinates District sustainability programs across more than 40 agencies.

With that, I would now like to open it up for opening statements. Mr. Davis, you are recognized for 5 minutes.

STATEMENTS OF ADDISON DAVIS, DEPUTY ASSISTANT SECRETARY, ENVIRONMENT, SAFETY, AND OCCUPATIONAL HEALTH, U.S. ARMY; COLONEL PETER MUELLER, U.S. ARMY CORPS OF ENGINEERS; WILLIAM C. EARLY, ACTING REGIONAL ADMINISTRATOR, U.S. ENVIRONMENTAL PROTECTION AGENCY; AND GEORGE S. HAWKINS, DIRECTOR, D.C. DEPARTMENT OF THE ENVIRONMENT

STATEMENT OF ADDISON DAVIS

Mr. DAVIS. Thank you, Mr. Chairman and members of the committee. I am Ted Davis, Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health. I am pleased to have the opportunity to testify today on the Army's activities at Spring Valley in Washington, DC. As one of my other duties, I serve as the Department's of Defense executive agent for the formerly used defense site program under which Spring Valley is being addressed.

My testimony will briefly discuss the FUDS program and the issues you identified in your recent letter. I would like to say up front that the Army will not leave Spring Valley until the work is done. Based on investigation results and ongoing efforts, the Army anticipates completion of the majority of the field work at Spring Valley at the end of calendar year 2010. Although this means that there will be fewer visible signs of Army activities like trucks and trailers onsite, the Army remains committed to its efforts to protect human health and the environment at Spring Valley.

We understand the concerns of the Spring Valley community and assure you and the public that the Army will continue to work with our partners, the D.C. Department of the Environment, the U.S. Environmental Protection Agency, as well as the community, to ensure that the work is completed in accordance with prescribed regulatory standards and with the intent to ensure the health and human safety of the entire community. We will continue to work hard to keep our activities related to this site as open and transparent as possible.

I would also like to acknowledge the role that Congress has played in availing the funds necessary to discharge our responsibilities at Spring Valley and at other FUDS sites around the country. Funding for the FUDS program has stayed relatively level for the last several years with approximately $11 million a year at the Spring Valley site. However, the program has received annual plus ups from Congress that have allowed us to accelerate work at high priority sites including Spring Valley, which received $4 million above the original allocation for fiscal year 2009. So essentially for 2009, we had $15 million of funding.

The FUDS program is part of the overall Defense Environmental Restoration Program [DERP], established by the Congress in 1986. The U.S. Army Corps of Engineers executes the program under my supervision as DOD's executive agent for the FUDS program. This program is responsible for more than 9,000 sites transferred from DOD control prior to 1986.

Given available resources, the Army uses a risk based prioritization approach based onsite specific conditions. The Army first addresses those sites with the highest relative priority before addressing sites of a lower priority. At this point in time, the top priority within the FUDS program is the Spring Valley site.

The Army complies with the Comprehensive Environmental Response Compensation and Liability Act [CERCLA], for site characterization and remedy implementation at FUDS. We actively work with regulators who set and enforce the appropriate standards necessary to ascertain the cleanup is protective of human health and the environment. Further, the Army engages the community to ensure its concerns are understood and that their concerns are considered as well in the process.

The Spring Valley FUDS encompasses the former American University Experimental Station where during World War I the Army tested chemical agents. It presents, as was mentioned already before, the challenge of investigating and remediating legacy chemical weapons materials in a densely populated metropolitan area.

Emphasizing safety, accountability, and transparency, the Army invited the D.C. Department of Health, later the D.C. Department

of the Environment, as well as the EPA to enter a working partnership with the Army for the Spring Valley cleanup. I firmly believe, Mr. Chairman, that our partnership at Spring Valley to date is a strong factor in the success of our efforts at this FUDS project.

As previously stated, the Army is nearing a key milestone at Spring Valley. Based on the Army's investigative efforts and site data collected using the best technology and expertise available, the Army developed a cleanup plan that was carefully reviewed and agreed upon by those partners. The plan projects that the majority of field work will in fact be completed by the end of 2010. We will then begin an extensive data review and report writing phase which may last up to several years. Further, the Army is committed to working collaboratively with the community to respond to discoveries of contamination caused by past military activities that may pose a threat to human health or the environment.

Last year the Army planed to use the explosive destruction system to neutralize chemical munitions and conventional munitions that contain a non-chemical agent. We will probably be able to go into more detail on that process during our discussions.

In closing, the bottom line from the Army's perspective and that of DOD is doing the right thing with regard to the Spring Valley site. That has always been our intent and will continue to be so in the future. The Army has acted responsibly at this complex site. It continues to coordinate actions with its partners and strives to keep the community informed on project progress.

I welcome the opportunity to be with you all today for this important hearing. We are committed, and look forward to working with members of this committee as we continue the cleanup efforts at Spring Valley. Thank you very much.

[The prepared statement of Mr. Davis follows:]

WRITTEN TESTIMONY
SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE, AND
THE DISTRICT OF COLUMBIA
COMMITTEE ON GOVERNMENT REFORM
US HOUSE OF REPRESENTATIVES
JUNE 10, 2009

ADDISON D. DAVIS, IV
Deputy Assistant Secretary of the Army
(Environment, Safety, and Occupational Health)

WRITTEN TESTIMONY
SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE, AND
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Deputy Assistant Secretary of the Army
(Environment, Safety, and Occupational Health)

I am pleased to have the opportunity to provide the Committee this written statement describing the Army's activities at the former American University Experiment Station, Formerly Used Defense Site (FUDS) located in Spring Valley, District of Columbia. My testimony will briefly discuss the Department of Defense (DoD) FUDS program and the issues the Committee identified in its May 27, 2009 letter.

In our efforts at Spring Valley, we have sought the expertise and input of the District of Columbia's Departments of Health (DDOH) and Environment (DDOE), the United States Environmental Protection Agency (USEPA), and the Center for Disease Control's (CDC) Agency for Toxic Substances and Disease Registry (ATSDR), as well as the views of the community. Our progress at Spring Valley would not have been possible without their contributions as well as the dedication of the military and civilian professionals in the Department of the Army.

I would also like to acknowledge the significant role that Congress has played in availing the funds necessary to fulfill our responsibilities at Spring Valley and at other FUDS projects. Funding for the FUDS Program has stayed relatively level for the last several years. However, the program has received annual "plus-ups" from Congress that have allowed us to accelerate work at high priority sites, including Spring Valley, which received $4 million dollars of funding above the original planned allocation in FY 2009.

Based on known data, ongoing field work, and investigation results, the Army anticipates completion of the majority of field work at Spring Valley at the end of calendar year 2010. Although this means that there will be fewer visible signs of Army activities, like trucks and trailers onsite, the Army remains committed to its efforts to protect human health and the environment at this FUDS project. We understand the concerns of the Spring Valley

community and assure you and the public that the Army will remain committed to working with our Partners—the DDOE and USEPA—as well as the community to ensure this site is safe from potential hazards associated with past military use at the conclusion of our field efforts and remains safe in the future. We will continue to work hard to keep the stakeholders informed of activities related to this site. This hearing is one more way we can accomplish this goal.

As the Deputy Assistant Secretary of the Army (Environment, Safety, and Occupational Health), I oversee environmental, safety, and occupational health programs within the Army, including restoration, compliance, pollution prevention, environmental technology, occupational health, and safety. My responsibilities include the development of Army policy and guidance, oversight of the Army's environmental programs, programming funds for these Army environmental programs, and consultation with Congress and other governmental officials on these programs. As one of my duties, I serve as DoD's Executive Agent responsible for DoD's FUDS program under which Spring Valley is being addressed.

The FUDS program is part of the Defense Environmental Restoration Program (or DERP) established by Congress in 1986. Under DERP, DoD has the authority and funding to respond to releases of hazardous substances resulting from past military operations. The United States Army Corps of Engineers (USACE) executes the program under my supervision as DoD's Executive Agent for the FUDS program. USACE is well-suited to the task because of its expertise, experience, and organizational structure, spearheading the Army's execution of the program through its geographic Divisions and Districts.

This program has examined 9,971 properties transferred from DoD control prior to 1986, 2,811 of which have been determined to require some type of action. USACE currently manages 4,684 restoration/cleanup projects on those 2,811 properties. The Army uses a risk-based prioritization approach based on site-specific conditions. The Army first addresses those sites with the highest relative priority based on potential risks to human health and the environment before addressing sites of a lower priority.

The Army conducts cleanup under DERP in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (or CERCLA) for site characterization and remedy implementation at FUDS projects. The Army actively works with regulators who set and enforce the appropriate standards necessary to ascertain that the

cleanup is protective of human health and the environment. Further, the Army reaches out to the community to ensure its concerns are understood and considered.

The Spring Valley FUDS project includes the former American University Experiment Station where, during World War I, the Army developed and tested chemical agents. Spring Valley is now a complex site incorporating nearly 90 years of urban construction and development over areas found or suspected to contain chemical warfare material (CWM) and conventional munitions from World War I era activities. The presence of CWM and its location in a residential community make Spring Valley one of the highest priority sites in the FUDS inventory.

The Army has built an extraordinary team to address the special challenges the Spring Valley project poses. Prioritizing safety, thoroughness, and transparency, the Army invited the DDOH, and, later, the DDOE as well as USEPA to enter into a working partnership with the Army for the Spring Valley cleanup. The Partners share information and coordinate plans and future actions. The Army seeks to find, execute, and ensure the quality of the best course of action for each task through open dialog, data review, and a plurality of knowledgeable viewpoints. Our Partnership at Spring Valley is unique in the FUDS Program and a strong factor in the success of our cleanup.

The Army also works closely with landowners, including American University, during the cleanup process. The Army is dedicated to keeping the stakeholders informed of progress and cleanup-related events in the neighborhood. The Army developed a Public Involvement and Response Plan, which establishes a community involvement program that includes tours, community meetings, newsletters, a website, and an information repository at the Palisades Neighborhood Library. In 2001, a Restoration Advisory Board (RAB) was established after a request from the public. The purpose of the RAB is to provide an expanded opportunity for public input into the cleanup process. The Spring Valley RAB meets monthly in a public meeting and has been an effective mechanism of public involvement.

In 1995, the Army, based on historical research and knowledge that few munitions had been discovered in over 60 years of farming and development, came to the conclusion that no further action was necessary for most of Spring Valley. The Army received support for this decision from the District of Columbia, USEPA, the Spring Valley community, and the property developers. The Army acted in good faith at every stage of the development of its decision

and used the best information and technology available at the time. The Army's conclusions were reviewed and validated with independent testing by the District of Columbia and USEPA. Nonetheless, it is clear that CWM, conventional munitions, and environmental contamination went undetected. Upon the discovery of additional munitions and more environmental contamination, the Army re-evaluated the adequacy of site characterization data and alternative actions at the site and subsequently proceeded with the appropriate response actions.

By working systematically and cooperatively, the Army has worked diligently to reduce the uncertainties associated with the nature and extent of contamination and the potential risk to human safety and health by the implementation of appropriate response actions. The Army coordinated with ATSDR to conduct two health studies. These studies found no probable exposures of concern for public health hazards related to contamination from past military activities. The Army continues to work with USEPA to build risk assessments and groundwater models. The Army also has installed an extensive network of monitoring wells in Spring Valley to help protect the District of Columbia water supply from contamination caused by past military activities on this property. The Army has conducted removal actions to eliminate exposure to arsenic and other toxic chemicals on residential properties. Additionally, we continue, as part of current field activities, to look for and remove conventional munitions, CWM, and related debris from land parcels within the Spring Valley FUDS property known or suspected to contain such material.

Through our investigations at Spring Valley, we have learned a great deal about the operational and waste management practices during the World War I era and how to better detect burial sites and characterize legacy contamination. As previously stated, the Army is nearing a key milestone at Spring Valley. Based on the Army's investigative efforts and site data collected using the best technology and expertise available, the Army developed a cleanup plan that was carefully reviewed and agreed upon by the Partners. This plan projects that the majority of field work will be complete by the end of 2010. We will then begin an extensive data review and report writing phase. At the conclusion of the report writing phase, it is not out of the question that certain long term management actions may be implemented. Further, the Army envisions that it will continue to interface with the community and respond if

there are discoveries of CWM, conventional munitions, or environmental contamination caused by past military activities that pose a threat to human health or the environment.

Later this year, the Army plans to use the Army-developed, DDESB-approved Explosives Destruction System (EDS) to neutralize CWM and conventional munitions that contain a non-chemical agent liquid fill that were found onsite. The Army successfully used the EDS technology at Spring Valley in 2003 to destroy 15 recovered chemical munitions. I have complete confidence in this technology and the expertise of the Army team that will conduct this operation again later this year. As always, the Army will employ redundant safety measures and conduct extensive air monitoring during EDS operations. In addition, the destruction plans for this operation will be reviewed and approved by our Partners and external agencies, including the DDESB and CDC. We have coordinated extensively with our Partners, who have likewise expressed their confidence in the technology and the safeguards to be used. We have also worked diligently with the local authorities to build an emergency response plan in the unlikely event of an incident. The Army will keep the local community informed on the upcoming event, as we did for the destruction event in 2003. After the event, the Army will issue a press release as to the nature of the munitions neutralized. Based on my experience as the DoD Executive Agent for the FUDS program, I consider the Spring Valley community involvement to be exceptional.

Bottom line, "Doing the right thing" has always been the Army's intent at Spring Valley. The Army has acted responsibly at this extraordinary site and continues to coordinate actions with its Partners. Though the majority of the planned field work is expected to be completed by the end of 2010, the Army will stay responsive to new requirements at Spring Valley, keep the community informed, and continue to allocate resources to the Spring Valley project as needed to ensure human health and safety are not compromised.

Mr. LYNCH. Thank you, sir. Colonel Mueller, you are recognized for 5 minutes.

STATEMENT OF PETER MUELLER

Colonel MUELLER. Good afternoon, Chairman Lynch and members of the subcommittee. I thank you for inviting me to address you today on the Spring Valley formerly used defense site located in Washington, DC. I am Colonel Pete Mueller, Commander and District Engineer for the U.S. Army Corps of Engineers, Baltimore District. We serve as the Army's executive agent for Spring Valley cleanup activities, and we are responsible for managing and overseeing the successful remediation of this site.

Spring Valley, as we have heard, consists of 661 acres in northwest Washington that was used by the Army from 1917 to 1920 to conduct chemical warfare research. It is currently occupied by approximately 1,300 residential homes, 22 embassy properties, American University, schools, churches, and a small number of businesses.

The Corps began investigating Spring Valley in 1993 to address hazards left over from past Department of Defense activities. During this time we recovered chemical warfare material, munitions, and explosives of concern.

The technical and stakeholder involvement challenges inherent in a chemical warfare material, munitions, and explosives of concern investigation within a residential community require active planning and communication between the Corps, the Environmental Protection Agency, the D.C. Departments of Health and of the Environment, and the community. As the decisionmaking agency responsible for accomplishing this mission, our end goal is to achieve agreement between our Spring Valley partners and the community to identify, investigate, and safely remove or remediate threats to human and environmental health and safety resulting from DOD activities.

Today I will summarize the key aspects of achieving the successful mission, and describe our ongoing and future tasks at the site.

A crucial element to successfully clean up any FUDS site is learning and understanding its history. Spring Valley is the most comprehensively researched site in the history of the FUDS program. Our historical research includes interviews with those most familiar with its past DOD activities and a 1993 review of the American University Experimental Station records, which yielded approximately 14,000 line entries of data.

Another critical component of the project includes the array of tools and methods that the partnership uses to effectively communicate with the public. First, our project team follows the congressionally mandated process that requires public input from key partners, stakeholders, and community members at each critical decision point. Second, we have implemented additional methods that include among others establishing a Restoration Advisory Board, tours and regular face to face meetings with individual community members, mailings, as well as an active Web site.

As part of our ongoing cleanup activities, we continue to test for and remove arsenic contaminated soil from the property sites. Today, we have cleaned a total of 106 properties and removed more

than 24,000 tons of contaminated soil. Over 98 percent of the approximately 15,000 property owners have agreed to the testing and removal program. We expect to finish the residential soil removal effort by the end of this calendar year.

We also are managing a very active program to search for and recover military munitions. In March 2009, we completed a high probability portion of the investigation and removal of Pit 3 in the Glenbrook Road area, an area known to contain buried chemical munitions. This removal is an important accomplishment. As a result of the investigation of Pit 3, we have recovered munitions that contain chemical agents. We plan to safely treat and neutralize the chemical munitions at the Spring Valley Federal property later in 2009 using a mobile treatment system. That same technology was used at Spring Valley in 2003 to safely destroy 15 chemical munitions. Our planned work at this property should conclude later this summer.

We continue to collaborate on and actively investigate groundwater in two areas where perchlorate levels exceeded guidelines. We have completed two phases of the investigation and currently are on our third. The results so far indicate that the Dalecarlia Reservoir is not at risk from the perchlorate in the groundwater. In phase 3 we will install an additional 8 groundwater sampling wells to join the 43 wells already in the network.

While we do have planned milestones for completion of these elements of field work, I want to assure the subcommittee that there is nothing that prevents us from discussing with the partnership the need for additional work. If the partnership believes that more needs to be done, then more work will occur. With that said, we are planning on completing most of the remaining field work by the end of calendar year 2010.

Though our field work may come to a close, we will continue to advance in the congressionally mandated process by completing a remedial investigation and feasibility study which is collected from our field work and involves consultation with stakeholders and the public. We will allow the facts and the data to guide future work.

I assure the committee that we will remain committed to our purpose for as long as it takes to get the job done. I am highly confident in our ability to achieve our mission for the Army and, most importantly, the community of Spring Valley.

I thank the committee for the opportunity to speak. I am prepared to answer any questions.

[The prepared statement of Colonel Mueller follows:]

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS

STATEMENT OF

COLONEL PETER MUELLER
COMMANDER
BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS

BEFORE THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE
AND THE DISTRICT OF COLUMBIA

ON

THE ENVIRONMENTAL RESTORATION PROGRAM
AT THE
SPRING VALLEY FORMERLY USED DEFENSE SITE

JUNE 10, 2009

Chairman Lynch and members of the Subcommittee, thank you for inviting me to address you today about the Spring Valley Formerly Used Defense Site (FUDS), located in Washington, D.C. My name is Colonel Peter Mueller, Commander and District Engineer of the U.S. Army Corps of Engineers, Baltimore District. The Corps executes the Spring Valley clean-up activities for the Army and is responsible for managing and overseeing a successful clean up of this site.

The Spring Valley FUDS area consists of 661 acres in northwest Washington, D.C., and includes approximately 1,300 residential homes, 22 Embassy properties, American University (AU), Horace Mann Elementary School, Wesley Seminary, several churches, and a variety of small businesses. The Army used this site from 1917 to 1920 to conduct chemical warfare research. Since the Spring Valley investigation began in 1993, munitions and explosives of concern, including conventional and chemical munitions, as well as some laboratory vials containing chemical agent have been recovered within this area. The Army refers to chemical munitions and chemical agent in containers as chemical warfare material or CWM.

The technical and stakeholder involvement challenges inherent to the munitions response investigation within this residential community require active planning and communication between the Corps, the U.S. Environmental Protection Agency - Region III, and the Washington D.C. Department of Health. To meet these challenges, the three agencies established a multi-tiered partnering process based on the following principles:

- Active inclusion of agency leadership
- Redundant communication and notification
- Clear documentation of decision-making and information-sharing.

The Spring Valley Master Partnering Communication Plan addresses:

- Partnering structure and corresponding agency representatives;
- Using the tiered process to guide the Spring Valley work; and
- Spring Valley-specific communication pathways and mechanisms necessary to maintain proactive and transparent communication.

Our shared mission at Spring Valley is to identify, investigate and safely remove or remediate potential threats to human health and the environment resulting from past Department of Defense (DoD) activities in this area. As the agency responsible for accomplishing this clean up, the Army's end-state goal is to achieve agreement between the Spring Valley Partners and the community. Our priorities are to maintain the safety of our workers and the public, address community issues, achieve agreement among partners on all major cleanup decisions, and to implement a deliberate, risk-based approach to cleanup decision making.

The Spring Valley Partnership remains a vibrant and active collaboration between the federal government and the city. We share the common goal of protecting the residents of the Spring Valley community from the potential hazards associated with DoD' past activities at this site. Together, we use a deliberate cleanup decision-making approach that sets important milestones and prioritizes tasks that lead to decisions that best serve the interest of the residents of Spring Valley. The process includes public stakeholder involvement on a variety of levels, and I believe

this commitment to openness and transparency will allow the Partnership and the community to complete this project in the years ahead.

Today, I will summarize the key aspects of achieving a successful clean up and completing our mission at the site, which include a comprehensive historical analysis, implementation of effective communications, and the four ongoing tasks at the site.

A crucial element to accomplishing this clean up has been to learn and understand its history. Spring Valley is one of the most comprehensively researched sites in the history of the FUDS program. This includes interviews with those most familiar with past DoD activities and a 1993 review of AU Experimentation Station records, some of which are now housed at Fort Leonard Wood, Missouri. Some of the notable interviews include the former commander of the Naval Bomb disposal school and all members of a risk assessment team hired by AU in 1986 to conduct research prior to the construction of new facilities on campus. The historical report was published in 1994 and although new information has emerged since then, none has yielded new conclusions nor changed the direction of the investigation. We continue to review new documentation as it comes to light.

Another critical component of this clean up includes the array of tools and methods used by the partnership to communicate effectively with the community. The Department executes FUDS under the Defense Environmental Restoration Program, established by Congress in 1986 in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). This process requires public input from the regulatory community, stakeholders and community members at each critical decision point, from the preliminary assessment to the completion of a Remedial Investigation and Feasibility Study, Record of Decision and Remedial Action. The two-way communication process includes news releases, monthly newsletters, public hearings and meetings, public comment periods, establishment of an information repository, fact sheets, tours, notification to key officials, and most importantly, the establishment of the Restoration Advisory Board (RAB) in early 2001. The RAB is a forum for representatives of DoD, local community, and city and EPA regulators to discuss and exchange crucial information about the project. It provides stakeholders an opportunity to make their views known, review progress and participate via dialogue with decision makers.

The Baltimore District has been meeting monthly with stakeholders through the RAB, which was established in spring 2001. We maintain a dedicated Community Relations team committed to providing accessible, consistent and transparent communications within the Spring Valley community. It is overseen by a public affairs team with more than ten years of experience in community relations at FUDS, Superfund and other environmental clean-up sites. In the last two years, we have held 30 RAB meetings and 34 Partnership meetings. We have held five community meetings and mailed nine issues of our project newsletter to the entire community. We also prepare a monthly project update that is posted to the project website and is individually emailed to approximately 150 community members, all of whom requested inclusion on an email distribution list. We provided numerous email updates on our Pit 3 site investigation effort to a distribution list of approximately 115 community members. We staff a community hotline, and between phone calls and emails have fielded and responded to more than 750 requests for information and assistance on such topics as project updates, property sale inquiries, and right of entry requests.

We also maintain a physical presence in the community. We are out in the neighborhood, visiting homes and talking to residents on a weekly basis. We have conducted seven targeted canvassing efforts during which we went door to door to discuss such topics as the Pit 3 investigation, the on-site destruction of munitions, and other aspects of the project with a potential to impact residents. In addition to canvassing, we have scheduled more than 170 individual, face-to-face meetings with residents and elected officials on a range of topics, from arsenic soil removal to geophysical survey to groundwater sampling and have attended and spoken at Metropolitan Police Department 2nd District roll calls to ensure that the police who keep the community safe are aware of what we are doing as well.

The Corps has made a concerted effort to conduct this clean up in a transparent manner, operating openly, collaboratively, and in an inclusive manner with Partners and stakeholders. There is thoughtful discussion and exchange of ideas and information among all Partners and stakeholders. At certain points in this process we capture partner decisions in writing. An example is the signing of Memoranda for the Record detailing partnership conclusions on Areas of Interest, and the signing by all Partners of Anomaly Review Board memoranda. Partner review and acceptance of final work plans and reports is another clear and concrete example of outside agency approval on Army cleanup decisions and strategies in our approach to the Spring Valley project. By listening to differing viewpoints, I believe we collectively have been able to improve the cleanup decision making process as the partnership has set clean up goals and endpoints for the project.

With that, today I would like to update you on four major ongoing activities and accomplishments, and give an overview of future tasks.

First, we continue to test for and remove arsenic contaminated soil from properties at the site. To date, we have addressed a total of 106 properties and removed more than 24,000 tons of contaminated soil. Currently, we are working with 32 property owners with the goal of receiving permission to either test or remove contaminated soil. We expect to finish the residential soil removal effort by the end of this calendar year. More than 98% of approximately 1,500 property owners have agreed to the testing and removal program. As part of this effort, we conducted an innovative pilot project, which we concluded last year that used phytoremediation to accomplish some of our goals at 19 properties. Phytoremediation uses plants to mitigate potential environmental concerns without the need to excavate contaminant material and dispose of it elsewhere.

Second, the Baltimore District continues to manage a very active program to investigate for and recover military munitions. I am pleased to report that in March 2009, we completed our investigation of Pit 3 and the excavation of any munitions and explosives of concern, including CWM, and related debris found at the Glenbrook Road area. Pit 3 was in an area known to have burials of CWM and related debris and completion of our investigation is an important accomplishment. This project, which began in October 2007, was conducted in four phases. We faced many technical challenges and completed the work without a single incident threatening the safety of our workers or the community. Constant monitoring of the worksite documented that while the team encountered and recovered CWM, there were no releases of chemical agent inside the protective structure. The protective structure, which has now been dismantled, provided overlapping safety and engineering controls to effectively contain a release,

if one were to occur). The success of this portion of the clean up depended on the cooperation of the entire Spring Valley community. We are now investigating other areas where we do not expect to encounter munitions and explosives of concern, including CWM, for other material resulting from DoD's efforts at the AU Experiment Station. All planned work at this property should conclude later this summer.

Over the course of the project, the Partners identified 104 properties for geophysical survey. We have conducted 86 geophysical surveys and proceeded with follow-on intrusive investigations on 63 of these properties. The geophysical survey results generally identified 50 to 100 anomalies per property for investigation. By far, the most common items found as a result of our investigation are items that could be found in any suburban yard. These items included miscellaneous debris such as construction materials, nails, horseshoes, and bits of metal unrelated to Army activities. Occasionally, we did find munitions debris that was related to DoD's activities at this site. Munitions debris is essentially equivalent to scrap metal. When this occurs, the material is evaluated, examined to verify that it is inert, certified in writing that it is inert, packaged and sent to a smelter. We will determine the need for anomaly investigation on the remaining properties in the next 18 months.

The team is currently working at a property on Quebec Street where we found some munitions debris last month. We are evaluating this debris to determine whether we need to adjust our procedures. We will stay in close contact with our Partners and the property owner to bring the ongoing effort to a successful conclusion. We are continuing examination of the large piece of federal property within project boundaries, commonly referred to as the Dalecarlia Woods. We will thoroughly and systematically search 62 acres of this wooded property for military munitions. This investigation is an important step in assembling a complete picture of DoD activities at AU Experiment Station.

Third, we continue to collaborate and actively investigate groundwater in two areas where perchlorate levels exceed EPA guidelines. Two phases of the investigation and been completed and a third phase is being planned. So far, results have indicated the Dalecarlia Reservoir is not at risk. In Phase 3, we will install an additional eight groundwater monitoring wells to join the 43 wells already in the network. Of note are the installations of four deep monitoring wells and a shallow well immediately down-gradient of the former location of the 52nd Court Disposal Pit. The partnership will attempt to use specialized testing to evaluate the perchlorate to determine the nature of the source. Perchlorate can have both natural and manmade origin and we would like to know which it is in the Spring Valley area.

Fourth, during the Pit 3 investigation, we recovered chemical munitions. Our plan is to destroy these munitions on site recovered later in 2009 using a mobile treatment system, known as an Explosive Destruction System, or EDS. This is the same technology used on site in 2003 to destroy chemical munitions recovered during earlier clean up efforts at this FUDS. Designed by the Army, this system provides on-site treatment of chemical munitions in a safe and environmentally sound manner. The Army used the EDS, which has been approved for use in the field by the Army and DoD, at locations across the country to safely destroy more than 1,500 recovered chemical munitions. The EDS has a dedicated crew of trained professionals with an exceptional safety record. No release of chemical agent has occurred outside of engineering controls during any past operation.

One question raised numerous times is; "Can we transport munitions to another facility for destruction?" The simple answer to this question is no. Federal Public Laws 103-337 and 91-121, as well as DOD and Army policy, provide the authority to transport, store and dispose of CWM. Federal hazardous waste laws limit the transportation and disposal of chemical munitions to facilities that are permitted to receive, store or dispose of this hazardous waste. Currently, facilities permitted to store and dispose of chemical munitions are not permitted to receive ***recovered*** chemical munitions for storage or treatment. In addition, states where these facilities are located have generally refused to grant the required permits. Only Maryland has permitted Aberdeen Proving Grounds to receive a few items for research purposes only.

Finally, as we looked into the transport question as related to recoveries at Spring Valley, our hazard analysis indicates the potential hazards and public exposures associated with the transport of chemical munitions to another site by air or vehicle poses greater potential hazards to the public than on-site destruction using the EDS owned and operated by the US Army Chemical Materials Agency.

As with all of our efforts at Spring Valley, the destruction planning has been closely coordinated with our project Partners at EPA and D.C. Department of Environment as well as the community, D.C. Homeland Security and Emergency Management Agency, local police and firefighters, and Sibley Hospital. We want to ensure that everyone understands the process and is able to provide input prior to the Corps proceeding with our plans. We also have extensive coordination requirements within the DoD. Prior to the start of operations, we are required to obtain approval from Army's Chemical Materials Agency, the U.S. Army Technical Center for Explosives Safety, and DoD's Explosive Safety Board. The Office of the Assistant Secretary of the Army for Environment, Safety, and Occupational Health must also approve the destruction plan for us to go forward.

As part of our ongoing community outreach program, we also made significant efforts to ensure that the community was informed of the planned destruction operation and had an opportunity to provide their input. In addition to our normal outreach efforts, such as the RAB, updates and project mailings, we held a Community-Wide meeting in March specifically to discuss the planned chemical munitions destruction. We also conducted door to door canvassing of approximately 40 residences near Dalecarlia Parkway to ensure that those closest to the destruction operation were fully informed of the planned operation. Additionally, before commencing operations, we will hold a Media Day and allow for tours of the system by elected officials and the Restoration Advisory Board.

When we finish our fieldwork, we will complete the remedial investigation report and feasibility study. These documents analyze all data and findings collected from our fieldwork and involve consultation with the regulatory community, and the public, including Spring Valley stakeholders; we will allow the facts and the data to guide future work. The Partners are committed to a transparent process that actively seeks input as we go forward, and the Army is committed to a process that calls for formal input from all interested stakeholders before work can conclude. The DoD is legally and financially responsible for conducting any follow-up investigation or remediation deemed necessary to protect human health and environment.

The DoD, the Army and the Corps recognize the issues and challenges faced by Spring Valley residents, students, and businesses are real. We will continue to remain open, transparent and accessible so all can be confident that their government is working truthfully, diligently and with

maximum effort to ensure their safety and security. We remain committed to our purpose – for as long as it takes – to get the job done. I am highly confident in our ability to achieve our mission for the Army and, most importantly, the community of Spring Valley.

I thank the committee for the opportunity to speak, and I am prepared to answer any questions.

Mr. LYNCH. Thank you, sir. Mr. Early, you are now recognized for 5 minutes.

STATEMENT OF WILLIAM C. EARLY

Mr. EARLY. Chairman Lynch, Representative Norton, and members of the committee, I am Bill Early. I am the Acting Regional Administrator for EPA Region 3 in Philadelphia, which includes the District of Columbia. With me today is Steven Hirsch, the Senior Remedial Project Manager assigned to the Spring Valley site cleanup. I am here to provide the committee with EPA's perspective on the ongoing efforts to clean up the formerly used defense site in the Spring Valley neighborhood in the District and to address current issues which are of concern to the committee and the public.

EPA has been providing technical support to the U.S. Army for its work at the Spring Valley site since the initial discovery of munitions in 1993. Because the area is categorized as a FUDS, the U.S. Army Corps of Engineers has been and continues to be the Federal agency with responsibility for the cleanup.

The EPA, the Corps, and the District of Columbia have developed a partnership management team to work together on the Spring Valley cleanup. This partnership continues to function effectively with each partner's organization maintaining its respective role and mission in the cleanup of the site.

EPA's participation in the Spring Valley site has been and continues to be significant. EPA has expended over $2.6 million conducting technical support activities at the site. EPA has brought expertise and capabilities which the other partners either do not possess or were not able to employ in a timely manner.

EPA has extensive experience in cleaning up contaminated soils in residential areas at numerous sites across the country. Contaminants of concern at these sites include a variety of hazardous substances including arsenic. The technical issues presented by Spring Valley soil contamination may be challenging but they are not unique.

The investigation and cleanup work at this site has progressed steadily over the years, addressing three primary areas of concern: arsenic contamination in soils, buried munitions and disposal pits, and potential groundwater contamination. However, there are many other tasks yet to be completed.

The partners have developed their priorities with community and stakeholder input with the goals of investigating contamination and eliminating unacceptable risks to human health and the environment in Spring Valley. All significant cleanup areas requiring investigation and cleanup have a project management schedule. The partners' Spring Valley cleanup schedule is a living document which has been amended as necessary over the years based uponsite conditions and discovery of new information.

Associated with contaminated soil removal is EPA's issuance of letters to residents. These letters explain to home owners that all necessary contaminated soil removal actions have been completed on their properties. The letters are important to home owners, particularly when real estate transactions occur. The partners have agreed to give priority to ensuring that each home owner affected

will receive a letter as soon as possible after the work on their property is completed.

Currently, the Corps is conducting geophysical surveys of a large number of properties to investigate the possibility of buried munitions and other remnants of the Army's activities during World War I. The Corps, EPA, and the District have agreed upon a method to determine which properties will be geophysically investigated. Unlike the arsenic sampling program, geophysics is not planned for every property at this site. The partners anticipate that the residential geophysical and followup investigations will be completed in 2010.

The groundwater investigation is continuing. This year the Corps will be installing additional shallow wells to better understand the nature and extent of perchlorate and other chemicals in the groundwater. In addition, the Corps is planning to install deep monitoring wells, something not previously done at the Spring Valley site.

Last, I want to address the issue of community involvement in the Spring Valley cleanup. As you have heard, the partners hold a large number of regularly scheduled meetings. The Corps, EPA, and the District are always available to talk or meet with residents on an individual basis.

Besides being investigated and remediated in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan, there are specific processes the Corps will follow in developing documentation that presents all of the previous cleanup activities and assessments in a single document. As required by the NCP, the Corps intends to prepare a remedial investigation report. This document will summarize all sampling and cleanup actions taken at the site and will include a baseline human health and environmental risk assessment.

The risk assessment is a key document in determining if all necessary cleanup actions have been conducted or what additional cleanup actions need to be completed to address unacceptable risks. The document and the proposed remedial action plan will be available for public comment and will be the subject of one or two public meetings.

In closing, EPA believes that the Spring Valley cleanup is progressing in a positive manner. Community and stakeholder concerns are heard and are being addressed.

Thank you very much for the opportunity to speak before the committee.

[The prepared statement of Mr. Early follows:]

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

Subcommittee on Federal Workforce, Postal Service and the District of Columbia

June 10, 2009

William C. Early
Acting Regional Administrator
US Environmental Protection Agency, Region III

Chairman Lynch, Representative Norton, and Members of the Committee, I am Bill Early, Acting Regional Administrator for EPA Region III which includes the District of Columbia, Pennsylvania, Delaware, Maryland, Virginia, and West Virginia. Thank you for the opportunity to speak at this hearing.

With me today is Steven Hirsh, a Senior Remedial Project Manager assigned to the Spring Valley Site (Site) cleanup. Steve worked on this project from 1993 until 1995, and then returned in the fall of 2002 and has since served as the EPA lead for technical review of work performed by the Army.

I am here to provide the Committee with EPA's perspective on the ongoing efforts to clean up the formerly used defense site (FUDS) in the Spring Valley neighborhood of the District, and to address current issues which are of concern to this Committee and the public.

EPA has been providing technical support to the U.S. Army for its work at the Spring Valley Site since the initial discovery of munitions in 1993. Because the area is categorized as a FUDS, the US Army Corps of Engineers (Corps) has been, and continues to be, the Federal agency with responsibility for the cleanup.

The EPA, the Corps, and the District of Columbia developed a partnership management team (Partnership) to work together on the Spring Valley cleanup. This Partnership continues to function effectively, with each Partner's organization maintaining its respective role and mission in the cleanup of the Site. EPA's participation at the Spring Valley Site has been and continues to be significant. EPA has expended over $2.6 million dollars conducting technical support activities at the Site. EPA has brought expertise and capabilities which the other Partners either do not possess or were not able to employ in a timely manner. Significant

support provided by EPA includes the initial photo analysis that identified points of interest, sampling of groundwater, soil sampling, and the investigation of other potential sites in the District related to the Army World War I activities. EPA's data analysis established the background level of arsenic in soil.

EPA has extensive experience in cleaning up contaminated soils in residential areas at numerous sites across the country. Contaminants of concern at these sites include a variety of hazardous substances including arsenic. The technical issues presented by Spring Valley soil contamination may be challenging but they are not unique.

The investigation and cleanup work at the Site has progressed steadily over the years, addressing three primary areas of concern: arsenic contamination in soils; buried munitions and disposal pits; and potential ground water contamination. However, there are many tasks yet to be completed. The Partners have developed their priorities, with community and other stakeholder input, with the goals of investigating contamination and eliminating unacceptable risk to human health and the environment in Spring Valley.

The Partners developed a schedule for completion of cleanup tasks at the Spring Valley Site which allows the Partners to plan and allocate resources. All significant cleanup areas requiring investigation and cleanup have a project management schedule. The current schedule for the Site anticipates completion of most field work by the end of 2010. This projection has been made based on what is known at this time. It is possible, perhaps likely, that groundwater activities will continue beyond 2010, but from the perspective of residents, after that point, the presence of the Corps and its contractors in the neighborhood will be minimal. The Partners' Spring Valley cleanup schedule is a living document which has been amended as necessary over the years based on Site conditions and the discovery of new information.

As you have heard from the Corps, removal of soil contaminated with arsenic from residential properties is almost complete. A small number of homes not previously sampled are still being sampled. Based on those results, there may be a need to remediate additional properties. The residential work should be completed in 2009. Remediation of other properties, including land owned by the District or the Federal Government, is planned for completion in 2010.

Associated with the contaminated soil removal program is the issuance of letters to the residents. These letters are signed by Senior Management at the EPA

and the District of Columbia Department of Environment (DDOE) to explain to homeowners that all necessary contaminated soil removal actions have been completed on their properties. The letters are important to homeowners, particularly when real estate transactions occur. The Partners have agreed to give priority to ensuring that each homeowner affected will receive a letter as soon as possible after the work on their property is completed.

Currently, the Corps is conducting geophysical surveys of a large number of properties to investigate the possibility of buried munitions and other remnants of the Army activities during World War I. The Partners are continually evaluating the results of the geophysical surveys and working with the Corps to plan follow-up intrusive investigations. Unlike the arsenic sampling program, geophysics is not planned for every property at the Site. The decision to survey any property is based on factors including real estate records and historical information, including old aerial photography. The Corps, EPA and the DDOE have agreed upon a method to determine which properties will be geophysically investigated. Each year, based upon this method, the Partners jointly develop a list of properties for geophysical investigation. The Partners then evaluate the geophysical data and determine what the next steps will be for each property. Differences in opinion are discussed and resolved. Results of these evaluations are incorporated into a memo signed by all the Partners. The Partners anticipate that residential geophysical and follow-up investigations will be completed in 2010.

The groundwater investigation is continuing. This year, the Corps will be installing additional shallow wells. In addition, to better understand the nature and extent of perchlorate and other chemicals in groundwater, the Corps is planning to install deep monitoring wells, something not previously done at the Spring Valley Site. The Corps has proposed to use a new technology for construction of these wells.

In addition, the Corps is planning to perform special, state-of-the-art isotopic analysis of groundwater contaminated with perchlorate. The analysis may help us understand the source of the perchlorate. There are two known areas of perchlorate-contaminated groundwater: one near the American University, and a second near Sibley Hospital and the Dalecarlia Reservoir. If the contamination found near the Dalecarlia Reservoir is from the same source as the contamination found in wells at or near the American University, we will know there is a connection between the two areas and develop plans to understand that connection.

Also, as you have heard, the Corps is proceeding with plans for the destruction of chemical munitions recovered from the Glenbrook Road munitions burial site also known as Pit 3. The Explosive Destruction System (EDS) selected for use at the site has been used successfully at this Site and at other sites located within EPA Region 3, including the Dover Air Force Base and the Aberdeen Proving Ground. Prior to its use in the United States, Region 3 staff had the opportunity to observe testing of the EDS at a site in England. During that testing, and during all the deployments in EPA Region III, the EDS has performed without any incident or accident. EPA has requested that the Corps provide additional air monitoring outside the EDS containment structure during operations, and an assurance that EDS operations would only occur when weather conditions were appropriate. That will ensure any release would be confined to Federal property. The Corps has agreed to these requests.

Lastly, I want to address the issue of community involvement in the Spring Valley cleanup. As you have heard, the Partners hold a large number of regularly scheduled meetings. The Corps, EPA, and DDOE are always available to talk to or meet with residents on an individual basis. Documents are available to the public on a Spring Valley project web site maintained by the Corps and at the Administrative Record location, the Palisades library. (http://www.nab.usace.army.mil/projects/WashingtonDC/springvalley.htm)

The Site is being investigated and remediated in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), so there are specific processes the Corps will follow in developing documentation that presents the findings of all the previous cleanup activities and assessments in a single document. There is a public and stakeholder involvement component to this process as well.

As required by the NCP, the Corps intends to prepare a Remedial Investigation report. This document will summarize all sampling that has been performed, all cleanup actions taken at the Site, and include a baseline human health and environmental risk assessment. The risk assessment is a key document in determining if all necessary cleanup actions have been conducted, or what additional cleanup actions need to be completed to address unacceptable risk. The document will be available for public review. A Proposed Remedial Action Plan will be developed to inform the public what additional actions the government feels are appropriate at the Site, list options for any necessary future actions, and provide a summary of the residual risks at the Site. A public comment period will be established. During the comment period, one or more public meetings will be

scheduled. Written responses to comments will be prepared. We will continue to work closely with the public, stakeholders, and any other interested parties during this period.

In closing, EPA believes that the Spring Valley cleanup is progressing in a positive manner. Community and stakeholder concerns are heard and are being addressed.

Thank you for the opportunity to speak before the Committee. We would be happy to answer any questions.

Mr. LYNCH. Thank you, Mr. Early. Mr. Hawkins, you are now recognized for 5 minutes.

STATEMENT OF GEORGE S. HAWKINS

Mr. HAWKINS. Good afternoon, Chairman Lynch; Congressman Chaffetz; my Congressman, Congressman Norton; and members of the committee. My name is George Hawkins. I am the director of the District Department of the Environment. Thank you for the opportunity to present testimony at this oversight hearing on the Environmental Restoration Program at the Spring Valley formerly used defense site. I am joined by Alex Bako, who is the division director for our Toxic Substances Division, as well as Jim Sweeney, who is the branch chief of our Site Remediation Branch.

My objectives this afternoon are to describe from our perspective the manner in which the District Department of the Environment works in association with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency to facilitate the ongoing planning and execution of work activities at Spring Valley. Furthermore, I would like to emphasize some of the recent and ongoing efforts that DDOE, the District Department of the Environment, has established to foster and encourage communication with District residents.

As you may know, the District of Columbia works to resolve this matter under a 1994 agreement with the Department of Defense. This agreement provides reimbursement to the District for providing technical review and guidance at installation restoration projects at both active military facilities and formerly used defense sites within the District. Our goal under this review process is to ensure that restoration work is performed in compliance with District of Columbia environmental laws and regulations and that work is protective of the environment and human health. Currently, our attention is mainly focused on three sites: the Washington Navy Yard, which is the only Superfund site in the District; Bolling Air Force Base; and, of course, Spring Valley.

The District's environmental program has been involved with the Spring Valley project since June 1995 when two environmental specialists in our agency were hired after a record decision was issued stating that no further action was needed at the site. It was the work of these two District staff members that ultimately resulted in the Army Corps returning to Spring Valley and that has brought us to where we are today.

Since the Corps' return, we have been involved in a partnering process with them and the U.S. Environmental Protection Agency to ensure that the highest quality of work is done to investigate and remediate the contaminants left behind by the Army after World War I testing in Spring Valley. The partners meet on a monthly basis and no work is initiated, no work is initiated, unless or until all three partners agree on how to proceed. If either the District, the EPA, or both disagrees with the proposed plan or procedure, the action will not and does not occur. Currently, there are two major issues on which our attention is focused: the ongoing groundwater study and the planned onsite destruction of chemical weapons.

We have been in discussions for some time concerning plans for the next phase of groundwater investigation. The District has absolutely been at the table and has had strong views about how this should be conducted. Recently, we have come to an agreement on how this work will in fact be accomplished. We expect that a new round of groundwater sampling will occur later this summer or in the early fall. The District is interested in the groundwater results for two principal reasons: The first is the obvious need to determine if contamination, particularly perchlorate, is potentially affecting the Dalecarlia Reservoir, which supplies drinking water to the entire District of Columbia. Even though sampling so far has indicated that the reservoir has not been affected, we have been concerned that perchlorate contamination may reach the deep aquifer. For that reason, we have insisted that the Corps conduct deep well sampling, as has been noted, for the first time at this site.

The second reason to continue groundwater sampling is hopefully to assist in locating the source of the perchlorate that has been detected in the groundwater at higher levels near the American University campus. Locating the source of the perchlorate might help us in locating one or more yet to be discovered burial pits that have been mentioned in some of the historical archives.

In response to the proposed onsite destruction of chemical weapons, DDOE has been briefed on the Corps' of Engineers conceptual plan for this activity. Clearly, the use of explosives for onsite destruction of munitions requires the cooperation of several District agencies besides the Department of the Environment. The District's Homeland Security and Emergency Management Agency, the Metropolitan Police Department, the Fire Department, and the Health Department have all been briefed by the Corps of Engineers and all agencies are currently reviewing the plans for this event. District government sign off on this plan will occur after reviews have been completed by all agencies. If any agency has concerns on the plan, then approval will not occur until all uncertainties or questions have been satisfactorily addressed.

While these are two major issues right now, there are several other efforts at Spring Valley which appear to be near completion. We believe it is premature to suggest that work is complete. What will be completed in 2010 is planned field work. Our view is that there is likely to be more work suggested in the future as the result of sampling that has not yet been conducted. It is planned field work that will be completed, not any additional field work that is indicated as necessary either by the next round of groundwater sampling or additional site reviews done near the Dalecarlia Reservoir.

We have thought it is prudent, however, to look at what ought to be the criteria to close the site. The issue of closure criteria was asked once before in 1995. As I mentioned, it was D.C.'s environmental program that determined additional work was necessary and the Corps returned.

Since then, tremendous work has been done. Burial pits and chemical weapons have been found. Tens of thousands of samples have been analyzed. Scores of properties have been remediated. Additional scores of properties have been geophysically surveyed.

Many of these properties have been dug up in the hope of finding munitions.

Still, work needs to be done. This is a unique site. There are tough questions and it is complicated. We asked the right and tough questions in 1995 and we will continue to ask those questions before there is any decision to walk away.

The Department of the Environment pledges to continue to act aggressively as the environmental advocate for the citizens of Spring Valley. We devoted many resources to the cleanup of the site. We have planned activities bringing specialized groundwater and hazardous waste personnel and have just hired a toxicologist who will bring new resources to bear on decisions for this site.

I realize I have used my time. We have continued to also work more with the citizens. We are planning additional meetings one on one with the neighborhood Commissioners near the site. We have devoted a new part of our Web site to this site specifically to make sure all information that is needed for the site is available to the citizens.

I am here to answer any questions.

[The prepared statement of Mr. Hawkins follows:]

THE ENVIRONMENTAL RESTORATION PROGRAM AT THE SPRING VALLEY FORMERLY USED DEFENSE SITE

UNITED STATES HOUSE OF REPRESENTATIVES

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

SUBCOMMITTEE ON FEDERAL WORKFORCE, POSTAL SERVICE AND THE DISTRICT OF COLUMBIA

THE HONORABLE STEPHEN F. LYNCH, CHAIRMAN
THE HONORABLE JASON CHAFFETZ, RANKING MEMBER

GEORGE S. HAWKINS, ESQ.
DIRECTOR
DISTRICT DEPARTMENT OF THE ENVIRONMENT

WEDNESDAY, JUNE 10, 2009
RAYBURN HOUSE OFFICE BUILDING
ROOM 2247

Good afternoon, Chairman Lynch, Ranking Member Chaffetz, Congresswoman Norton, and members of the Committee. I am George Hawkins, Director of the District Department of the Environment (DDOE). Thank you for the opportunity to present testimony at this Oversight Hearing on the Environmental Restoration Program at the Spring Valley Formerly Used Defense Site. My objectives this afternoon are to describe, from our perspective, the manner in which the District Department of the Environment works in association with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency to facilitate the ongoing planning and execution of work activities at Spring Valley. Furthermore, I would like to emphasize some of the recent and ongoing efforts that DDOE has established to foster and encourage communication pathways with District residents.

As you may know, the District of Columbia works to resolve this matter under a 1994 agreement with the Department of Defense. This agreement provides reimbursement to the District for providing technical review and guidance at Installation Restoration projects at both active military facilities and Formerly Used Defense Sites within the District of Columbia. Our goal under this review process is to ensure that restoration work is performed in compliance with District of Columbia environmental laws and regulations, and that the work is protective of the environment, and human health.

Currently our attention is mainly focused on three sites: the Washington Navy Yard, which is the only Superfund site in the District, Bolling Air Force Base, and of course, Spring Valley. The District's environmental program has been involved with the Spring Valley project since June 1995, when two Environmental Specialists were hired soon after a Record of Decision was

issued stating that "no further action" was needed at the Site. It was the work of these two District staff members that ultimately resulted in the Corps of Engineers returning to Spring Valley, and brought us to where we are today.

Since the Corps returned, we have been involved in a partnering process with them and the U.S. Environmental Protection Agency to ensure the highest quality of work is done to investigate and remediate the contaminants left behind by the Army after World War I in Spring Valley. The partners meet on a monthly basis, and no work is initiated unless, or until all three partners agree on how to proceed. If either the District or EPA, or both, disagrees with a proposed plan or procedure, the action will not occur.

Currently there are two major issues upon which our attention is focused: the ongoing groundwater study, and the planned on-site destruction of chemical weapons. We have been in discussions for some time concerning plans for the next phase of the groundwater investigation, and have recently come to an agreement on how this work will be accomplished. We expect that a new round of groundwater sampling will occur later this summer or in early fall.

The District is interested in the groundwater results for two reasons. The first is the obvious need to determine if contamination, particularly perchlorates, is potentially affecting the Dalecarlia reservoir, which supplies the drinking water to the entire District of Columbia. Even though sampling so far has indicated that the reservoir has not been affected, we have been concerned that perchlorate contamination may reach the deeper aquifer. For that reason, we have insisted that the Corps conduct deep well sampling. The second reason to continue groundwater sampling

is to hopefully assist in locating the source of the perchlorates that have been detected in the groundwater at high levels near the American University campus. Locating the source of perchlorates might help in locating a yet-to-be discovered burial pit that has been mentioned in some of the historical archives.

In response to the proposed on-site destruction of chemical weapons, DDOE has been briefed on the Corps of Engineers' conceptual plan for this activity. Based on the information that we have received to date, we believe that the Corps' proposal poses the least possible threat compared to the alternatives, and that it can be done in a manner that protects human safety and the environment. Clearly, the use of explosives for the on-site destruction of munitions requires the cooperation of several District agencies besides the Department of the Environment. The District's Homeland Security and Emergency Management Agency (HSEMA), Metropolitan Police Department, Fire Department and Health Department have all been briefed by the Corps of Engineers, and all agencies are currently reviewing the plans for this event. District Government sign-off on this plan will occur after reviews have been completed by all agencies. If any agency has concerns with the plan, then approval will not occur until all uncertainties have been satisfactorily addressed.

While these are the two major issues right now, there are several other efforts at Spring Valley which appear to be nearing completion. As the Corps comes close to completing the currently planned field work by the end of 2010, all of the partners are involved in deciding the criteria for determining when the site can be closed out. The issue of closure criteria was asked once before in 1995, and it was the District of Columbia's environmental program that determined that

additional work was necessary, and the Corp returned to Spring Valley. Since then, burial pits and chemical weapons have been found, tens of thousands of samples have been analyzed, scores of properties have been remediated, and additional scores of properties have been geophysically surveyed. Many of these properties have been dug up in the hopes of finding burial pits or single pieces of munitions.

Still more work remains to be done. The Spring Valley project is unique, it is complicated, and it is challenging. The Corps must continue to follow the protocols and procedures established in the National Contingency Plan, and we must use our best professional judgment every day, calling in other experts and specialists whenever necessary. Most importantly, we must ask the right questions and the tough questions. The District Department of the Environment asked the right and tough questions in 1995, and we continue to ask them today. We insist that the work will be performed completely, properly, and safely.

The Department of the Environment has pledged to continue to act as an aggressive environmental advocate for the citizens of Spring Valley. We have devoted many resources to the clean up of Spring Valley over the years. Currently we have a manager designated as DDOE's primary representative, as well as several staff who assist in reviewing planned activities, bringing specialized groundwater and hazardous waste experience to bear. We will also have a toxicologist on board in the next month who will bring additional, specialized expertise to our team.

Finally, I would like to address the issue of transparency and accountability. While we believe we have done an excellent job to ensure that the Corps' work at Spring Valley is conducted in the most protective manner, we have been approached by members of the community who seek improved communications by all parties. Restoration Advisory Board meetings are open to the public and this has been the policy since 2001. DDOE representatives have participated in each of these monthly meetings ever since the RAB's inception. In addition, we have attended every community meeting hosted by the Corps and have made ourselves available to respond to community questions and concerns.

Still, we agree that we can and should continue to raise the bar and be more proactive in our relations with the community. To that purpose, we have committed ourselves to hosting recurring meetings with the two Advisory Neighborhood Commissioners who represent Spring Valley, Nan Wells and Tom Smith. We have had two meetings so far, and while we limited the first meeting to those two individuals in order to focus on their specific questions about DDOE's role in Spring Valley, we have agreed to include others in subsequent meetings as special circumstances or concerns arise. Upon invitation by ANC Smith, DDOE recently participated in a successful Ward 3 Democratic Committee panel discussion on Spring Valley that was held on Earth Day, and are also in the process of adding information on Spring Valley to our DDOE Web Site to keep citizens better informed.

Chairman Lynch and members of the Committee, I wish to thank you once again for the opportunity to testify, and I look forward to answering any questions the Committee may have.

Mr. LYNCH. Thank you, Mr. Hawkins. Let me begin by saying that I think the community has sounded some measure of alarm over the idea that planned field work is concluding. I think the reaction is actually born in the experience they have had already. There was a clean bill of health given to the site and then they found more contamination, significant contamination. A thorough job hadn't been done in the original analysis so there is a lack of trust. But it is probably well deserved.

Let me ask, from a technological standpoint, are we using every state-of-the-art technology to investigate the site that might be available? Mr. Davis.

Mr. DAVIS. I would say yes we are. In fact, some of the technology that was discussed earlier was tried and used unsuccessfully based on the interference in the local area. The ground penetrating radar that was discussed was in fact tried at the site. Again, that is one of the challenges we have, Mr. Chairman.

When you go from one site to another, you try to adapt the technologies that are available, to include emerging technologies, that might be used on that site based on the source and types of contamination that we are looking for. But we don't have blinders on. We are continuing to look for new technologies that we can bring to bear.

I think that in our groundwater monitoring plan that we are going to maybe talk about a little bit later, we are bringing in some things there that will enhance our ability to better determine if there is any groundwater contamination.

The only other thing I would tell you is that we have a National Defense Center for Energy and the Environment, which really does a lot of research and development projects for the DOD. Projects associated with cleanup at many of our sites, both our active sites and our formerly used defense sites, are part of that process. So we are continuing to look at new technologies.

We are also partnering with the private sector. I think many of you may know that in many cases the expertise that we bring to these sites is done by private contractors. So we seek to get the best of those contractors and the best technology available to bring to these sites.

Mr. LYNCH. Colonel, do you feel comfortable with that assessment in terms of all the technology that is available being used?

Colonel MUELLER. Yes sir, I do. In fact, I think it also goes back to the partnership and the discussions that we can have where each of our agencies will bring different ideas and different experiences to help seek the best alternatives.

We will tend to use industry standards. One thing that we have hesitated to do is to use something that is going through research and development because we want to use proven techniques.

One example where the community involvement I think drove us to another technology was with the arsenic removal. The community indicated they wanted an alternative to digging up yards. So we went back to our engineering and research laboratory in Mississippi where they have been using phyllo remediation. They had had proven tests where phyllo remediation using plants could actually extract arsenic from the soil. This was one application that

was fairly modern that we used. And we have actually used that to clean up 19 properties.

Mr. LYNCH. OK. I believe in reading the testimony last night that as recently as a year ago we have discovered munitions. That is fairly recent, and we have been on this site for a while. It just seems to me premature to say, OK, we are done with our planned field work and we are going to move on. I just think that there is a need to provide further activity here. I know you have a lot of points of interest, and you have a lot of monitoring wells. I am just concerned whether or not this decision to conclude field work is premature given the recent findings.

So I did like the testimony offered by Ms. Mittal from GAO earlier in this hearing about a very aggressive and robust monitoring process that would continue on the site at least in the near future. Let me ask you, is that something that you envision?

I also want to know about destroying some of these munitions onsite. That must cause a considerable amount of anxiety in the neighborhood that you are operating in. Is there not a better technology? I know transporting chemical weapons is a dicey proposition in any circumstances. You have a heavily populated neighborhood here. Is there not a better way to do this than destroying them onsite, notifying the neighborhood, and scaring the heck out of them? There has to be a better way than this, guys.

Mr. DAVIS. Yes, sir. If I could maybe address the EDS, the explosive detonation system, that we are going to use for the destruction first? This is a technology that has been proven. We have used it throughout the country. We have had over 1,500 documented uses of this system to destroy chemical munitions at different sites throughout the country. We currently have in storage on Federal property adjacent to Sibley Hospital the munitions that would be destroyed during this destruction process.

Mr. LYNCH. Are they conventional or are they chemical weapons.

Mr. DAVIS. They are a combination of both, sir. In the 2003 destruction, a similar system was brought in and set up using all the safety control mechanisms that are available. We will be doing something similar. We have some enhanced monitoring devices now that are newer than the ones we used back in 2003. But the site will be set up.

Again, and this was mentioned by my colleagues here at the witness table, a tremendous amount of coordination has already gone into and will continue to go into planning for and conducting this process using all of the existing technologies that are available and then some. I think also the safety procedures will be in place as well as working with the local first responders within the District to be onsite and to provide their assistance.

We again have done this at locations throughout the country. We currently do not make a habit of transporting chemical munitions from one State or from one jurisdiction to another for destruction. That is one of the reasons why this exportable system was developed in the first place. We could bring it into a site, safely set it up, destroy the munitions on site, and then minimize the risk associated with that particular activity.

Mr. LYNCH. OK. My time has expired. I just might offer the possibility that the committee may want to go out and visit the site

and look at that operation because I am not entirely convinced. OK?

Mr. DAVIS. Sir, normally when we do these around the country we have a Leaders' Day set up once the site is completely set up. We will coordinate with the committee so that they can come out. We will walk them through the system and explain all the procedures and protocols that we will have in place before we actually begin the destruction process.

Mr. LYNCH. All right. I have abused my time. Thank you, Mr. Secretary.

I am going to yield 5 minutes to our ranking member, Mr. Chaffetz.

Mr. CHAFFETZ. Thank you, Mr. Chairman. Mr. Early, if I can start with you, are the residents and those who work in Spring Valley safe?

Mr. EARLY. That is something I think we are continuing to address——

Mr. CHAFFETZ. So you can't say yes?

Mr. EARLY. Well, I think we are moving to address the concerns that the citizens have. There were a number of things that had been pointed out at that particular site that we have been, as a result of the partnership here, addressing. There are a number of concerns, soil contamination, groundwater contamination, and explosives, that I think we have been looking at.

Mr. CHAFFETZ. So the answer is not yes. Is that correct?

Mr. EARLY. Well, I think we are moving to make them safe. I think we, as a result of the partnership that we have developed here at this site, which I think is unique to this type of situation, are moving to diligently address all of the hazards that are present at this site and to address them in a responsible manner.

Mr. CHAFFETZ. Colonel Mueller, are the residents and people who work there safe? Yes or no.

Colonel MUELLER. Sir, they are getting safer every day. We would not be there if the site was totally safe. Obviously, we are looking to make sure that we find everything that we possibly can that is left over from that time. I am comfortable that we have all the controls and measures in place to make that community as safe as it can be until we complete the study.

Mr. CHAFFETZ. Would you live there right now?

Colonel MUELLER. If I had a paycheck that would allow me to live there, yes sir, I would.

Mr. CHAFFETZ. Let me ask Mr. Hawkins here, have the residents been exposed to contaminants that would increase the risk of disease or dysfunction?

Mr. HAWKINS. It is possible that they have been exposed to contaminants that could cause a health problem. As you have heard, there have been a series of short term health studies in the past. In the past D.C. Council session, $250,000 has been allotted to our agency in fiscal year 2010 to do a more in depth health study that had been suggested by Johns Hopkins. That is not enough to do the full study that had been envisioned by the previous Johns Hopkins effort. We think it is well worth it and are searching to determine whether other funding sources are available.

The question of whether anyone has been harmed, my guess would be is that there are health consequences to the contaminants that have been at the site as there are in many sites around the country. I believe we are taking the steps necessary to eliminate those threats.

Mr. CHAFFETZ. Thank you. Secretary Davis, this has taken certainly considerably longer than anybody wished. What went wrong? Why is this taking so long?

Mr. DAVIS. I would say that I don't think anyone has done anything wrong when you look at the program that is in place right now. I share your concerns, just like everyone else, about the time that it is taking. But as you go around the country, as I get the opportunity to do, and look at a variety of sites, in many cases you see the same thing.

Mr. CHAFFETZ. That is not very reassuring. Is there a flaw in the procedure? On the one hand you admire a group and an agency to take an estimate. The risk is always that you aren't going to meet that estimate. But now, reflecting back, what went wrong? Why is it taking so long? Is it a procedural failure? If this is happening above and beyond Spring Valley, why is this a flaw that continues to happen all across the country?

Mr. DAVIS. Again, I don't see it as a flaw. But what I would tell you is that a lot of these sites that we are dealing with like Spring Valley go back 60, 70, or 80 years. You are dealing with incomplete information. For instance, we have misperceptions today. We watch shows like NCIS or some of these other shows where they solve three different crimes in the span of 45 minutes with perfect information. In many cases, we are dealing with imperfections here. We are dealing with information that no longer exists or records that were not kept to begin with.

So as we go back through our archival efforts to try to piece together everything that happened, that forms the basis for the initiation of efforts at these sites. I can assure you that it is a comprehensive effort that includes records; it includes, if they are still alive, actual interviews with people who were on these sites; overhead photography; and a whole host of things that have taken place and provided documentation. From that, we develop the initial estimate on what work needs to be done based on the nature and type of contamination at that site. Then we proceed with the cleanup effort.

Once you start digging in the dirt, you find different things. All these munitions that have been found at different locations throughout the country, we will go out and do geophysical mapping to try to identify various anomalies that might be there. When you go out and you actually start digging things up, you may not dig up what you thought was there. So it may take a little bit longer than you had originally anticipated.

So it is a deliberate process. In many cases, as we are going through that process, we are continuing the archival research, we are continuing to engage people that might have been there, adding new information into the situation to develop it as precisely as we can to guide the effort forward.

The other consideration, if I might add, sir, is that we also continue our concern for those people that are working at the site and

those people that are in the local community. In some cases, we just can't go out and start our work. We have to get a right of entry to go into that property. In some cases, as we have seen here at Spring Valley, for whatever reason the residents or the owners of some of those properties are reluctant to provide us a right of entry so we can go in there and do the investigative work and the follow on cleanup if needed.

So there are a lot of different variations here that impact the timetable and our ability to get the work done.

Mr. CHAFFETZ. Thank you. Thank you, Mr. Chairman. I appreciate the extra time.

Mr. LYNCH. I thank the gentleman. The Chair now recognizes the gentlelady from the District of Columbia, Ms. Eleanor Holmes Norton, for 5 minutes.

Ms. NORTON. I recognize the position, particularly that the Corps is put in, in dealing with their own munitions very deeply buried. So the only thing we can judge, it seems to me, is what standards or criteria are being used to determine when to leave and when the job is done.

Let us take the 2-year work plan. Who has seen the 2-year work plan, since you have said that you believe the job will be done in 2 years? Where is the 2-year work plan?

Colonel MUELLER. Ma'am, the work plan is one that is built by the partners. The work plan is developed by the partners. I would have to step back a minute to describe exactly where we are. I will try to do that quickly.

The Area of Interest Taskforce that involved all the partners looked at all the issues, everything that we had characterized. That taskforce came up with 28 areas of interest. To date, we have analyzed 14 of those. There are 14 areas of interest still to be evaluated. All the partners, as we go through the findings and the results of what has been investigated, then take a final look at what else may need to be done. So really the area of interest evaluation for the overall site is what has driven that.

But there is a different process for the arsenic. Then there are also geophysical surveys of properties that are a part of that work plan.

Ms. NORTON. Are you using the work plan now? Is that what you are saying? I am trying to determine what it is that makes you know that in 2 years you will be through. What is the exit plan that you are using?

Colonel MUELLER. OK. Yes, ma'am. Based on where we are today, we have analyzed firstly the historical studies and then we have analyzed everything we can't identify, items of work that need to be done. Once we complete this work there will be a remedial investigation feasibility study that is published. We will analyze all the work that has happened to date. That gets vetted with each of the agencies including D.C., the EPA, and the community. It will include a 30 day review by the public. That document will characterize all the work that has been done.

Ms. NORTON. When will the material be available to the public?

Colonel MUELLER. Ma'am, that would not be complete until we complete the physical work onsite. So as we mentioned, that current work plan identifies actions that we are taking by people on

the ground, contractors and workers cleaning and investigating the site. The feasibility study and the final remedial investigation is a document that will characterize the whole site and will then also go out for public review and agency review. That will determine, again, if there is additional work or if we have completed.

Mr. DAVIS. Ma'am, if I could add one quick comment on that? The work that is being done now has in fact been work that was vetted with the partners and developed in consultation with the regulatory agencies to drive the way forward. It has been briefed to the community via the Restoration Advisory Board meetings that take place on a monthly basis. So it is more of a work in progress now where we have goals and objectives that have been established.

Ms. NORTON. It is a work in progress that is public?

Mr. DAVIS. Yes, ma'am.

Ms. NORTON. If the community or the District wanted to know what weapons you have discovered onsite, would you give them a list of such weapons? In fact, why hasn't a list of these weapons been given to the community?

They are old. There has been some sense of a national security concern. Indeed, those words have been used. It is very difficult to know how there could be national security concerns about World War I munitions.

Mr. DAVIS. I think it goes back to the fact, ma'am, that there are chemical agent related activities that we are dealing with here. These are procedures that were set in place back prior to the 2003 destruction period. We had required individuals who were part of the partnership and other stakeholders in the community, to include the Restoration Advisory Board, to sign non-disclosure statements so that there was an opportunity to provide that information to selected members within the community and within the agencies involved in the cleanup. We would be more than happy to provide the community with a list.

Ms. NORTON. I don't understand the national security concerns at all about World War I weapons. I don't understand that this is anything but a way to keep the information from the public. We are not dealing with weapons that are in use today. Maybe the Army would be embarrassed that these weapons were ever used. But I don't understand national security concerns. What is the national security concern about a World War I munition that certainly isn't anywhere used today? It certainly has not been used for decades.

You are dealing with the most advanced Army and the most advanced scientific country in the world where these would be, if anything, antiques. So why not let us know what the antiques are, Mr. Davis?

Mr. DAVIS. Ma'am, if I could do two things? One, let me provide the members of the committee with that list. And two, let me take that back with us and review it internally and get you an answer as quickly as we can.

Ms. NORTON. I very much appreciate it. I understand the District even signs off on didactic materials; that is signing off on nothing. The notion of not even providing between agencies the names of

what the materials are and what the weapons are this long after the fact, we are almost a century later.

Mr. DAVIS. I understand your point completely. In the spirit of transparency, let me take that one on personally to go back and see if we can work that.

Ms. NORTON. I very much appreciate that.

You have said, Mr. Mueller, you just testified that the work plan is available. But the community tells us that they have not been able to get to see the work plan. See, this is why there is continuing distrust in the community. If there is a work plan, if we are now supposed to be in an era of transparency, why not share it? In fact, put it online. What is the secret here?

Colonel MUELLER. Ma'am, there is no secret. The work plans that are analyzed by the partners take place at the partnering meetings on a monthly basis. That is reviewed.

Ms. NORTON. With only some people being able to see them in the community and others not?

Colonel MUELLER. Members of the community through the Restoration Advisory Board are the members that are able to attend those.

Ms. NORTON. No, you are in a community where this information was withheld for decades. You are now about to leave. As you leave, surely we could get the greatest transparency possible so that the community would finally have confidence in the work that the Corps has done.

Now, I don't understand. I would like you to tell me why only some members of the community can see the work plan. What is secret about the work plan so that you have to have a security clearance to see it?

Colonel MUELLER. Ma'am, I will verify that. I have no knowledge of anybody that is required to have a security clearance to enter discussion.

Ms. NORTON. Have you seen it, Mr. Hawkins?

Mr. HAWKINS. There is more than one document that you are talking about. There are work plans of the actual physical work, what sites are being looked at, where monitoring is being done. That, as far as I know, is accessible.

There is information about the munitions that have been found and how it would be remediated that, since I do not have a security clearance and I refuse to sign a non-disclosure that says I could not report information to the Mayor, I don't see. However, the Metropolitan Police Department and the Fire Department do see that.

Ms. NORTON. That is what I want to know. Maybe we are dealing with truly dangerous chemicals here. Because this is a city official and he can't even disclose it to his principal. And no one can see it but people you designate.

Mr. DAVIS. Yes, ma'am. Like I said, we will take that on and go back and see if we can't work through it.

Mr. HAWKINS. Congresswoman, I also wanted to make a comment on the District's view of this concept that in 2010 we will be walking away or anyone will be walking away from this site. That is certainly not the District's intention. My experience is, and I have to say, Mr. Chair, that I was an EPA Superfund lawyer in Boston, in New England, when the license site professional pro-

gram was introduced so I have done these sites as an enforcement lawyer, that they are often iterative. Our view as to what will be completed in 2010 is currently planned work based on the data that is currently in hand.

We know that as of today another round of groundwater sampling, including deep groundwater that has not been done before, is about to commence. There is an entire area next to the reservoir that is going to be geophysically surveyed as well as an intrusive review done if needed. That data hasn't been collected yet. That may generate an additional round of work that is not currently contemplated.

Our view is that work generated by monitoring that is currently planned does not need to wait if it is so indicated until a full RIFS is done. That is a very standard process to take all the information that has been collected, put it into one document, and prepare the investigation and the study of what is necessary. That is a standard Superfund step. That is unusual in this case because it is being done much nearer to the end of the process.

Ms. NORTON. But all we want to see is what we can see now. I am not asking to see what you haven't completed yet. I understand what you are saying.

Mr. HAWKINS. Our view is that there is nothing completed in 2010 except for existing projects that are planned.

Ms. NORTON. There is a work plan which some people have seen and some people have not. That has been the testimony here, Mr. Hawkins. That has been the testimony that some members of this Board have seen it and some members have not.

Colonel MUELLER. Ma'am, if I may? Every active work plan is available at the repository at the Palisades Library in the community. So the work plans are all available to the public. There is no requirement for a security clearance to be able to see those work plans.

Mr. LYNCH. With all due respect, I couldn't find that library with a map.

Let me just formalize what has just happened here. First, we need to have the subcommittee informed, so we need to have any reports. Right now I don't believe there is requirement that you notify Congress, so I am going to make that request formally on the record. Second, you will receive that request in writing. Third, we are going to file a request to declassify the information that might be in your repository with respect to the history of this site and what weapons, chemical or otherwise, might be stored on the site. That way, it will actually save you, Mr. Secretary, from making some decision that might not be in line with your superiors. Maybe we will just do it that way.

You could short circuit that process greatly for us if you voluntarily offered information that would address Ms. Eleanor Holmes Norton's request. We would welcome that. But we want to be notified fully and promptly of any activity on the site and any information that might be available.

I share Ms. Holmes Norton's concerns that we are dealing with World War I armaments. So the declassification should be a fairly simple matter with the passage of time. Although I do know that

in some countries they still store mustard gas as an active munition. But anyway, we want that information.

I would like at this point to recognize the gentleman from Missouri, Mr. Clay, for 5 minutes.

Mr. CLAY. Thank you, Mr. Chairman. Let me start with Secretary Davis. Mr. Davis, we have a site in Missouri called the SLAAP site, which stands for the Saint Louis Army Ammunition Plant. Could you help me with the followup testing on groundwater? Let me know if it has been done with the state-of-the-art isotopic analysis that will be used in Spring Valley. Will we or do we already have a remedial investigation report that summarizes all samplings and all cleanup actions taken, and that includes a baseline human health and environmental risk assessment? Would you be able to provide that to this committee for me?

Mr. DAVIS. Sir, what I will do is go back and do research on that particular location and provide the information that we have available to you as expeditiously as we can. If we need to, we can come over and brief you and your staff.

Mr. CLAY. I would appreciate that.

Reading the GAO's study about the primary threats at the site, there were buried munitions, elevated arsenic, and the laboratory waste. Perchlorate was also found onsite. Normally, what should happen? How should we deal with this for a community? What do we do to take them out of danger, to get that exposure away from them? What should happen?

Mr. DAVIS. Well, what we have done here is to go through first a detailed archival research effort to try to gain as much information as we could about the site.

To get to the perchlorate issue that you brought up at the end, we have a series of monitoring wells that are in place right now. We are going to begin another monitoring period this summer to draw samples from those wells. We are going to put in an additional series of wells to give us a better indication of how we can characterize the perchlorate.

The big issue of concern is whether or not it is going to impact the drinking water supply for the District at the Dalecarlia Reservoir. Our geophysical assessment right now based on the hydrology of the site indicates that any perchlorate is going to not go into the Dalecarlia Reservoir but it may go into the Potomac. So we believe that by enhancing the number of wells and by reinitiating our sampling program, we will be able to determine better than we know right now what the potential source of that perchlorate might be and where it may be moving underneath the surface.

With regard to the arsenic remediation, that has been a major effort on our part to go out and actually do soil sampling at a multitude of properties on the site. Where we have found levels that exceed the EPA standard, we have gone in and removed that arsenic from those sites. In many cases, it means disturbing existing landscaping, which we then go back and work with the land owners to seek restoration.

As far as the munitions, in many cases we go through a variety of techniques, digital geomapping systems, that we have available that will help us go in and determine where specific anomalies might be that will require excavation from the soil. In other cases,

we will look at other indicators from earlier photographs of the site where we may have depressions or scars in the ground that may give us an indication that there was a burial there of some of these munitions or other munitions related to constituents. Again, this is part of the ongoing effort that we have right now, sir.

Mr. CLAY. Thank you for that. Let me go to Colonel Mueller real quickly. It was mentioned earlier that these cleanup projects are in a pinch as far as budgeting concerns, that you don't get enough money to do all of the projects. Is that accurate?

Colonel MUELLER. Sir, the requirements that we have had at Spring Valley, from the Army Corps' of Engineers perspective we have continued to receive adequate funding for the work plans that we have in place.

Mr. CLAY. No, I mean around the country. I guess there is just so much money to go around.

Mr. DAVIS. Sir, if I could interject? Colonel Mueller has the Baltimore District so he is dealing with those areas here locally. But when you look at what we are dealing with nationwide, as was mentioned by the GAO representative earlier, we have about 4,700 sites out there that are being looked at right now. Our annual budget for the FUDS program in its entirety is about $250 million. With the amount of work that is remaining to be done, the current cost to complete is in excess of $17 billion based on our current estimates. So it is going to be a while before we get the work completed that needs to be done based on just what we know today.

Mr. CLAY. Did FUDS receive any additional funding from the American Recovery and Reinvestment Act? FUSRAP did.

Mr. DAVIS. We did not receive anything from that.

Mr. CLAY. FUSRAP got a bump but not FUDS?

Mr. DAVIS. That is correct. We received about $33 million for fiscal year 2009 from the Congress as a plus up. As I mentioned earlier, $4 million of that went directly to the Spring Valley project.

Mr. CLAY. OK. Thank you. Thank you and I yield back.

Ms. NORTON [presiding]. Thank you, Mr. Clay. I would like very much to talk about the question of finality, criteria that I have been trying to probe.

Mr. Hawkins, I very much appreciate your testimony about the $50,000. Normally when there is such a situation, there is access to a very large State agency. State budgets are larger. I know that the District may be at some disadvantage.

What I am looking for is for all of you to work together, but for all of you to monitor each other. Some of you are more able to monitor than others. That is what I am getting at. I appreciate that the EPA, as noted in the testimony Mr. Early gave, has worked in partnership with the Corps, the community, and of course our own agency.

At the end of the day, who is the regulator? Who signs off? Who decides that the area is clear and safe?

Mr. EARLY. Well, as I said in my initial testimony, because this is a FUDS, the Corps is responsible and the Army is responsible for taking the lead. EPA is a support agency here.

Ms. NORTON. This really compounds my question. I don't mind the Corps, the District Department of the Environment, in fact, I think there is some good to be said for the technical support and

I appreciate that, and EPA all being in bed together. But, you see, when it comes to someone deciding in an independent fashion that the work is done, I am having trouble finding an independent agent here especially if the Corps is the lead for its own investigation.

Mr. HAWKINS. I would have two comments on that score.

Ms. NORTON. That is what Mr. Early just said. The Corps is the lead.

Mr. HAWKINS. The Corps is the lead in the cleanup. The District's view is that the cleanup will not be done until the District agrees that it is done, first. Second, my experience on all cleanups is there is no such thing as a done site.

Ms. NORTON. No, I accept that, Mr. Hawkins. That has been the testimony here, the monitoring and the testing. I accept that. So please forgive our layman's sense of done. But the way we are coming to done is the community has come to us and said they are going to be done in 2 years. They are going to be done digging. They are going to be done doing the work they were doing on the site. After that, you say there will be something but it is different.

I am trying to put myself in their position. I appreciate that you have made us understand that there is no leaving, no exit in that sense. But somebody had to decide that in 2 years what is being done now will no longer be necessary. That is what I am trying to understand. How did that decision get made? On what basis was that decision made? How do we know? Why not 2 years ago? Why not 4 years from now? How did that decision get made? How will we know, once you go to the other phase of what you do, that you should have left at that time? Who will tell us?

Colonel MUELLER. Ma'am, that is a complicated question because of the different aspects of the project. Clearly, there is an answer for that for the arsenic that we are removing and have removed from 106 properties. There is an answer for the munitions and explosives of concern based on the partners agreement on the 28 areas of interest that we are investigating, and there is another answer for the geophysics that we are using to look for other anomalies on properties. So ma'am, I don't have an easy answer for that.

Ms. NORTON. I don't understand why that is even a problem. Whoever is the decider can in fact get the information. I am not asking you about the different kinds of information. My question is very simple. It is a very common sense question that a citizen would ask. Who has the independence to make the judgment that the time to quit the phase you are in is over? Who is that entity, particularly given that the Corps has left twice and had to be called back?

Mr. Hawkins, the fact that they won't go until you say so, it is just the way the supremacy clause works? This is a Federal agency. They have left before. So the District will continue to say we find x, y, and z here. But this is a Federal agency. Therefore, I have to find what Federal entity or independent entity is going to be responsible for making a very critical decision. After more than 15 years of work that has been very controversial, where there is still great dissatisfaction with transparency, where people still don't know what the weapons are, where you are in a residential com-

munity, it is fair to ask who is going to make that decision and how independent is that entity?

Mr. DAVIS. Ma'am, could I add two points to that question? First and foremost, as far as the work that is being done and the planning that goes into that work, I think it has been well stated here in terms of the partnership that has been undertaken between EPA, D.C., and the Corps of Engineers, the work that is done by the Corps is in fact done to the appropriate standards established by EPA.

Ms. NORTON. So at EPA, Mr. Early, you then do an independent evaluation yourself as to whether or not the Corps has met those standards?

Mr. EARLY. Yes. EPA is responsible for reviewing the actions that are proposed and determining the applicable standards both at the Federal and the State level to figure out if there are more stringent standards that the State has applied that are applicable to the site. Then in our role in terms of concurring, we either concur with what is being proposed in terms of the finality of the action or we would say that there are some additional things that need to be made to meet the standards that are applying at both the Federal and the State levels.

Ms. NORTON. So the State has higher standards, in this case the District of Columbia, that could be adopted?

Mr. EARLY. They can. They could have higher standards that could go beyond and be more stringent than what the Federal standards are.

Ms. NORTON. And EPA would adopt those standards?

Mr. EARLY. Well, we would make sure in terms of any cleanup activities that are being undertaken that those would be complied with over and above the Federal standards.

Ms. NORTON. Would the partners have an objection to an independent study? The silence is deafening. You have been working very hard.

Mr. DAVIS. If I could just jump in on that one? We have an independent representative that provides input to the community on behalf of the Restoration Advisory Board.

Ms. NORTON. Who is that?

Mr. DAVIS. I don't have his name but I can provide that to you all.

Ms. NORTON. I am sorry, I am looking for somebody above it all who will look at the work and say that the work has been done or not.

Mr. DAVIS. Yes, ma'am. If I could just continue? When the work that has been determined and the work plan gets to a point in time when it is completed, if you will, the investigative work and the removal work is done, and any long term monitoring is in place, that is when this process that was mentioned earlier, this remedial investigation feasibility study, is done. That basically is a very all-encompassing document that will go back and look at all the work that has been done up until that point in time, determine what it achieved or, as Mr. Early said, did not achieve. From that document it will give us an indication as to whether or not we need to continue work in certain areas where there may be gaps in the work that had been done.

That document will go out for public review and comment. We will again take onboard the comments from the partners and from the community and then go back and do any additional work that needs to be done that was either not done or that was identified that needed to be done as part of this process.

Ultimately though, getting to the answer to your question, once we reach that agreement and the work is completed, then the Corps of Engineers as the lead agent will issue a record of decision. That will again document what work was done to ensure health and human safety.

Ms. NORTON. Did you issue such a decision the two times you previously left the site?

Mr. DAVIS. I believe at least on one of those occasions one was in fact issued. I will go back and verify that.

Ms. NORTON. Who evaluated that decision? Did the EPA evaluate that decision—it seems to be its job—when they left twice before?

Mr. EARLY. I am not sure based on my consultation whether or not we concurred on the RAD [phonetic] back in 1995 when it happened.

Ms. NORTON. I can see the position. We have the EPA here. We look to the EPA as the Federal agency for environmental matters. I see the relationship of course with the State, in this case the District. It does seem to me that some of the problems raised here have been problems about whether or not the EPA, at least now, is intent upon doing its job as a Federal regulatory agency. Ultimately, they can do their plan and their decision to leave as just described all they want to. But the Corps has no jurisdiction to declare an area environmentally safe at all. They are being regulated as far as we are concerned. So we have to look to the EPA, which doesn't have the best reputation in this Spring Valley episode, to do its job.

I cannot say to you that I have been convinced yet, we have some time to go, that an independent evaluation will not be necessary. The reason that anybody would even think of that is the sad story of the lack of transparency all this time, including what the chairman had to say about finding out what the weapons are, weapons that are so old and obsolete that they cannot possibly be matters of national security. Yet people have been told that is why they can't know what the weapons are.

You see, when you hear that kind of thing, you lose confidence in process. You think there must be something secret here. You had better find out more. They really are hiding things. That is why I think what the chairman has done to clear the air there is going to be very important to do unless you can yourself do it. Because it is going to be necessary for everything to come out.

We don't see any reason why, when we are talking about weapons that are a century old, anybody with a straight face would use the term national security concern. We just don't understand it. I am on the Homeland Security Committee and I hear legitimate national security concerns all the time, but I haven't heard any explained here today.

Let me go on to a few more questions. Are there any other areas of the District of Columbia where the Army has either any intelligence or any suspicion that there are chemical weapons buried?

Mr. DAVIS. Ma'am, while there are other FUDS sites in the District itself, there are no other sites at this point in time that we believe have chemical munitions.

Ms. NORTON. I know there were some weapons in northeast. I know they were in southeast where the Giant now is. I know that has been cleaned up or the Giant wouldn't be there. I just want to know for the record, are there any more sites where there are weapons? You say there are none? That is your testimony?

Mr. DAVIS. That is correct. Not to my knowledge. There is one other site that we have in the District that has long term monitoring underway. It is one of the sites I think that you mentioned that have been previously cleaned up. But other than that, no, there are no other sites that we know of at the present that contain chemical munitions.

Ms. NORTON. Has the Corps ever had to use the equipment you propose to use in Spring Valley to destroy weapons in a residential community before or close to a residential community?

Mr. DAVIS. Ma'am, the technology we are going to use for the destruction is similar to the technology that was used in Spring Valley in a residential setting back in 2003 when we destroyed 15 chemical munitions.

Ms. NORTON. So you are using the same equipment to destroy this ordnance that you have all along been using or have used before here?

Mr. DAVIS. That is correct. We have done over 1,500 destruction missions without incident.

Ms. NORTON. Finally, could I ask you, Mr. Early, why Spring Valley has not been on your National Priorities List?

Mr. EARLY. It is our position that it hasn't at this point in time been necessary to put Spring Valley on the National Priorities List, although that is an option that we continue to look at. Based upon the experience that the agency has had with Spring Valley, the partnership that we have developed in terms of the checks and balances that I think we have developed, and the fact that the Spring Valley site has been given priority funding with regard to the cleanup at the Army as well as sufficient funds being provided by EPA to make sure that the work is done in an appropriate manner, we haven't seen fit to list the site on the NPL.

Ms. NORTON. So it is not dangerous enough at this point so far? We would be pleased to know that.

Mr. EARLY. Well, we think this site is being adequately addressed in terms of the funding and the resources that are being devoted to the site at this point in time. As I said, this is something that we continue to monitor in the event that we think that is not the case. That is an option that the agency is prepared to consider.

Ms. NORTON. The final question for me, the one unanswered question that I certainly do not understand, has to do with the troubling levels of perchlorate that have been found in the groundwater. I do not believe a source has been identified. It is hard to understand how you are leaving the area with perchlorate having been found in the groundwater, and we don't even know where it is coming from. Could you explain?

Mr. DAVIS. Ma'am, if I could just elaborate on that a little bit? Of all the wells that we have in place there, we did have two detec-

tions. One was at about 144 parts per billion, which was in the vicinity of Glenbrook Road monitoring well in the AU area.

Ms. NORTON. I am talking about a source.

Mr. DAVIS. Right. First and foremost, the wells are helping us detect where the perchlorate might be located. Then from that we have procedures that we will use.

Ms. NORTON. Wait a minute. Stop so I can understand, please. So the wells are helping us to understand where it is located? We don't know where the perchlorate comes from?

Mr. DAVIS. Not at the present. That is the purpose of the additional monitoring procedures that we will undertake this summer with the placement of some additional monitoring wells. Some of these wells are going to be at a deeper depth. Again, what we are really trying to do is to determine what is the source. But at the same time, we want to try to map underneath the surface where we think the perchlorate is moving and where it came from.

Ms. NORTON. Is that the most serious problem you will have to continue to monitor?

Mr. DAVIS. At this point it will be.

Ms. NORTON. Yes, Mr. Hawkins?

Mr. HAWKINS. I was going to agree that the reason that our view is that it is premature to say that activities at the site are at a closing point is because this second round of monitoring for perchlorate that has been planned, including deep wells, is exactly, as you have suggested, the attempt to find the source. If a source is found, there are new steps of work that will be needed to remove that source. We just do not know that.

Ms. NORTON. You mean we don't even know if it is ordnance or if it is from sources that the Army Corps has been trying to rid us of? You don't even know that? They could be from something else?

Mr. DAVIS. That is correct.

Ms. NORTON. Well, that is obviously very disturbing because this is when we found it.

Finally, could you tell me how the members of this Board are chosen? This Residential Advisory Board has been very controversial in the community, yet it was established in order to establish communication with the community. How are the members appointed? How are they chosen?

Colonel MUELLER. Ma'am, the community chooses their representatives for the committee. They have 14 community members.

Ms. NORTON. What do they do, have an election?

Colonel MUELLER. Yes, ma'am.

Ms. NORTON. They have an election to choose who the members of the Residential Advisory Board would be? I thought you had something to do with that.

Colonel MUELLER. Ma'am, the Army Corps of Engineers is a member of the RAB, a non-voting member, but the community maintains or obtains 14 of their own members.

Ms. NORTON. I am just trying to find out who appoints them. I know where they come from. Who appoints them?

Colonel MUELLER. Ma'am, the Army Corps of Engineers does not appoint members of the RAB.

Ms. NORTON. All right. Somebody tell me who appoints them. Somebody has to be the appointing authority. I am just trying to find who that is.

Colonel MUELLER. Ma'am, when the Restoration Advisory Board was originally established in 2001, we did recruit the initial members. We asked for community members who were interested. But after that initial time in 2001, they identify their own.

Ms. NORTON. So you appointed the first ones. As people left, then who was the decisionmaker?

Colonel MUELLER. The RAB members themselves.

Ms. NORTON. Oh, I see. It is from inside the Board itself.

Colonel MUELLER. Yes, ma'am.

Ms. NORTON. Thank you very much. We have kept you a long time because this is a complicated issue. We have appreciated your patience in answering questions. The panel is dismissed.

We ask for the next panel to come forward. We will swear you in quickly because it is the committee's policy that all witnesses are sworn in. Would you all raise your right hands?

[Witnesses sworn.]

Ms. NORTON. Please be seated. This the final panel. It is an important panel. It comes from the community and those who have been most affected and most involved. President of American University, Cornelius Kerwin is the first alumnus to serve. He focuses on public policy. Chairman Greg Beumel, the community co-chair of the Residential Advisory Board, became co-chair in 2005 and has served since 2002. Nan Wells, advisory neighborhood commissioner, represents a community of 2,000 residents living in Spring Valley. Thomas Smith, a 30 year resident of Spring Valley, represents the Spring Valley American University and Westover Place neighborhoods. Kent Slowinski is a founding member of the Environmental Heath Group, which of course investigates environmental health problems. Finally, James Barton is president of Underwater Ordnance Recovery.

I am going to ask us to proceed forthwith with President Kerwin first.

STATEMENTS OF CORNELIUS M. KERWIN, PRESIDENT, AMERICAN UNIVERSITY; NAN SHELBY WELLS, ANC COMMISSIONER 3D03; THOMAS SMITH, ANC COMMISSIONER 3D02; KENT SLOWINSKI, FORMER MEMBER, SPRING VALLEY RESTORATION ADVISORY BOARD; GREGORY A. BEUMEL, CHAIRMAN, SPRING VALLEY RESTORATION ADVISORY BOARD; AND JAMES BARTON, PRESIDENT, UNDERWATER ORDNANCE RECOVERY, INC.

STATEMENT OF CORNELIUS M. KERWIN

Mr. KERWIN. Thank you, Congresswoman Norton. I will be brief. My name is Neil Kerwin. I have been president of American University for 4 years, serving as interim president from August 2005 to July 2007, and president from July 2007 until now. I have been a member of the American University community for nearly 40 years.

We appreciate this committee's ongoing interest in this project, knowing as we do that it is motivated by a concern for the safety and well-being of everyone in northwest Washington.

American University participated in hearings on the Corps' of Engineers project that were held in July 2001 by the House Subcommittee on the District of Columbia. At that time, we provided a substantial number of historical documents and communications dating from 1917 through 2001 on the use of our campus by the U.S. Government and the U.S. Army. The compendium is a valuable resource of project background and information provided by American University, which was one of 10 properties in Spring Valley used by the U.S. Government in an effort to support the Nation during wartime.

Fundamental to our action and our position on these matters are a few overarching truths. American University did not produce, test, bury, nor conceal chemical munitions. The war material produced, tested, and buried around Spring Valley and American University are the responsibility of the U.S. Government, the U.S. Army, the Corps of Engineers, and now the partners with which it works. American University has made available all information to the Army Corps of Engineers regarding the cleanup.

The University has endured years of dislocation, suspended operations, business interruption, unreimbursed costs in the millions of dollars, and periodic safety concerns as the Army Corps has conducted its multi-year effort to find and remove items from that era.

It has been our consistent position to act with an abundance of caution to ensure the safety of all. Senior members of the University have been assigned to work with the Army Corps and to monitor their activity. We have hired outside expertise to independently assess the Army Corps' work, to fully protect our campus, and to ensure the safety of the surrounding area.

To assess risk, we hired Dr. Paul Chrostowski almost 10 years ago as an advisor to the University to review the recommendations and the work performed by the Corps and their contractors. He is an environmental engineer, an applied toxicologist, and a chemist whose expertise has benefited the University and the surrounding community on matters ranging from the establishment of a stringent arsenic cleanup standard to recommending additional safety measures on the Corps' containment structure on Glenbrook Road.

AU's ongoing information sharing efforts have expanded over the past 20 years and have included campus memoranda, open meetings, new articles, materials posted electronically, and historical documents in the University archives. The University Web site devoted to the Army Corps' activity has been an information resource with links and, we believe, helpful information. That site now includes more than 80 communications that have been posted with project updates since the year 2000.

As risks have warranted, we have targeted specific populations with pertinent information and taken additional measures over the past 10 years such as hosting forums, meetings, and discussions; instructing our staff, faculty, and students how to shelter in place; suspending operations on high use athletic fields for 2 years; closing our Child Development Center, which serves as a daycare center and educational facility for our faculty's and staff's children, for

9 years; and testing defined campus populations for arsenic poisoning. These are only a few examples.

Every outreach that we have done has been based on the nature of a particular situation and the potential risk at hand. A high probability occurrence might require a rapid response with specific safety protocols while a low probability occurrence might prompt a general sharing of information.

AU's archives are open and accessible to anyone and have been used extensively by journalists, government agencies, and community members to learn more about the history of these activities in northwest Washington. The only archived documents not publically available are Board of Trustees materials that deal with the American University as a private corporation and include confidential information related to governance, personnel matters, third party, and financial information.

To respond to questions whether these private records might contain pertinent information, in April 2005 AU Counsel made these records available to independent parties from the Environmental Protection Agency. They reviewed Trustee minutes and information from that period and agreed there is no information included that might help the Corps locate additional burial sites or to assist in the cleanup and remediation. This was reported to the Restoration Advisory Board [RAB], in May 2005 and in a partnering meeting.

We want to thank you for your help, Congresswoman Norton, over the years to help ensure the affected areas in northwest Washington are completely cleaned of all World War I debris and byproducts and are fully and safely restored. We will, we have, and we continue to do all we can to assist in that effort.

[The prepared statement of Mr. Kerwin follows:]

Subcommittee on Federal Workforce, Postal Service and the District of Columbia
Testimony of Cornelius M. Kerwin, President of American University
June 10, 2009

My name is Cornelius Kerwin. I have been president of American University for the past four years -- serving as interim president from August 2005 to July 2007 and president from July 2007 until present. I have been a member of the AU community for 40 years. We appreciate your ongoing interest in this project, to ensure the safety and well being of everyone in northwest Washington, D.C.

American University participated in hearings on the Army Corps project that were held on July 27, 2001 by the House Subcommittee on the District of Columbia. At that time, we provided a substantial number of historical documents and communications dating from 1917 through 2001 on the use of our campus by the U.S. Government and the U.S. Army. This compendium is a valuable resource of project background and information provided by American University – which was one of perhaps 10 properties in Spring Valley used by the U.S. Government in a patriotic effort to support our nation during wartime.

Fundamental to our actions and position on these matters are overarching truths:

- American University did not produce, test, bury nor conceal these chemicals or munitions.
- The war materiel produced, tested, and buried around Spring Valley and American University was the work of and belongs to the U.S. Government and the U.S. Army.
- The responsibility to locate and safely remove these items and restore the land is the responsibility of the U.S. Government, U.S. Army, and the Army Corps of Engineers.
- American University has made available all information germane to the Army Corps cleanup.

The university has endured years of dislocation, suspended operations, business interruption, un-reimbursed costs in the millions of dollars, and periodic safety concerns as the Army Corps has conducted its multi-year effort to find and remove all items from that era.

It has been our consistent position to act with an abundance of caution to ensure the safety of all. Senior members of the university have been assigned to work with the Army Corps and monitor their activity. We have hired outside expertise to independently assess the Army Corps work to fully protect our campus and ensure the safety of the surrounding area.

To assess risk, we hired Dr. Paul Chrostowski almost 10 years ago as an advisor to the university to review the recommendations and work performed by the Army Corps and their contractors. He is an environmental engineer, applied toxicologist, and chemist whose expertise has benefited the university and surrounding community -- on matters ranging from establishing a stringent arsenic clean up standard to recommending additional safety measures on the Army Corps containment structure on Glenbrook Road.

AU's ongoing information sharing efforts have expanded over the past 20 years, and have included campus memos, open meetings, news articles, materials posted electronically, and historical documents in the library archives. A university Web-site devoted to the Army Corps activity has been an information resource with links and helpful information. The site includes more than 80 communications and project updates since Year 2000.

As risks have warranted, we have targeted specific populations with pertinent information and taken additional measures over the last 10 years, such as:

- Hosting forums, meetings, and discussions;
- Instructing workers, faculty and students how to shelter-in-place;
- Suspending operations on a high-use athletics field for two years;
- Shutting down our Child Development Center (daycare) building for nine years;
- Testing defined campus populations for arsenic poisoning.

These are only a few examples. Every outreach has been done based on the nature of a particular situation and the potential risk at hand. A "high probability" occurrence might require a rapid response and specific safety protocols while a "low probability" occurrence might prompt a general sharing of information.

AU's archives are open and accessible to anyone and have been used extensively by journalists, government agencies, and community members to learn about the history of these activities in northwest Washington.

The only archive documents not publicly available are the Board of Trustees materials that deal with American University as a private corporation and include confidential information relating to governance, personnel matters, third-party and financial information.

To respond to questions whether these private records might contain pertinent information -- in April 2005, AU counsel made these records available to independent parties from the Environmental Protection Agency. They reviewed trustee minutes and information from that period and agreed there was no information included that might help the Corps to locate additional burial sites or assist in the clean-up and remediation. This was reported to the Restoration Advisory Board in May 2005, and to the partnering meeting

(including representatives from the EPA, Army Corps, AU, and the DC Department of Health).

We thank you for your help to ensure that the affected areas in northwest Washington are completely cleaned of all World War I debris and byproducts and are fully and safely restored.

We will do all we can to assist.

Ms. NORTON. Thank you very much, Mr. Kerwin. We are going to go to Ms. Wells. Before we do, would everybody shift to the left a little bit? The expert witness just arrived so we have a little crowded table there. Ms. Wells.

STATEMENT OF NAN SHELBY WELLS

Ms. WELLS. Thank you so much, Congresswoman Norton. I just want to thank you again for organizing the hearing today. Your leadership on behalf of the Spring Valley residents has been crucial in presenting our concerns and making certain that the cleanup is thorough and complete before the Army Corps of Engineers leaves the area again. My comments today will be brief.

As the ANC commissioner for a large part of Spring Valley extending to Dalecarlia Parkway, I have joined with my fellow Commissioner Tom Smith in working with the local and Federal officials responsible for the ongoing effort to remove World War I munitions, chemical weapons, and other contamination from the community in which we live.

The project schedule which was attached to my testimony and which we have discussed indicates that the Army plans to finish in fiscal year 2010, which ends September 30, 2010. That is only about 16 months from now so we have less than 2 years. In 2011, the Army would complete reports on the status of the cleanup and the level of remaining contamination. However, it is not clear that they will continue any of the more active investigations.

Furthermore, ongoing project activities and remediation have been limited by insufficient funding. I realize there has been testimony to the contrary here but I base that on my participation in the partnering meetings where I know that things have been set aside or things have been put to a lower priority, even though in my view they should be followed up.

There is considerable concern that the Army will end the active investigations before the final reports that contain the required information on the cleanup are completed and reviewed by independent experts. I want to say how important it is, and I totally agree with you, that we have independent experts verify the accuracy and thoroughness of the effort.

In order to successfully complete this project, we need the following: No. 1, I would recommend an independent and expert review of the project's methods and data by the National Academy of Sciences.

No. 2, we need additional funding sufficient to complete these necessary investigations and the remediation activities. I might add that American University was able to get an earmark to complete some of the work on their area. I think it was in fiscal year 2008.

Then No. 3, we need disclosure of all environmental data to the public. I will note later on that while we can participate now in the partnering meetings and we are now able to speak to our fellow commissioners and to other public officials, we cannot release any information from the partnering meetings to the public until it has been specifically sort of declassified.

No. 4, and this follows along with this, we need increased transparency, accountability, and oversight from all of the participating

agencies and involved institutions including the D.C. Department of the Environment, the EPA, the Army Corps, and American University. We need to work together on these issues.

The Army began the cleanup, as everyone has stated, 16 years ago but there was no organized exploration of the extent of the contamination until the accidental discovery of the munitions and chemical filled weapons in the Spring Valley West section. There is, however, evidence that various institutions and the Army Corps knew at least as early as 1986 that there were possible burial sites.

The AUES site and operations were extensive. Some of the written sources I have seen say that Camp Leach involved as many as 100,000 soldiers and 1,200 chemists and engineers. It has also been described as the world's second largest poison gas facility in 1917 and 1918.

As has been stated before, the Army Corps declared Spring Valley safe and left. Again in 1995 they declared it safe. But the D.C. Department of Health and the dedicated professionals in that Department contested that decision. Following that, the large toxic sites on Glenbrook Road were located in 1998.

However, the Army withdrew from a part of that site in 2002 after 4 years when the contractor who owned the property withdrew permission for access to his property. They left the site unfinished. I might note that this has been an issue on a variety of properties. Looking for various bunkers and other sources, they have not used their walk in authority. We have a recent case in which they wanted to place a groundwater well, a deep well, and they went through 5 years of negotiations with the property owners until EPA threatened to march in. The family finally agreed to allow some monitoring to go on. So I would argue that this has delayed the project because they have been unwilling to use the authority they have.

There is also concern about the Army's plans to destroy chemical munitions in the neighborhood as I understand just now in August of this year. Although the Army has destroyed munitions using this same technology before, it is my understanding, and I am pretty certain about this, this will be the first time the process will be used to destroy explosively configured munitions that could release arsene gas.

It is a highly toxic chemical for which there is no antidote. The Army currently plans to destroy the munitions and neutralize the chemicals left behind in an area just behind Sibley Hospital, near the Grand Oaks Retirement Residence, near the D.C. reservoir, and next to a Spring Valley residential neighborhood. We have urged that the destruction be undertaken at a Federal facility, of which there are many in D.C. and the surrounding area.

Similar destruction, I believe, in the past has only been done on military bases or was done once in a very lightly populated area of Arkansas. But they have never destroyed munitions, explosively configured, containing arsene gas. Now they do have and have set up special conditions to contain the release of gas but nonetheless you have a hospital, a retirement home, and a residential neighborhood.

I might point out some of the inconsistencies that we face as ANC commissioners. On the one hand, we are told that the storage

and destruction of these materials, explosively configured arsene, are so safe that the process can take place in this location. However, we are told that the materials are so dangerous that we cannot know exactly what they are. This inconsistency doesn't inspire confidence.

In 2007, when I asked for a report on the results of the prior investigations carried out on Glenbrook Road from 1999 to 2002, I was told that report had never been completed and therefore could not be released so I could not see it. It is still not available. That investigation ended in 2002.

Groundwater monitoring is critically important both in determining the levels of contamination and in locating potential sites of contamination, as the Congresswoman has stated. The project has installed a large number of groundwater monitoring wells around the reservoir and the University. However, groundwater in these wells has not been tested since 2007, almost 2½ years ago. There are plans to test the wells in 2009, but it is June and to date no testing has been done. Additional groundwater wells are scheduled to be installed this year in order to further determine the flow of groundwater near the reservoir. However, still no regular schedule for testing groundwater has been proposed.

My experience, contrary to some of the testimony of the GAO representative, is that too much of the information on the contamination discovered thus far has been restricted, often for reasons that don't make sense. National security is frequently cited as the reason data and other information cannot be shared, that we cannot share it with others, and that indeed much of it can't be shared with us. We are told that the information would be useful to terrorists.

I am well aware of national security concerns. I held a secret clearance while I worked for the Armed Forces Radiobiology Research Institute. I understand security needs, but I have never seen the kind of security excuses, if you will, that we have been receiving for the information we need.

When I first began attending the meetings of the partnering group which you have heard much about, the agencies and whatnot, that was only when I became an elected ANC official. Only local officials, members of the agencies, or members of the RAB are able to attend the partnering meetings. I was not allowed to discuss at first any of the information, when I first did this, that I learned with my fellow ANC commissioners, including Tom Smith, other public officials, or members of the public. Even agency representatives were not allowed to share the information they were given at the meetings with their supervisors.

Sometimes it appears that the partnership serves to restrict challenges to Army plans and to delay progress of the plans.

In addition to concerns about health and safety, the location of a major D.C. reservoir near the area of contamination leads to questions about the possible impact on residents in other areas of the city. In testimony presented on April 12, 2006 to the D.C. Committee on Public Works and Environment, Colonel Robert J. Davis, Commander, Baltimore District, U.S. Army Corps of Engineers, described why the testing of groundwater especially for contaminants like perchlorate is so important.

Colonel Davis stated the following at the hearing: "As discussed at the Spring Valley RAB meeting last night, our groundwater elevation data does suggest that some limited groundwater is likely seeping into the reservoir at specific locations. However, we expect this volume of groundwater to be minute compared to Potomac River water entering the reservoir every day, and we have had no significant detections in groundwater wells closest to the reservoir. Our phase 2 investigation later this year and next year will provide much more information as to whether any Spring Valley groundwater contamination detected upgradient of the reservoir could pose a future risk."

While Tom Smith and I now have the ability to discuss information with public officials and they can discuss information with others in the agencies, agency and public access to information remains limited. The D.C. Department of the Environment is not allowed to know the chemicals that will be brought into D.C. for use in the destruction of the munitions this summer, nor have they been given the identity of the chemicals in the hazardous waste that will be produced.

Our concerns in Spring Valley are not that different from many FUDS communities. Having spent most of my professional life working with scientists and with universities in support of science, I am not here to criticize or complain. It is crucial that all the parties and agencies work together to complete the successful remediation of this site which my neighbors and I call home. We must make certain that public health and safety are protected and that the data verifying the cleanup is released to the public.

Thank you very much for this opportunity to appear before the committee.

[The prepared statement of Ms. Wells follows:]

Testimony
of
Nan S. Wells
ANC Commissioner 3D03
Committee on Oversight and Government Reform
Subcommittee on Federal Work, Postal Service, and District of Columbia
Washington, DC
June 10, 2009

I want to thank Representative Norton for organizing the hearing today. Her leadership on behalf of the Spring Valley residents has been crucial in presenting their concerns and making certain that the cleanup is thorough and complete before the Army Corps of Engineers leaves the area again.

My comments today will be brief. As the ANC Commissioner for a large part of Spring Valley, I have joined with my fellow Commissioner Tom Smith in working with the local and federal officials responsible for the ongoing effort to remove WWI munitions, chemical weapons, and other contamination from the community in which we live.

The project schedule which is attached to my testimony indicates that the Army plans to finish most of its active investigations in Fiscal Year 2010, which begins October 1, 2009, and ends September 30, 2010. In Fiscal Year 2011, the Army would complete reports on the status of the cleanup. However, there remain serious questions regarding the location of additional areas that need investigation and the level of the remaining contamination.

There is considerable concern that the Army plans to end the active investigations before the final reports that contain the required information on the cleanup are completed and reviewed by independent experts to verify the accuracy and thoroughness of the effort. Project activities have also been limited by insufficient funding.

In order to successfully complete the project, we need the following:

1. Independent and expert review of the project's methods and data by the National Academy of Sciences (NAS).

2. Additional funding sufficient to complete the necessary investigations and the remediation activities.

3. Disclosure of all relevant environmental data to the public.

4. Increased transparency, accountability, accountability, and oversight from all of the participating agencies, and involved institutions, including the DC Department of the Environment (DDOE), the Environmental Protection Agency (EPA), the Army Corps, and American University.

The Army began the cleanup of the Spring Valley area 16 years ago. Although some of the activities that took place at the American University Experiment Station (AUES) had been documented in the records of institutions and agencies, there was no organized exploration of the extent of the contamination until the accidental discovery of munitions and chemical filled weapons on January 5, 1993.

There is evidence, however, that the Army Corps and American University knew, at least as early as 1986, that there were "possible burial sites." The AUES site and operations were extensive. Camp Leach activities were said to involve as many as 100,000 soldiers and 1,200 chemists and engineers. It has been described as "the world's second-largest poison gas facility in 1917 and 1918."

In 1995, after two years of investigation, the Army Corps issued a report describing the results of their work and declaring Spring Valley "safe." They indicated that no further investigation was required. This conclusion was contested by the DC Department of Health and thanks to dedicated professionals in the department, the large toxic sites on Glenbrook Road were located in 1998.

However, when the contractor building a house next to the site withdrew permission for access to his property, the Army withdrew in 2002, and left the site unfinished. Excavation of this heavily contaminated site on Glenbrook was finally begun again in 2007. The investigation and remediation are expected to be completed in 2009. Given the history of the unfinished investigations at this project, however, it is very important to make certain that when the Army leaves Spring Valley again, the cleanup will be both thorough and complete.

There is also concern about the Army's plans to destroy chemical munitions in the neighborhood in July of this year. Although the Army has destroyed munitions using the same technology before, this will be the first time the process will be used to destroy explosively configured munitions that could release arsine gas, a highly toxic chemical for which there is no antidote. The Army currently plans to destroy the munitions and neutralize the chemicals close to Sibley hospital and Grand Oaks retirement residence, near the DC reservoir, and next to a Spring Valley residential neighborhood. We have urged that the destruction be undertaken at a federal facility of which there are many in DC and the surrounding area.

On the one hand, we continue to be told that the storage and destruction of these materials are so safe that the process can take place near a hospital, the reservoir, and a residential neighborhood. However, we are then told that the materials are so dangerous that we cannot know what they are. This inconsistency does not inspire confidence. In 2007, I asked for a report on the results of the investigations carried out on Glenbrook Road from 1999 to 2002. I was told that the report had not been completed, and therefore, could not be released. It is still not available.

Ground water monitoring is critically important both in determining levels of contamination and locating potential sites of contamination. The project has installed a number of ground water monitoring wells around the reservoir and the university. However, ground water in the wells has not been tested since 2007. There are plans to test the wells in 2009, but it is June and to date, no testing been done. Additional groundwater wells are scheduled to be installed this year in order to determine the flow of groundwater in the community. However no regular schedule for testing has been set.

Too much of the information on the contamination discovered thus far has been restricted, often for reasons that do not make sense. National security is frequently cited as the reason that data and other information cannot be shared. We are told that the information would be useful to terrorists.

When I first began attending the meetings of the "Partnering Group", which is composed of representatives for the DC and federal agencies involved in the cleanup, I was not allowed to discuss any of the information that I learned with my fellow ANC commissioners, other public officials, or members of the public. Even agency representatives were not allowed to share information with their supervisors.

In addition, to concerns about the health and safety of residents in the immediate area, the location of a major DC water reservoir near the area of contamination leads to questions about potential contamination and the possible impact on residents in other areas of the city. In testimony presented on April 12, 2006, to the DC Committee on Public Works and the Environment, Colonel Robert J. Davis, Commander, Baltimore District, U.S. Army Corps of Engineers, described why the testing of groundwater, especially for contaminants like perchlorate, is so important.

"As discussed at the Spring Valley RAB meeting last night, our groundwater elevation data does suggest that some limited groundwater is likely seeping into the reservoir at specific locations. However, we expect this volume of groundwater to be minute compared to the Potomac River water entering the reservoir everyday, and we have had no significant detections in the groundwater wells closest to the reservoir.

Our phase-2 investigation later this year and next year will provide much more information as to whether any Spring Valley groundwater contamination detected upgradient of the reservoir could pose a future risk. If the Partnership identifies a significant future risk, we will determine, through consensus, what action should be taken to mitigate that future risk before it becomes a problem."

Tom Smith and I now have the ability to discuss information with public officials and they can discuss information with others in their agencies, but public access to information remains limited. The DC Department of the Environment is not allowed to know the chemicals that will be brought into DC for use in the destruction of the munitions this summer, nor have they been told specifically the identity of the chemicals in the hazardous waste that will be produced by the destruction.

Our concerns in Spring Valley are not that different from many FUDS communities. Having spent most of my professional life working with scientists and with universities in support of science, I am not here to criticize or complain. It is crucial that all the parties and agencies work together to complete the remediation of this site which my neighbors and I call "home". We must make certain that the public health and safety are protected and that the data verifying the cleanup is released to the public.

I encourage you to read the Commissioner Smith's excellent review of the history of the activities. Tom was a resident of the neighborhood at the time of the "rediscovery" of the munitions and other contaminants. Also useful in reviewing the history of the work at Spring Valley is the "Washingtonian" article entitled "Ground Zero" published December 1, 2000.

Thank you for the opportunity to appear and discuss the Spring Valley project with you today.

SPRING VALLEY FUDS LIFECYCLE SCHEDULE

Schedule breakout for the Military Munitions Response Program (MMRP) and the Hazardous & Toxic Wastes (HTW) Program as of February 2008

	FY 08 ($19.3M)	FY 09 ($11M)	FY 10 ($11M)	FY 11 ($2.5M)
MMRP	• Glenbrook Road – Test Pits, Pit 3 • AU Public Safety Building Investigation • 4801 Glenbrook Road Anomalies • Munitions Disposal • Residential Geophysics/Intrusive	• 4801 Glenbrook Anomalies • 4825 Glenbrook Rd. Test Pits finish • AU Public Safety Building Investigation • AU Main Campus Investigations finish • Dalecarlia Woods Area Geophysical Investigation • Residential /AOI Geophysics/Intrusive • Munitions Disposal	• Dalecarlia Woods Impact Area Intrusive Investigation Begin • Residential Geophysics/Intrusive • Munitions Disposal	• RI/FS Report, Proposed Plan and Decision Document wrapup year
HTW	• Arsenic Soil Removals • Groundwater Investigation • Property Reimbursements • Phytoremediation • AOI, Background Sampling • Ecological Risk Assessment • Lot 18 Risk Assessment • RI/FS	• Arsenic Soil Removals $5.5M • Property Reimbursements • Groundwater Investigation • Phytoremediation • AOI Sampling • RI/FS	• Property Reimbursements • Groundwater Investigation • Phytoremediation • RI/FS Report • AOI Sampling	• RI/FS Report, Proposed Plan and Decision Document

Ms. NORTON. Thank you very much, Ms. Wells.

I want to alert this panel that in 20 minutes to a half hour even the voteless Delegate from the District of Columbia gets to vote. There is a vote in the committee and I wrote a memorandum that has resulted in my being able to vote there. So I would like to get this hearing completed before then. I am going to ask everyone to briefly summarize their testimony so I can make sure we get to everybody before I have to leave myself.

Mr. Smith, I am very glad to hear from you now.

STATEMENT OF THOMAS SMITH

Mr. SMITH. Good afternoon. My name is Thomas Smith. I have lived in Spring Valley for nearly 30 years, as you mentioned. For the last 3, I have served as an ANC commissioner representing Spring Valley and part of the American University campus.

Few if any residents knew that the AU campus was used as the second largest chemical weapons research and testing facility in the world during World War I until munitions were discovered in 1993 during new home construction. Only then did residents learn that weapons had been found previously during construction on the AU campus and that the Army was aware of the potential dangers that existed in our neighborhood. Whatever their reasons, both American University and the Army kept this information concealed. This pattern of non-disclosure by both institutions continues today.

The decision by the Corps to leave the community prematurely in 1995 along with the way the Corps has interacted with the community since returning to the neighborhood, including the operations of the Army-created RAB, has cast a long shadow of doubt on the credibility of the Corps. These concerns are heightened when reviewing the experiences of so many other communities across the country dealing with similar problems.

The Corps has not yet finished assessing various areas of interest in the community or dealing with the serious groundwater problem. Decisions are being made about whether certain areas of interest thought to be possible sites of contamination, burial, or anomalies are worth additional investigation. The new 2010 deadline is an incentive to neglect, as before, the type of investigation that is needed to ensure our community is safe.

The team charged with the responsibility of searching for and identifying potential areas of interest, the Area of Interest Taskforce referred to earlier by Colonel Mueller, has been disbanded, according to the Army because one of the members has retired.

Much information about this project is hidden from the public on the basis of national security, enabling the Corps to escape the public scrutiny and accountability that should be a routine part of this cleanup process. Too often we are forced to play the role of amateur sleuth and be laser precise in our language even to learn the most basic of information about this cleanup.

There are too many unanswered questions to limit the investigation at this time. We have the high levels of perchlorate in the groundwater. The groundwater has not been monitored for 2 years, unlike in some other States dealing with the military's pollution of

the groundwater. The nearly 30 jugs of mustard gas near a burial site in the archival photographs and said to be a deep burial site have never been found. There are questions about whether an upcoming investigation at the Dalecarlia Woods will cover a large enough area.

Additional questions are being raised about the limits of the equipment used to conduct the geophysical investigations of key sites in the community and whether more sophisticated but expensive technology might provide the information of what is underground at deeper levels. There is historical evidence of another burial pit near the campus, known as the Courier or Osborne Pit, thought to contain the nearly $800,000 worth of chemical weapons in 1918 dollars. And there is no indication that an aggressive effort is in place to locate this pit.

Residents have long sought testing of the air in their homes, especially given the high concentration of arsenic in the soil and the presence of arsene gas in munitions. The Corps has said that such testing was not technologically feasible, yet the Army conducted such air testing in containment structures when investigating a recent burial pit. The State of Wisconsin has mandated indoor air testing for homes near groundwater that is contaminated with perchlorate because of threats to the health of home owners. But there are no plans to conduct indoor air testing at homes in Spring Valley where the groundwater runs at basement level.

Although our surface soil has been tested for arsenic, why is the Corps not testing for manganese and mercury which also have been found in high concentrations in our neighborhood? Recently there was a new find of mercury at the AU Public Safety Building.

I welcome the comments today of Mr. Hawkins, especially since DDOE acknowledged in a public roundtable convened by the D.C. Council just last month that it was playing a "passive role" in the cleanup.

Recently some residents indicated an interest in using land once owned by AU for a playground. This area was thought at one time to include a bunker that has not been "pinpointed" according to the Corps. There is no additional investigation of this site planned even though in recent years part of this land also has been slated for future development. Can the Corps assure us that this land is safe for children and that new home construction will not unearth the kind of munitions that were found 16 years ago? Our questions to the Corps and AU about this site have so far gone unanswered.

Are there risks that we must learn to live with in our community? Absolutely. But these should be informed decisions, not circumstances forced upon us.

Two weeks ago I learned from a friend of mine that a college buddy of hers had died recently of a brain tumor in his middle 50's. He was one of three who had died of cancer in recent years at roughly the same age. All three lived at a fraternity on campus that now houses the AU Child Development Center. There was an obituary in the Washington Post just this week of a former resident of Spring Valley who had been diagnosed with a brain tumor but died at 50 from complications of pulmonary fibrosis, a disease thought rare for that age. We hear almost routinely of residents or former residents with new diagnoses of peripheral neuropathies, a

common manifestation of arsenic poisoning. There are many more health related stories that could be told but a comprehensive health care study has never been conducted within our community.

So there is a lot at stake for us. Cleaning up the community is not just a matter of safeguarding the environment in which we live. It is also about protecting the health and well-being of multiple generations of residents.

When weapons were found in our community by accident in 1993, they were helicoptered out and sent elsewhere to be stored and destroyed. Today, those weapons are stored and destroyed in our community, the only residential community where toxic chemical weapons are destroyed, in this case less than 1,000 feet from a hospital. At least that is the information that we were provided by the Army Corps at a community meeting last March. We know that the AUES was——

Ms. NORTON. Mr. Smith, we are going to run out of time.

Mr. SMITH. I have one more sentence.

Ms. NORTON. All right.

Mr. SMITH. OK? I promise you, one more sentence.

Each of our residents in Spring Valley and throughout the city has a right to know that military pollution left over from this chemical research conducted in D.C. poses no danger to current or future residents. That is our responsibility to the people who elected us. It is one that I and others here today are more than ready to share with this subcommittee and any other elected or appointed official in D.C.

[The prepared statement of Mr. Smith follows:]

Testimony

Of

Thomas M. Smith
Advisory Neighborhood Commissioner 3D02

Before The

U.S. House of Representatives
Subcommittee On Federal Workforce, Postal Service,
And The District Of Columbia

June 10, 2009

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I want to express my appreciation to Representative Stephen Lynch (D-MA), the Chairman of the Subcommittee on Federal Workforce, Postal Service, and the District of Columbia, and Representative Eleanor Holmes Norton (D-DC) and their staffs for convening and organizing this important oversight hearing. It is my hope that this hearing will result in improved communications with the public on the current phase of the investigation and clean up of World War I chemical munitions at American University and in the Spring Valley community.

I have lived in Spring Valley for nearly 30 years. For the last three years I have served as an Advisory Neighborhood Commissioner (ANC) representing the eastern part of Spring Valley, part of the American University campus, and a portion of Westover Place. ANC Commissioners are elected to represent districts comprised of 2,000 residents. Our responsibility is to advise the city government on a wide range of issues affecting our communities.

Recently, concerns about plans made by the U.S. Army Corps of Engineers (USACE) – with the support of the U.S. Environmental Protection Agency (EPA) and the District Department of the Environment (DDOE) – to destroy chemical weapons near Sibley Hospital and the reservoir next month have focused renewed attention on the need for additional and continued oversight at the federal and local levels on the Spring Valley investigation and clean up.

These concerns have stretched beyond the residents who live within the borders of our Spring Valley community. Recently, the Ward Three Democratic Committee, the official representative of the Democratic National Committee (DNC) in DC's Ward 3, convened a special program to examine the investigation and clean up of World War I chemical munitions in Spring Valley as part of an examination on military pollution in the U.S. That program focused on some of the continuing health and environmental risks – especially to our water supply – affecting not just residents of Spring Valley, but also the larger community – and

perhaps the city as a whole – stemming from the burial of toxic chemical munitions in our neighborhood.

(Attached to this testimony is a summary of the panel discussion. A related article appearing in the May 6 issue of the *Washington Times* also is attached.)

Additionally, two special programs were organized in our community in conjunction with the screening of a feature documentary-in-progress, called "Bombs In Our Backyard," which chronicles the clean up and the still unanswered questions that lead many in our community to believe the investigation of possible weapons and contaminated sites and the clean up are not yet nearly complete. The special programs resulted in two spirited panel discussions that focused on the lack of information available to the public from the USACE, EPA, DDOE, and even American University (AU) about the investigation and clean up. It is precisely this lack of transparency that makes it so difficult for residents of the affected community to have confidence that the work will finally be completely thoroughly and fully.

Recently, the DC Council Committee on Government Operations and the Environment held a public roundtable on the clean up. Representatives of various government agencies, international and national public interest groups, and the public were provided opportunities to testify. For many in the community, that hearing raised more questions than it answered and highlighted the important oversight work that must be done by government at both the national and local levels to ensure public confidence in the investigation and clean up of our community.

Until recently, I had not realized that the U.S. military was the largest polluter in this country. No less than Representative John Dingell (D-MI), who was then Chairman of the U.S. House Committee on Energy and Commerce, and then-Representative Hilda Solis (D-CA), who now serves as the U.S. Secretary of Labor, made reference to the military as the nation's largest polluter in a September, 2008 letter to the EPA. Unfortunately, the U.S. military is responsible for more pollution in the U.S. than the five largest chemical companies combined.

So, what is happening in our community is not isolated to Spring Valley. The clean up of military pollution is a national problem. The U.S. Department of Defense (DOD) is responsible for more than 31,000 clean up sites on more than 4,600 active and former defense properties, including the World War I American University Experimental Station (AUES) that has contaminated the Spring Valley community in Washington, D.C. Newspapers around the country have reported on squabbles between and among the EPA, the DOD, and state agencies on whether the federal government is doing enough to safeguard the health of communities that

are dealing with military pollution by forcing the type of thorough clean up we seek in Spring Valley.

The nationwide scope of the problem is alarming and has prompted the formation of many community activist groups seeking to hold the military accountable and encouraging state environmental agencies to be aggressive in forcing the military to complete full and thorough clean ups. Ninety local organizations have joined together to support legislation introduced by Representative Bob Filner (D-CA), the "Military Environmental Responsibility Act," which would seek to eliminate military waivers for key federal environmental laws and promote greater accountability by the DOD for the health impacts of military contamination.

Passage of this legislation, alone, is not a full solution, but it is an important incremental step to take.

Many of the 90 community groups are seeking to prevent residential or commercial development of formerly owned military property unless it is cleaned up and determined to be safe. In our case, the development already has occurred. Although the bombs in our backyards were discovered 16 years ago, we now can learn from the experiences of other state and local jurisdictions that have been working in recent years to demand that the military clean up its mess.

There are many in our American University and Spring Valley community who simply think the Army Corps has stayed too long and should leave whether they have finished their work or not. Frankly, we suffer from Army Corps and munitions fatigue. The presence of World War I munitions in our neighborhood no longer sparks the level of interest or fervor – or even the curiosity – that it once did. The Army's lack of transparent communication with the residents also effectively works to downplay their presence – while at the same time – enabling the Army to escape the scrutiny and skepticism that was once commonplace in our community.

Residents also have grown skeptical that there is anything that can be done anymore to influence the scope or pace of the investigation and remediation. Some say it is simply better to close your eyes, your ears, and your mouth and just wait for the Army to leave. Many have grown weary of an Army-created Restoration Advisory Board (RAB) that is supposed to represent the interests of the residents, but instead seems structured to limit the role that residents can play in the clean up decisions that affect the value of their property, the quality of their lives, and the serenity we once fully enjoyed. Some say the military has too many political "weapons" at its disposal to rock the boat.

But, some of us feel very differently.

We live on top of a former military site where toxic chemical warfare agents were created, tested, and dumped in what was then considered rural D.C. – an area of farms, not the dense residential development that exists today. Although there are nearly 200 sites in the nation involving the clean up of U.S. military chemical pollution, only one – Spring Valley – is located in and under a residential neighborhood. The fact that so many people currently live directly on the site should continue to be a significant factor in the risk assessment process. Obviously, nobody anticipated the development of a residential community on this farmland back in 1918 when the site was used to research, develop, and test chemical warfare in the absence of environmental regulations and protections.

Just as our neighborhood was the home of a chemical warfare experimental station at the turn of the century – the second largest in the world at the time – what some historians have coined the "Los Alamos of World War I" – our neighborhood remains an experiment in process – this time on how to clean up a site where more than 13,000 people live and work – a community that houses an expanding institution of higher learning, a hospital, and a reservoir that provides drinking water for DC, including many embassies, the federal enclave housing our nation's elected and other governmental officials, and the surrounding suburban communities.

During the 16 year clean up of our neighborhood, there have been enough villains identified – blame allocated – excuses given – and questions gone unanswered. The Army, American University, developers – all have had fingers pointed at them. As a resident of this community, I no longer care who is responsible for the chemical munitions that are buried in our neighborhood – I want to be sure they are removed quickly, safely, and thoroughly.

As a resident and a local political activist, I want those assurances. As an elected ANC Commissioner, I want the residents that I represent to have access to the information that will give them the confidence that their long-term health is not at risk and that our neighborhood is cleaner and freer of environmental risk than it has been at any time in the last 90 years.

So, let me try to outline – in abbreviated fashion – from a resident's perspective – what brings us here today. The U.S. Army contracted with the American University to build and operate a chemical munitions research and development site on and near campus during World War I. There were 1200 chemists and engineers working at the site with an additional 700 non-technical staff to provide support. In addition to this site, the Army set up a companion facility – Camp Leach – that abutted the experimental station and trained 100,000 engineers in

offensive and defensive gas and flame warfare and other engineering applications. This training involved the firing of mortars and howitzers with gas shells. Also used and detonated at the site were 75 mm rounds, hand grenades, toxic smoke candles, and livens projectiles.

There were 153 structures at the station, including a shell loading factory. There was extensive testing of 600 different toxic substances, some of which were produced in extremely large quantities. Many were tested in the open air depositing a layer of pollutants that included arsenic, thallium, antimony, and manganese.

We know that the experiments involved releasing large quantities of toxic substances, including mustard gas and arsenic, into the air and on the soil to see the effects on animals placed at specific distances from the release point.

After the war, the station was closed down quickly. Instead of evacuating the fruits of the weapons research from the community, the munitions, explosives, and chemical warfare agents were simply buried. The protocols for disposal of toxic chemical munitions that exist today simply did not exist in 1918. In addition to the burial of chemical weapons, we know that conventional explosive munitions also have been buried. This elevates the risk to the community.

In his book, *Clean Up Of Chemical and Explosive Chemical Munitions*, Dr. Richard Albright, recognized as an expert in this field, wrote the following: "The burial of explosive munitions and chemical weapons together increases the risk of the old explosives becoming hypersensitive and detonating spontaneously or from a mild shock triggering a release of the chemical fillers."

Few if any modern-day residents knew that the AU campus was used for this purpose in 1917 and 1918 until munitions were discovered in 1993 during construction of the Spring Valley West community. At that point, a peaceful community was transformed over night. Military jeeps evacuated residents during excavations to unearth what we now know were weapons of mass destruction. The American Red Cross set up a shelter in Spring Valley to help displaced residents.

Weapons – some deteriorating and containing mustard – were helicoptered out of the neighborhood and sent elsewhere to be stored and destroyed. Today, those weapons are stored and destroyed **in** our community – the only residential community in the country where toxic chemical weapons are destroyed – in this case – less than 1,000 feet from a hospital. The community is powerless to change this – a fact I acknowledge with deep regret and reluctance.

In a recent conversation with a Wisconsin activist who formed a group called Citizens For Safe Water Around Badger (CSWAB) to fight for the full and transparent clean up of the Badger Army Ammunition Plant in Badger, Wisconsin, she warned me never to say "the community is powerless." That is when the community truly lacks any hope of bringing about needed change, she warned me. She argues a community is not powerless when it continues to encourage and fight for transparency and accountability – and that is why our residents have encouraged this oversight hearing. We need more transparency and more accountability for the clean up of our community.

Only after this 1993 discovery of bombs in our backyards did residents learn that weapons had been found previously during construction on the AU campus and that the Army had realized as far back as 1985 the potential dangers that existed in our neighborhood. Whatever their reasons, both American University and the Army kept this information concealed.

The Army declared the site clean in 1995 and left saying the community was safe. Residents rejoiced except there was one problem. The neighborhood had not been cleaned up and we were not safe. The Army was forced to return to continue the work only as a result of the herculean efforts of DC employees then working for the D.C. Department of Health. DC agency employees conducted the necessary historical research and other field investigation to prove that the Corps' work had been woefully incomplete. Still to this day, the Corps will only publicly acknowledge making a slight error in the location of one possible burial pit necessitating their return to the neighborhood.

Now, the USACE has indicated it plans to wrap up the investigation and the clean up of the left-over munitions and toxic substances by the end of Fiscal Year 2010. They plan to spend 2011 writing a Risk Assessment. Recently at a hearing of the DC Council, the USACE confirmed these plans. This pronouncement, one of the few pieces of information about the investigation and clean up that the military has not been reluctant to share with the public in a timely way, has unduly raised the hopes of residents that the clean up may be nearing completion. At best, this pronounced intention to leave the community seems premature – a fact that continues to cast doubt on the credibility of the work of the Army Corps.

The credibility of the Corps on such clean ups is not just an issue in Spring Valley. Many communities dealing with the clean up of military pollution have some of the same concerns that we have in Spring Valley which has spurred the Citizens Consortium to press for the Filner legislation. In some cases, the citizens groups have been aided by state environmental

agencies that have aggressively pushed the Army to be more transparent in their work, conducted independent testing, and forced the Army – consistent with federal law – to meet its environmental clean up responsibilities. That is not the case in DC for the Spring Valley clean up.

Today, the USACE has not yet even finished assessing various Areas of Interest (AOI) in the community or dealing with a serious groundwater problem. But, they seem focused on ending all field investigation and remediation by September 30, 2010.

My concern as a DC resident, as an elected representative of the affected neighborhood, and as a long-time political activist, is that all decisions about additional investigation and remediation are being made now through a narrow prism of thinking that the work must conclude at the end of FY 2010. Decisions are being made about whether certain Areas of Interest – thought to be possible sites of contamination, burial, or anomalies – are worth additional investigation. If the decision is made to investigate these sites, the project cannot be wrapped up by the end of FY 2010. The artificial, but real FY 2010 deadline is an incentive to neglect – as before – the type of investigation that is needed to ensure our community is safe.

As an ANC Commissioner, I am permitted to attend what are known as Partnering meetings. Not open to the general public, these are meetings of the agency representatives working on the clean up and where decisions are made about the future of the investigation. Prior to being elected an ANC Commissioner, I believed – based on everything I had seen in the public forum – that the Corps' work was proceeding on an orderly basis and that there was no reason to doubt the commitment – this time around – to clean up our community with speed and thoroughness. Now that I have attended some of these meetings, I no longer have that confidence.

As an example, let me share with you my observations of a recent discussion at these meetings concerning a parcel of land on the AU campus that had been identified as an Area of Interest. Aerial photographs of the site from 1918 suggest a significant soil disruption at the site. Later photos show a perfectly manicured site. Something obviously happened at the site. Maybe, it was a trench dug by soldiers as part of routine exercises. But, maybe it was also a trench in which the Army decided to dump some toxic substances. Why dig a new hole to dump toxic contaminants if you already have one dug – especially if you are in a hurry to dispose of the chemical substances?

I sat and listened as the so-called experts debated whether this site was worth further investigation. One person indicated that it was not worth investigating because there was no

indication that it had ever been used by the Army. The representative of the EPA chimed in to agree. The public relations representative for the Corps said that the site might have been used for exercising horses and that – given the demographics – there must have been many private horse farms in the area. When a representative of the DC Department of the Environment (DDOE) was asked for his opinion, he said he did not think it was worth investigating "because the owner of the property must have done something to the land." There was also some discussion of the site being on level ground when in fact the site is actually at the top of an elevation. I was left wondering if any of the people around the table had even seen the site that was the subject of the discussion.

In a sidebar conversation, a contractor told me that the Corps simply cannot investigate all Areas of Interest.

A recommendation was made at that meeting to conduct no additional investigation of the site.

My professional background is in marketing and communications. Although I am not trained as a scientist, I have some experience assessing the credibility of arguments and positions. And frankly, none of the speculation about this site had any credibility. Why not seek the services of an agricultural scientist to assess the aerial photos? After all, this was farmland at one time.

Subsequently at a separate meeting, I was told by the Corps that the land was used by the Army at the time, but there was uncertainty about its use. Shouldn't that be enough to justify additional investigation? The Corps presented this information to me as if it had been recently discovered in response to some questions I raised. Subsequently, I was told that the decision to forego further investigation of the site was not final.

Since the May 11 hearing before the DC Council Committee on Government Operations and the Environment, we have learned that there will likely be additional investigation of the site during the summer months. I have asked if any additional historical information was uncovered to rationalize this decision to conduct the further investigation. A DDOE representative who works on the project has continued to express to me as short as a few weeks ago that additional investigation is not warranted in his opinion.

I don't know if the soil disruption at this site is indicative of a burial or other anomaly worth additional investigation. But, the nature of the discussion did not give me any confidence that the so-called experts knew any more than I did. The response from the DDOE official is particularly egregious – that something was done on the land is not in question – but

for the advocate for DC residents to dismiss the need for additional investigation on such a flimsy basis is simply unacceptable.

As a result of this discussion, however, I learned from the Army that the team charged with the responsibility of searching for and identifying possible Areas of Interest has been disbanded. According to the Army, it has been disbanded only because one of the members has retired. Is there nobody else who can fill this void? Despite the sense that all burial pits have not yet been located, there is no active effort right now by the Army to identify these locations. That certainly facilitates the possibility of being able to conclude that the work is complete by September 30, 2010.

In another incident early in my first term on the ANC, I attended a Partners meeting in which the results of an initial health scoping study were discussed before the report was made available to the public. A representative of the EPA pushed researchers at this meeting to give added emphasis in the final draft to a narrow and limited finding that the health of Spring Valley residents was "good." The EPA rep did not like the conditions that researchers attached to the finding as researchers suggested the study was too limited to make such a broad conclusion.

As a marketing and communications professional, I have done my share of looking for the silver lining in a report. I am all too familiar with how information can be manipulated and managed to sell an idea that has little or no basis in fact. A reading of the study conducted by Johns Hopkins outlines that its findings are far from definitive as cases of real people with real and unexplained illnesses are simply mentioned, but never examined. The study even recommends that additional research is needed because its conclusions should not be viewed as being definitive.

The report, itself, states clearly in its findings:

> ***"It was beyond the scope of the study to evaluate individual health outcomes and exposures. Similarly, the study could not consider past community exposures over the 90 years since active weapons testing at the site."***

This is hardly the ringing endorsement by governmental officials at the EPA and even most recently by the DDOE at the May 10 DC Council hearing that the study demonstrates that the "health of Spring Valley is good."

In recent weeks, I have learned that residents of our community are working to fund and build a playground on property now owned by the Wesley Theological Seminary. This land was owned by AU and was part of the AUES in 1918. The proposed location of the

playground happens to be at or near a site where some residents reported playing as children in a bunker located on property that was then heavily wooded. Representatives of the USACE have interviewed one of the residents and conducted some testing at the site. The resident's written description of the bunker and its location is quite compelling -- including a map which suggests the bunker was six feet below ground in the 1930's. The USACE indicates it has not been able to pinpoint the bunker, if it truly exists. However, other areas of interest cited by one of the individuals have been found to contain munitions, so the credibility of the observations seems quite high. These observations are reinforced by old news stories reporting that munitions were found near the area where the playground is being contemplated.

History seems to suggest the Army had plans to build several buildings on the site in 1918, including an ammunition facility. Photos reportedly show the presence of howitzers at the site. Recall that Howitzers fired gas shells at the AUES meaning such shells would have been stored at this location, perhaps in the bunker. A representative of the Corps who initially argued against any investigation of the site said that the Army did not build above-ground buildings on the site as initially planned because the war ended and the AUES was closed. But, the bunker identified by residents was below ground, not above ground.

The site already has been subjected to one dig as a result of an anamoly at the site. An iron gate was found at the site relatively close to the surface.

We have learned recently that geophysical testing conducted at the site may only have been able to penetrate 10 or 15 feet below the surface. How different today is the area's topography and grading? Is it possible that the bunker was never found because of limits on the geophysical testing at the time of initial investigation? New equipment exists that may be able to see deeper into the ground.

Because a stream flows under this area of the Seminary grounds – a stream that at one time was above surface and flooded nearby basements during rain storms – groundwater contamination at the site is also a key issue. This has added significance at this site because the groundwater appears to be coming to the surface. Most likely, this groundwater stream is originating on the AU campus where the USACE has reported finding extremely high levels of groundwater contamination.

The consideration of this site for a playground has prompted new focus on the use of this location during 1916-1918. There are new questions about this site that might never have surfaced or need to be examined if it was not being considered for use by toddlers and young

children as a playground, including questions about the thoroughness of testing at the site for arsenic or other toxic substances.

We are still waiting for full explanations and answers from the USACE and AU to the questions we have raised about this site. So far, these specific questions have gone unanswered. If the questions cannot be answered by USACE, it may suggest a need to reexamine this site. Since the initial investigation of this site, some of this land near the playground site also has been designated for future development. If there was a time when we needed more transparency to learn all the Corps and AU know about this site, this is the time.

The Comprehensive Environmental Response, Cooperation, and Liability Act (CERCLA) -- more commonly known as the federal Superfund Law – specifies that states, not the U.S. Environmental Protection Agency (EPA), are the lead regulator in the clean up of military sites, like Spring Valley. Under CERCLA, the U.S. Department of Defense is required to fund state and local governments to oversee the military site work. In fact, DOD pays the salaries of some DC employees working to monitor its work on the Spring Valley clean up.

My observation over the last three years is that the DC agencies – of which we were once proud in the mid 1990's for being so thorough and for holding the Corps accountable – are no longer doing their job. DDOE has not been asking the difficult questions that need to be asked either in meetings behind closed doors, like the Partners meetings, or in the few public meetings that are organized by the Corps.

Furthermore, there is no transparency that would allow for comprehensive scrutiny and oversight of the work that is being conducted in our neighborhood. Much information about this project is hidden from the public on the basis of national security. We must rely on those whose jobs it is to sit at the table and demand answers from the Army. DDOE is not playing that role on behalf of DC residents.

Recently, ANC Commissioner Nan Wells and I pressed DDOE to meet with us, so that we could express our concerns directly to DDOE as the lead regulatory agency on the clean up. We asked to include other neighbors – frankly, with more expertise in environmental issues -- as part of a small team, but we were told that DDOE would meet only with the two of us because of our status as ANC Commissioners. Ironically, we learned for the first time when the DDOE testified at the May 10 Council hearing that DDOE had changed its mind and that we could now include others with more issue expertise in these meetings.

It would be unfair to fail to recognize that the DDOE's overall change in approach – that is, their willingness to meet with residents of the community on this issue, now on a

monthly basis, is welcome and has already produced some dividend in the form of additional information that enables us to better understand the scope of the problem.

As I mentioned earlier in my testimony, the USACE will be destroying chemical weapons in our neighborhood next month. The DDOE is one of the governmental partners that is supposed to review and "sign-off" on the USACE work plan for destroying these chemical munitions. We recently learned during one of our meetings with the DDOE that the agency has been provided with a **"redacted"** munitions destruction work plan by USACE to review. Missing form the work plan, according to the DDOE, are the number of chemical munitions to be destroyed, the chemical composition of the munitions, and the amount and type of additional toxic chemicals to be shipped into the community to facilitate the destruction process.

Is it not logical to ask how DDOE as the state agency can evaluate the potential environmental outcomes and safeguard the environmental health of our community without access to such basic information?

DDOE tells us that the Corps will never leave and we are expected to be satisfied and not press DDOE to take a more aggressive posture. The Army also says it will never leave – again to make us feel the clean up will be complete. Once a Formerly Used Defense site always a formerly used defense site, both DDOE and the Army say. In fact, since this hearing was scheduled, the USACE has even altered the language they use when discussing plans to completed field work at the end of 2010.

Under the military's rules, if the Corps' risk assessment in 2011 says the area is clean, the Army will leave. It will take another herculean effort by DC officials, like that conducted in 1996, to force the Corps to return, if the job is not complete. And at that, it will be left to the discretion of the Army to decide if there is a need to return.

If the Army leaves at the end of FY 2010, we don't want them to have to come back. But, for now, there are too many unanswered questions to limit an investigation in order to justify leaving in fifteen months. We have high levels of perchlorate in ground water. That perchlorate is coming from someplace. We know that perchlorate was among the toxic chemicals tested in 1917 and 1918. The high levels of perchlorate, especially at the AU campus and at Sibley Hospital, may be indicative of another potential burial pit or pits or additional ground contamination. There is concern that the perchlorate levels will increase as weapons further deteriorate in the soil and create new issues for our drinking water supply. Yet, the perchlorate levels are not being monitored as is routine in other states dealing with similar issues of military pollution of the groundwater. Our groundwater has not been

monitored since August, 2007. Even when it has been monitored, it has been tested when the water table is at its lowest – something that environmental scientists say is less than ideal.

DC regulations require that residents be able to safely drink the groundwater in case of an emergency.

For residents of Spring Valley, the groundwater is critical because of the number of springs that flow under our homes and that rise to the surface. In many areas of our community, the groundwater is the surface water. In the state of Wisconsin, indoor air testing in homes has been done because of the groundwater contamination. We are only in the beginning stages of trying to assess whether to encourage the USACE to conduct similar air testing in our homes. But, it should not require so much initiative on our part to raise these issues with USACE, EPA, or DDOE. As the polluters and the agencies charged with protecting residents from the effects of such pollution and responsible for ensuring full clean up, these agencies should be working together to protect us – and not force us to become amateur sleuths – as has too often been the case in the history of this clean up.

Also, we know that photos show a sergeant in 1918 with thirty 3-5 gallon jugs of mustard about to be buried. These jugs have never yet been found. There are questions also about whether an upcoming investigation along the Delacarlia Parkway will cover a large enough area. There is historical evidence of another burial pit near the campus – known as the Courier pit – and there is no indication that an aggressive effort is in place to locate this pit. News articles from the period report that $800,000 (in 1918 dollars) worth of chemicals was buried at this pit. Imagine how much those chemicals would cost in 2009 dollars and it gives you an understanding of the concerns that so many residents share.

Residents have long sought testing of the air in their homes, especially given the high concentration of arsenic in the soil and the presence of arsine gas in munitions. The Army has avoided any discussion of this saying at various community meetings that such testing was not technologically feasible. Yet, the Army conducted such air monitoring in its containment structures when investigating a recent burial pit along Glenbrook Road.

Although our **surface** soil has been tested for arsenic, why are we not also testing for manganese and mercury which also have been found in high concentrations in our neighborhood?

Recently, there was a new find of mercury on the AU campus as part of an investigation at the school's Public Safety Building – an investigation close to another pit that many in our neighborhood worry may not be complete. In this case, the university did not even alert its

student body or others in their community of the find because they thought the mercury posed no risk. It was left to an enterprising student reporter for the student newspaper to inform the university community of the mercury find. The university's pattern of withholding information – for whatever reason – is very troubling. Residents have repeatedly been told that access to the historic archives at AU for the period in which the school operated as the AUES is limited preventing the kind of independent assessment that would help to ensure a thorough investigation and hold the Army accountable. In fact, the lack of historical review of the site often has been cited as one of the weaknesses of the investigation and an early mistake of the Army Corps.

At a recent screening of "Bombs In Our Backyard," the historian for the USACE was particularly critical of AU for failing to provide even the USACE full access to the AU archives that might provide additional insights on the scope and possible locations of pits, bunkers, and munitions.

We have been told by the USACE that an EPA representative has been given access to the AU archives and that the Army is relying on that assessment that there is no additional information in the AU archives that would prove helpful. This, too, is simply inadequate. A team of experts and community leaders should be given unfettered access to those archives and charged with the responsibility of reviewing those archives for relevant information that could provide added assurance that no stone has been left unturned.

There are times when it has seemed that nobody in a position of authority and responsibility is asking the questions that need to be asked or scrutinizing the decisions that are being made by agencies responsible for conducting the investigation and clean-up. When residents ask questions, they are often told that national security prevents disclosure of the information. Or they get half-answers. Or, as I learned recently in trying to learn why the Army chose to use a specific technology to destroy chemical weapons containing arsine in our neighborhood next month (the first time that arsine-filled weapons have ever been destroyed outside a military base), it takes four or five follow up questions – at a minimum – and laser precision in choice of language – to get a full explanation – if there is ever really such a thing as a full explanation from the Army.

ANC Commissioner Wells and I are in a constant state of trying to gather information that will give us assurances that the USACE, EPA, and DDOE are working in the best interest of the public, so we can encourage and build residents' satisfaction with the clean up. But, we struggle nearly at every turn in this process.

Information we learn as ANC Commissioners in Partners meetings cannot be shared with residents, we are told, for national security reasons. Only recently have we been able to share this information even with other elected officials, including members of the Congress and their staffs.

In short, we need DDOE to play a more aggressive role similar to that of environmental agencies in other states, like Maryland and Wisconsin. Under CERCLA, the state agency can enter into a formal agreement with the Army on the clean up. Such an agreement exists between the city and DOD, but that agreement was made in 1994. It should be updated to reflect the current conditions and needs at the site.

We should be concerned as well that DDOE has done no independent soil or water testing at this site. We know that independent testing has been used by other state agencies to force the Corps to be more transparent and to be more aggressive in its remediation efforts. We could learn from the best practices of other states dealing with the Corps to remediate chemical pollution in their communities.

When we asked DDOE at a recent meeting about conducting independent testing of soil and water, we were told that DDOE did not have the capability. We suggested contracting out and were told the procurement process was an obstacle. As bad as the procurement process in DC may be, city agencies have now had 16 years to figure a way to conduct independent testing of the soil and water in our community. When we encouraged DDOE reps to take a more aggressive posture with the Army, we were told that the Corps could decide to leave prematurely if the DDOE asked too many questions or subjected the Corps to too much scrutiny. I would suggest this reluctance to take a more aggressive posture is symptomatic of a larger problem and pattern of behavior on the part of DDOE in which it chooses to defer to the Corps and the EPA instead of playing the role outlined in CERCLA.

If DDOE takes an aggressive posture and the Army objects, it can choose to question how DDOE is spending the federal dollars allocated by the Army under the federal CERCLA law. Recently, there have been instances in other parts of the country in which the Army has tried to use its purse strings to intimidate state agencies. We must not be so fearful of losing federal dollars that we allow our local agencies to simply go along to get along. In this case, making waves is a good thing.

The EPA assures us that it has a special partnership with the DDOE in large part because of DC's status as a District without the resources or status available to other states for clean up of such military pollution sites. So, if DDOE is not playing its role, then the residents

need the EPA to step in to play the role in DC expected of state agencies in other parts of the country. Perhaps, this, alone is justification for considering putting the Spring Valley clean up on the National Priorities List (NPL), so that EPA can take responsibility for the environmental clean up of our community consistent with the federal statutes.

Based on the record of the Corps' work in Spring Valley and now what we know of their record at other military pollution sites across the country, there can never be too much scrutiny of the Corps.

We know that the Army is shortchanging the clean up of many of its polluted sites across the country. The United States is a signatory to a chemical weapons treaty that requires the destruction of its chemical stockpiles by 2012. The Pentagon does not expect to meet this deadline but has just agreed to spend more than $3 billion to accelerate the destruction of its chemical stockpiles. The Army maintains that weapons produced in the early 1900's like those in Spring Valley – and especially those that are still in the ground – do not fall under this arms control treaty. Based on information we have received from Global Green, an international organization advocating effective destruction of these dangerous chemical weapons, it is our understanding that these weapons – if unearthed – would fall under the treaty despite the USACE suggestions otherwise.

At the end of the day, weapons investigation, remediation, and destruction costs money – taxpayer money – and there is simply not enough available to complete this work at former Defense sites, like Spring Valley, as quickly as we would like. But, we cannot accept the pressure of the federal budget as a justification for living in our community with dangerous chemical weapons – and the potential long term health effects.

As you know, there has been an ongoing disagreement between the Pentagon and the EPA over what constitutes a safe standard for perchlorate in the water. In the absence of a reasoned federal policy, some states, such as California and Massachusetts, are developing their own standards to protect their citizens against this dangerous toxic chemical. We know perchlorate is in the DC water supply already, but we are told it is at safe levels. What constitutes a safe level of perchlorate – a substance used today in rocket fuel?

DC is not a sovereign state. So, we must accept the water quality standards defined by the EPA – even though in the case of perchlorate – it is a standard set for all practical purposes by the Pentagon – set high enough by the Pentagon – so it can avoid the additional costs of cleaning up sites contaminated by the military across the country.

Under the Obama administration, we hope this will change.

As a resident, as an activist, I want the Army to leave behind a community that is clean and safe. I want to know that every tough question has been asked, every issue has been probed, and that the Army as the lead federal agency responsible for the clean up, has been held accountable for its work.

All residents of Spring Valley and throughout the city have a right to know that sites of chemical research at American University (and Catholic University, which also was used as a weapons experimental station during World War I) pose no danger to current and future residents.

Thank you again for holding this hearing. We hope it is the first in a series that will monitor the work of the USACE and the EPA in our community and perhaps even provide some additional encouragement and support for the DDOE in playing its role to force the federal agencies to be accountable for their work. We welcome the participation of others testifying at this hearing and hope that they – in their leadership capacities – will pledge to work with the residents of our community and approach this work with full transparency. Governmental agencies – federal and local – and residents share a common interest in knowing with certainty that Spring Valley is not only healthy, but also safe.

And finally, as a community confronting the challenges inherent with ensuring a full clean up, we hope and encourage this Congress – as a whole – to examine more thoroughly the state of clean ups in all communities across the country that are dealing with the effects of military pollution.

ATTACHMENT 1

THE WARD THREE DEMOCRATIC COMMITTEE

NEWS RELEASE

International And Local Experts Assess Impact Of Failure To Fully Remediate World War I-Era Military Pollution In Ward 3 Community

A panel of international and local experts warned that local residents and the DC government needed to push the U.S. Army Corps of Engineers (USACE) to ensure that its 16-year clean up of World War I chemical munitions at American University (AU) and in the surrounding neighborhood is thorough before the USACE concludes its work next year, as scheduled. Panelists expressed particular concern about the threat to the city's drinking water supply due to high levels of perchlorate in groundwater at AU, Sibley Hospital, and on land adjacent to the Delacarlia Reservoir, which is thought to be linked to the burial of still undiscovered chemical munitions in the area.

The panel which took place last week at a meeting of the Ward Three Democratic Committee examined challenges confronting the clean up of chemical military pollution in Spring Valley and at more than 200 other sites across the country. Chemical weapons were found in Spring Valley in 1993 during construction of a new residential development. The weapons were buried by the Army nearly 90 years ago as part of its use of AU as a World War I chemical weapons research and experimental station. At the time, AU was the world's second largest site for chemical weapons research and development.

A theme of the panel was the need for more transparency to ensure USACE is accountable for its work. Several panelists noted that the Army and AU knew that chemical weapons had been buried in the community in the early 1900's but had failed either to disclose the information or to work to remediate the site until the 1993 discoveries.

Dr. Jeffrey Kraskin, a 50-year Spring Valley resident and a member of Mayor Anthony Williams' Health Policy Council of the Spring Valley Scientific Advisory Panel, and the moderator of the recent panel discussion, noted that munitions had been found before 1993 during construction on the AU campus, but that AU did not inform the public of the scope of the military's use of the campus and the toxic nature of the weapons that had been buried.

"We thought at the time that the discovery of chemical weapons in 1993 was the first modern day find of munitions in our community," he said. "In reality, over the past 90 years, remnants of this amazing laboratory were known by our government and in the AU archives."

Ginny Durrin, an Academy Award nominated filmmaker, who is working on a feature documentary of the Spring Valley clean up, called "Bombs In Our Backyard," said the DC Department of the Environment (DDOE) needed to play a more aggressive role in the clean up and stressed the need for a health study of the effects of long term exposure to the toxic munitions. "I would like to see the DDOE step up and have a stronger profile," she said. "The health issues need to be dealt with. There is no budget for a health study as recommended by a Johns Hopkins report two years ago. Additionally, indoor air testing should be done. That is where residents have the greatest exposure – inside their own homes. Why hasn't this been done?"

The issue that triggered the most reaction by the nearly 100 residents in attendance at the meeting was the potential threat to the area's water supply stemming from perchlorate associated possibly with still-buried chemical weapons. Eric Olson, a former Deputy Staff Director for the U.S. Senate Committee on Environment and Public Works, and an expert in public health and toxic substances, warned of high levels of perchlorate in the groundwater at AU, near Sibley Hospital, and adjacent to the Dalecarlia Reservoir. If this groundwater penetrates the reservoir, he warned, the perchlorate could pose a serious community health risk. He said evidence has demonstrated that perchlorate can interfere with the thyroid and affects development of fetuses and young children. He noted that the levels of perchlorate in this area were higher than safety standards set by several other states.

An attempt by the EPA to set a national safety standard for perchlorate was derailed by the U.S. military during the Bush administration. New EPA Administrator Lisa Jackson has committed to establishing a safety standard for perchlorate during her Senate confirmation hearings.

Olson noted that perchlorate already has been found in the reservoir and in the drinking water but at levels much lower than found in the groundwater near AU, Sibley, and adjacent to the reservoir.

"My concern is not the levels now, but where is the chemical coming from," Olson said. "Contamination appears to be moving slowly through the ground and eventually could be moving to the reservoir. We need comprehensive monitoring of the groundwater, comprehensive clean up, and full disclosure. We also need aggressive monitoring of our tap water to be sure it is safe."

Marina Vornorova of Global Green USA, which has been working to facilitate the destruction of chemical weapons in the U.S. and Russia, also warned that residents should work to ensure the safety of the community when newly-discovered chemical weapons are destroyed in the community near Sibley Hospital, as now scheduled, later in May. She noted that toxic chemicals will be shipped into the community to destroy these weapons. "These chemical are very dangerous," Vornorova said. "It is important the community know all the details of the planned destruction and the potential dangers."

Harold Bailey, a Superfund attorney, who has represented U.S. municipalities, corporations, and foreign governments dealing with the dangers of chemical, biological, and conventional weapons testing and disposal, outlined a series of mistakes by AU, USACE, and the DC government that have delayed remediation of the site. He called on AU to release records in the archives that would show the locations where munitions were tested and buried.

He also said that USACE should be more thorough in its investigation of all areas where there is credible evidence of munitions burial instead of planning to leave the site before the remediation is complete. He also urged the DDOE to conduct more aggressive oversight and to conduct independent testing of groundwater, soil, and indoor air to assure residents the clean up is complete and the community is safe.

"This site was the Manhattan Project of World War I," Bailey said. "What other states dealing with military pollution have learned is that they have to aggressively push the Army to be thorough and to commit the resources to do so. We need to learn from mistakes, not just play a blame game."

Nan Wells, an ANC Commissioner representing part of the Spring Valley community, expressed concern that USACE has not demonstrated to the community that its work is completed. She noted that the USACE says that much of the information about the current clean up cannot be shared with the public because of national security reasons. "We have not been able to get a complete list of munitions and chemical weapons that have been uncovered and that are now stored behind Sibley Hospital," she said. "The information is restricted because of national security. So, you can store these things behind a hospital, near an assistive living facility, and near a residential community, but you can't tell the community what is stored there because it is so dangerous. Sometimes, the logic is challenging.

"USACE has walked away from our community prematurely before," she added. "So, if you ask me what the Spring Valley community needs, it needs transparency. We need the information to be public. We need to be able to report to the residents what is going on. As former President Ronald Reagan said, 'Trust, but verify.' That was a good motto then and it's a good motto now for our community."

Vornorova concluded by saying that residents of Spring Valley are a model for many other communities across the world that are dealing with similar contamination from military pollution. "We see the Spring Valley community as the leader in promoting a proactive approach to clean up and remediation," she said. "Only when the area is fully remediated can we be assured of our safety. We encourage you to keep pressing the case in Spring Valley."

Also participating in the panel discussion was Jim Sweeny, the chief of DDOE's Land Remediation and Development Branch.

Ward 3 Councilmember Mary Cheh, the chair of the DC Council Committee on Government Operations and the Environment, has announced that a public roundtable on the Spring Valley clean up will take place on May 11.

ATTACHMENT 2

The Washington Times
Close Print
Wednesday, May 6, 2009

Corps cleanup watched closely

Thomas M. Smith SPECIAL TO THE WASHINGTON TIMES

COMMUNITY JOURNALISM:

The Army Corps of Engineers is scheduled to conclude its ordnance cleanup in the Spring Valley area next year, but experts urged residents to make certain the work is thorough.

Members of a panel that gathered last week expressed particular concern about the threat to the city's drinking water supply because of high levels of perchlorate, which is used in explosives that were used around American University and Sibley Hospital and near the Delacarlia Reservoir.

The panel, which convened at a meeting of the Ward 3 Democratic Committee, examined challenges confronting the cleanup of chemical military pollution in Spring Valley and at more than 200 other sites across the country. Chemical weapons were found in Spring Valley in 1993 during construction of a residential development. The university was a World War I chemical weapons research and experimental station.

Jeffrey Kraskin, a 50-year Spring Valley resident and a member in 2001 of the Health Policy Council of the Spring Valley Scientific Advisory Panel, served as panel moderator.

"We thought at the time that the discovery of chemical weapons in 1993 was the first modern-day find of munitions in our community," he said. "In reality, over the past 90 years, remnants of this amazing laboratory were known by our government and in the AU archives."

D.C. Council member Mary M. Cheh, Ward 3 Democrat, has scheduled a public hearing on the cleanup for May 11 at the Wilson Building.

Academy Award-nominated filmmaker Ginny Durrin is working on a documentary of the Spring Valley cleanup, called "Bombs in Our Backyard."

"The health issues need to be dealt with," she said, adding that indoor air testing is needed.

The issue that triggered the most reaction by the nearly 100 residents at the meeting was the potential threat to the area's water supply stemming from perchlorate that might be associated with still-buried chemical weapons.

Perchlorate is used in medicine to treat thyroid disorders, and it can be found in munitions, fireworks and air bags.

The corps said it installed 38 monitoring wells in 2005 and 2006 to help determine whether the groundwater is contaminated and where it is flowing.

"Sampling results identified elevated levels of perchlorate. Further investigation is under way with more wells and sampling planned in 2009," the corps said on its Web site.

Erik Olson is a former deputy staff director for the Senate Committee on Environment and Public Works and a specialist in public health and toxic substances.

"My concern is not the levels now, but where is the chemical coming from. Contamination appears to be moving slowly through the ground and eventually could be moving to the reservoir," he said. "We need comprehensive monitoring of the groundwater, comprehensive cleanup and full disclosure. We also need aggressive monitoring of our tap water to be sure it is safe."

An attempt by the Environmental Protection Agency to set national safety standards for perchlorate was derailed during the Bush administration. New EPA Administrator Lisa P. Jackson, during her Senate confirmation hearings, committed to establishing new safety standards for perchlorate.

Harold Bailey, a Superfund lawyer who has represented U.S. municipalities, corporations and foreign governments dealing with the dangers of chemical,

biological and conventional weapons testing and disposal, said: "What other states dealing with military pollution have learned is that they have to aggressively push the Army to be thorough and to commit the resources to do so. We need to learn from mistakes, not just play a blame game."

Nan Wells, an advisory neighborhood commissioner representing part of the Spring Valley community, expressed concern that much of the information about the cleanup cannot be shared with the public because of national security reasons.

"We have not been able to get a complete list of munitions and chemical weapons that have been uncovered and that are now stored behind Sibley Hospital," she said. "The information is restricted because of national security. So, you can store these things behind a hospital, near an assisted-living facility and near a residential community, but you can't tell the community what is stored there because it is so dangerous. Sometimes, the logic is challenging. ... We need the information to be public. We need to be able to report to the residents what is going on. As former President Ronald Reagan said, 'Trust, but verify.' That was a good motto then and it's a good motto now for our community."

• Thomas M. Smith, who lives in Ward 3 and is chairman of the Ward 3 Democratic Committee, runs his own communications marketing firm, Thomas M. Smith & Associates.

Ms. NORTON. Thank you very much, Mr. Smith. Mr. Slowinski.

STATEMENT OF KENT SLOWINSKI

Mr. SLOWINSKI. My name is Kent Slowinski. I grew up in Spring Valley in the 1950's and 1960's. Since the 1970's, I have worked in Spring Valley as a landscape crew member, contractor, and architect. I am also a former RAB member.

As the Army Corps likes to say, bottom line up front. The current process is just not working. Over the past 16 years we have had to endure flawed sampling, secret sampling, sampling that never took place, incomplete historical research, attempts to rewrite history, several uninvestigated burial pits, no cumulative health risk assessments, a dysfunctional RAB, and more recently a 1-year backlog in posting partnering meeting minutes to the Spring Valley Web site.

If the Army Corps can't even post minutes in a timely manner, can we trust them with destroying chemical munitions less than 1,000 feet from the District's water supply? Davis Robertson, one of the original RAB members, said if the Army Corps was a private contractor they would have been fired a long time ago.

The Spring Valley issue became personal for me in 1995 when my mason found a Stokes mortar while working on a house on Sedgewick Street. The current owners are dealing with serious health problems and one of the previous owners developed a brain tumor. On the same block were two cases of aplastic anemia in the same house, 20 years apart. Both were fatal. One was a 7-year old girl; the other was a 70 year old man. Aplastic anemia is very rare. Just one case raises red flags. On three adjacent properties were three cases of multiple myeloma, again each one fatal. On another adjacent property was one case of pernicious anemia. That individual, Camille Saum, survived. She and her sister, Beth Junium, collected anecdotal health information from their neighbors.

This was the beginning of the Northwest Current's Spring Valley Disease Survey. You don't have to be a Harvard trained epidemiologist to know that something is terribly wrong here. We have been living with this toxic brew of more than 600 AUES chemicals for 90 years now. To date, we know of more than 200 residents, students, and workers with health problems associated with chemical exposure. My name, as well as several friends and family members, is on that list.

The 2007 Johns Hopkins Scoping Study, not a health study, found that residents' anecdotal health problems were consistent with the existing scientific literature on exposure to chemical warfare agents and agent breakdown products. Unfortunately, the followup health study has been delayed and is only partially funded. We need another $500,000 to fully fund the study. We need to include some of the early and longtime Spring Valley residents in that study.

Little is being done to educate people about the symptoms of exposure or to assist residents, students, and workers who may have been exposed. We will likely need additional funding for medical monitoring and for independent sampling of soil, air, and water to determine if the Army Corps' cleanup is truly complete.

I don't know how you can conduct a thorough cleanup when the historical research is incomplete and a conceptual site model for Spring Valley has never been developed. These are the first two steps of any cleanup. It makes you wonder if the Army Corps really wants to be here and do the work.

It is clear that the current process is not working, but what do we do? One solution is to put Spring Valley on the Superfund National Priorities List and have EPA take the lead along with a more proactive D.C. Department of the Environment. Another possibility is to ask the National Academy of Sciences to do a study on the thoroughness of the cleanup.

Looking at the bigger picture, at current Pentagon funding levels of just $250 million annually, it will take 80 to 160 years to clean up the known contamination at 3,000 to 5,000 formerly used defense sites. If annual FUDS funding was increased to $2 billion, these sites could be cleaned up in a much more reasonable 10 to 20 years.

To conclude, one, we need more transparency and oversight. Two, we need to a better job at researching, investigating, and cleaning up Spring Valley. Three, we need to do a better job protecting the health and safety of the citizens of the District of Columbia. And four, we need your help. It is time for a change.

Thank you.

[The prepared statement of Mr. Slowinski follows:]

Testimony of Kent Slowinski
former member, Spring Valley Restoration Advisory Board
on the Environmental Restoration Program
at the Spring Valley Formerly Used Defense Site
before the Congress of the United States
House of Representatives
Committee on Oversight and Government Reform
June 10, 2009

Thank you for holding this important hearing on the Environmental Restoration Program at the Spring Valley Formerly Used Defense Site.

My name is Kent Slowinski. I grew up in Spring Valley in the 1950's and 1960's at 4721 Sedgwick Street. I've worked in Spring Valley since the 1970's as a landscape crewmember, contractor and architect. I was one of the original members of the Spring Valley Restoration Advisory Board (RAB) from 2001 - 2006.

1. Increased transparency and oversight

On several occasions, the RAB, along with many Spring Valley residents, has asked for increased transparency and oversight. After a year on the RAB, Davis Robinson, a well-respected attorney and neighbor said, "If the Army Corps was a private contractor, they would have been fired a long time ago."

If the Army Corps would put the same amount of energy into conducting a thorough research, investigation and cleanup, as they put into falsely discrediting people, attempting to rewrite history and developing reasons not to research, investigate or cleanup, the cleanup would be much further along than it is today.

What would you do if you learned that the project manager of a federal agency, who is supposed to be providing oversight, was told, "Sweep the problem under the carpet - make Spring Valley go away. It's too big for you to handle."

There aren't many Spring Valley residents who understand the culture of the Army Corps or EPA. There aren't many Spring Valley residents who have a background in weapons of mass destruction, chemical warfare agents, and contamination of water, air and soil from arsenic, perchlorate, lead, and mercury to name a few.

I'm beginning to wonder if all of the transparency and oversight in the world can help such a flawed and conflicted process. It just doesn't make sense to continue letting the fox guard the henhouse. It isn't good for business.

We need to protect the health and safety of the of the citizens of the District of Columbia. It is time for a change. We need your help.

2. Health problems

The Spring Valley issue became personal for me in 1996, when my mason found a stokes mortar while excavating a basement for an addition to a house on Sedgwick Street. One of the previous owners of the property developed a brain tumor. The current owners are dealing with serious health problems.

Other neighbors and workers have had similar health problems. Just down the street were two cases of aplastic anemia in the same house, 20 years apart. One was a 7 year old girl. The other was a 70 year old man. Just one case of aplastic anemia raises red flags for public health officials. Two case in the same house is just unheard of.

On three adjacent properties were three cases of multiple myeloma, each fatal. On another adjacent property was one case of pernicious anemia. That individual survived. She and her sister were instrumental in collecting anecdotal health information from their neighbors, which was the beginning of the Northwest Current's 2004 Spring Valley Disease Survey. http://www.cpeo.org/pubs/SpringValleydiseases.pdf

All of these properties were built on top of or adjacent to the Sedgwick Trench, where chemical warfare agents were tested on animals. Some of these chemicals are mutagenic. They damage the chromosomes - damage that can be passed down from generation to generation. Some chemicals are so toxic they have no antidote. Some chemicals were so experimental they have no recommend background concentration. Some chemicals are so rare, there no way to sample for them in the environment.

You don't need to be a Harvard-trained toxicologist or epidemiologist to know that something is terribly wrong. To date we know of more than 200 residents, students and workers with health problems that might be associated with chemical exposure. My name is on the list. Little is being done to educate or assist people with symptoms of exposure. Some form of medical monitoring should be provided.

3. Health study follow up

The 2007 Johns Hopkins Spring Valley Scoping Study found that residents' anecdotal health problems were consistent with existing scientific literature on exposure to chemical warfare agents and agent breakdown products. The follow up health study is only partially funded. We need another $500,000 to fund the study.

We will likely need another $500,000 for independent sampling of air, soil and water to determine if the cleanup is complete.

4. Historical research and Conceptual Site Model

How do you conduct a thorough cleanup? In 2001, I attended the Interstate Technology Regulatory Council's UXO Basic Training (Unexploded Ordnance). In the first chapter of the material it stated, the first two steps in any cleanup are to conduct a thorough historical research and develop a Conceptual Site Model. After more than 16 years on the project, the Army Corps has yet to do either. If they have, the documents are not publicly available. The only Spring Valley Conceptual Site Model I've seen is in Dr. Richard Albright's book, *Cleanup of Explosive and Chemical Munitions*. Dr. Albright was removed from the project in 2002.

5. Office of Risk Assessment documents

In the 1980's, American University's Office of Risk Assessment hired two researchers to look into possible burial pits on campus and in the neighborhood. One of the researchers, who died last summer, provided some of the documents to Representative Connie Morella's staff prior to the 2002 Congressional hearing, despite receiving threats from the Pentagon and American University regarding releasing the documents. Access to all of the documents will result in a more thorough investigation and cleanup.

6. National Archives research team

In 2001, I organized a research team at the National Archives in College Park. We met with staff and explained our mission. The Archives staff was very helpful. They provided a copy of the National Archives accession order which listed some of the documents in the AUES files at Fort McClellan. It included 320 cubic feet of field test reports, "moving pictures," maps and more. The report indicated the Army cancelled the accession order in 1993 because the AUES files were in

daily use by the Army in locating buried munitions in Spring Valley.

After 16 years, why hasn't the Army Corps transferred the documents from Fort Leonard Wood to the College Park National Archives so that a thorough historical research can be conducted and a Conceptual Site Model developed?

7. 1918 AUES map

Our National Archives research team located a 1918 AUES map that documented more than 20 additional structures that the Army Corps historians were not aware of. One of the structures was a Livens Gun Pit, which to everyone's surprise still exists near the northwest corner of American University's intramural field. The Livens Gun Pit was used to determine the trajectory of a range fan with an impact area near the Dalecarlia Reservoir. An EOD technician said it was the skinniest range fan he had ever seen, suggesting the range fan should have been wider The Army Corps overlaid the 1918 map onto a current map, but omitted at least 30 AUES structures - more examples of incomplete historical research.

8. AUES files lost

The National Archives historians were concerned that the AUES files would be lost when Fort McClellan closed in the late 1990s. They lost track of the AUES files until 2001, when the files were located in a locked vault at the Army Chemical School at Fort Leonard Wood, Missouri.

Other important documents provided to the Army Corps have been lost, such as the 1918 AUES map, WC & AN Miller's development plans for Spring Valley, and several historical aerial photographs - more examples of incomplete historical research.

9. Incomplete historical research

In 2001, RAB members asked the Army Corps to research the AUES files and consider transferring the files to the College Park National Archives. The Army Corps refused to transfer the AUES files, saying the files were Army property. The Army Corps reluctantly agreed to look at the 2,000 AUES photos, but would not agree to look at the other AUES files.

The Army Corps will likely tell you they have done a thorough historical research. At a RAB meeting last year, the Army Corps said they made two trips to Fort Leonard Wood and would make a third trip if necessary.

What they won't tell you is that on the first trip, the Army historian was sick, so the files could not be accessed. On the second trip they looked at 2,000 photos, but ignored most of the other files. They scanned 264 images onto 2 discs, but the Army withheld one disc without explanation. The Army Corps never followed up on the missing disc. There was some discussion at the Partnering meetings about a third trip to Fort Leonard Wood, but it never took place.

The photos on the first disc were instrumental in proving that chemical munitions were ballistically fired and that rocket testing was conducted at AUES. This raised questions about a range fan and perchlorate contamination in the groundwater.

10. Asking the wrong question

On several occasions, the Army Corps seems to have deliberately asked the wrong question. Regarding the Rocket Test Area, the Army Corps asked their munitions experts in Huntsville, Alabama, "Did the Army used rockets with perchlorate in WWI?" The answer was no. It looked as if perchlorate wouldn't be an issue.

But the District's Department of Health asked the right question, "Did any AUES chemicals contain

perchlorate?" The answer was yes. Perchlorate was present in at least 11 AUES chemicals.

Elevated perchlorate levels (48-124 ppb) have been detected in the groundwater by Sibley Hospital and American University. Lower perchlorate levels (2.4 ppb) have been detected in the District's treated drinking water. Developing fetuses and infants are most susceptible to perchlorate. Perchlorate exposure is associated with developmental delays.

11. Army Corps Community Outreach

In 2007, I brought some concerns to the Army Corps Community Outreach Coordinator regarding possible perchlorate exposure to some children who grew up near the Glenbrook Road Burial Pit. They were developmentally delayed. They went to grade school with my brother and sister and me. I was concerned that there might be an exposure pathway with the groundwater entering the basement or with the children playing in the creek.

Instead of looking into the matter, I received an email from the Army Corps stating there was no truth to what I said and questioning my integrity - another example of an incomplete investigation.

12. How do you determine if the cleanup is complete?

Look at the historical documents. There is evidence of several burial pits that have not been investigated, such as the Sergeant Maurer Burial Pit, the Arthur Osborne Burial Pit, the Ian McFee Burial Pits and the Rick Woods Burial Pit.

13. Sergeant Maurer Burial Pit

A photograph taken by Sergeant Maurer, Erik Olson's grandfather, documented the burial of 20-30 ceramic carboys of mustard agent and/or lewisite. EPA EPIC determined the Sergeant Maurer Burial Pit is under the house at 4825 Glenbrook Road. During the recent work at Pit 3 there was evidence that workers disturbed the burial pit and reburied some munitions by the foundation of the house. But the Army Corps hasn't talked to the workers who built the house or looked under the house. Mustard agent breakdown products were detected in the ground under the driveway - additional evidence of the Sergeant Maurer Burial Pit.

In 1992, contractors excavated 60-80 truckloads of soil from the site. The Lorton Landfill refused the soil because it was too contaminated. The National Park Service ordered contractors to remove the contaminated soil from the Fort Totten Metro site after a bulldozer operator passed out and an NPS representative became sick.

No one has located the contaminated soil. Some believe it was sent to the Boys and Girls Town of Washington in the 4800 block of Sargent Road, NE - another example of an incomplete investigation.

14. Arthur Osborne Burial Pit

A 1922 newspaper article by Arthur Osborne in the American University *Courier* states that the American University Board of Trustees gave the Army Corps permission to bury $800,000 worth of explosives on the far reaches of the campus. This burial pit hasn't been found either.

15. Ian McFee Burial Pits

In 1993, someone identifying himself as Ian McFee called the Mayor's office. He said he worked with the Civilian Conservation Corps, which buried munitions, including French 75mm rounds, in 14 burial pits. Some believe the burial pits are either by the C&O Canal by Chain Bridge or on the Dalecarlia Reservoir property. A Naval Research Lab geophysical survey identified 8 large anomalies - possible burial pits - by the C&O Canal. These pits have not been investigated.

16. Rick Woods Burial Pits

In 1984, two Civil War relic hunters recovered approximately 100 75 mm shells from the Dalecarlia Reservoir property. The munitions were recovered near the surface, under just inches of dirt. The relic hunters could only take 27 munitions at a time in their truck so they made several trips. They stacked up the extra munitions against two trees, but when they came back, the munitions were gone. Only half of the munitions were accounted for. One of the relic hunters has never been contacted.

In 2007, the Army Corps provided inaccurate information to the Naval Research Lab which was hired to conduct a geophysical survey of the area. Even though the wrong area was surveyed, the Army Corps concluded there were no large burial pits on the Dalecarlia property.

17. Munitions in the Dalecarlia Reservoir

The Area of Interest Task Force identified several impact areas by the Dalecarlia Reservoir. They questioned if munitions may have overshot the impact area and landed in the Dalecarlia Reservoir. They considered expanding the impact area to include the Dalecarlia Reservoir. A Navy EOD technician said if munitions were fired into the reservoir 80 years ago, they would be too deeply buried in the sediments to be removed through dredging and they would still be intact.

18. AUES inventory of munitions

A 1918 AUES inventory indicated there were more than 4,000 munitions remaining at AUES at the end of the WWI. Instructions were given to transfer the munitions to Edgewood Arsenal. But returning ships had priority and Edgewood was full. There are no documents indicating the munitions were transferred from AUES to Edgewood. The only logical conclusion is that the munitions remained at AUES and were likely buried in the area. Fewer than 1,000 munitions have been recovered to date.

19. Burial pits in tunnels

One document indicates the Army tunneled into hillsides to bury munitions. This is credible information as the Bureau of Mines was involved at AUES. If this is the case, many of these munitions are buried too deep to be detected by the current geophysical surveying equipment.

20. Complete and accurate information in a timely manner

Another way to determine the thoroughness of the cleanup is to look at how information is provided to the community. On several occasions the Army Corps has failed to provide complete and accurate information in a timely manner.

As of April, the Army Corps was one year behind in posting Partnering meeting minutes to the Army Corps website, despite agreeing to post Partnering and RAB meeting minutes within one month of the meetings. RAB members are allowed to attend Partnering meetings, but none of them do. Aside from RAB members, the Partnering meeting are closed to Spring Valley residents. There have also been delays in posting the RAB meeting minutes. Some have complained that the minutes have been sanitized.

The Army Corps has withheld sampling data from project partners and residents. The composite soil sampling that was used to determine Exposure Point Concentrations and the AUES List Sampled Properties are two examples.

21. Delayed Area of Interest reports

The Area of Interest (AOI) Task Force was established to identify areas that require additional investigation. Much of the information for the AOIs is provided by past and present residents. But the Army Corps doesn't release any information on the AOIs until after the reports have been investigated and closed. The AOI binder at the Palisades Library Information Repository includes just 12 of the 30 Areas of Interest reports. The Army Corps is missing a valuable opportunity to gather additional community input that could lead to a more thorough investigation and cleanup.

This has lead to some legal issues. A home buyer considered suing the seller for not disclosing that the home was in locates in an AUES range fan. But the range fan isn't a designated AOI. In addition, the range fan is not identified in any publicly released documents.

The AOI Task Force was disbanded after one of the members retired. A logical step would have been to replace the AOI Task Force member. As a result, an AOI report on expanding the FUDS boundary into AU Park was never reviewed - another example of an incomplete investigation.

22. Incomplete or flawed sampling

Another way to determine if the cleanup is complete is to look at the sampling conducted, such as indoor air monitoring, composite soil sampling, AUES chemical sampling and groundwater monitoring.

23. Indoor air monitoring

In 2001, the Army Corps agreed to conduct indoor air monitoring on six Spring Valley properties, two with high arsenic levels, two with moderate arsenic levels, and two with low arsenic levels. Eight years later, the sampling has not been conducted.

One Sedgwick Street property was found to have arsenic particulate matter at 200-1,000 times recommended background concentrations. Questions were raised regarding the sampling protocol, but the property was never resampled. Soil sampling indicated the property did not have elevated arsenic in the soil, raising questions of where the arsenic came from.

24. Arsine gas

Indoor air monitoring for arsine gas has never been conducted. Arsenic can methylate to form arsine gas in an iron rich, acidic and moist environment or in the presence of certain fungi. These conditions are present on most Spring Valley properties. Iron occurs naturally in soil, the soils are naturally acidic and rainfall is predictable. Arsine is one of the most toxic AUES chemicals. There is no antidote for arsine exposure which is associated with brain tumors. Several residents have had brain tumors.

25. Flawed composite soil sampling

Composite soil sampling used to identify properties for follow up grid sampling was not in compliance with EPA soil screening guidance. The composite sampling diluted hotspots - potential exposure pathways. Instead of taking a trowel of soil from the four quadrants of a property to make up one of eight composite samples, eight trowels of soil were taken from one of the four quadrants to make up just four composite samples. This reduced the sampling costs, but it also decreased the levels of arsenic detected and diluted hotspots.

Some properties that have been declared free of contamination are surrounded by 3-6 other properties with elevated arsenic. During the first year of arsenic remediation work, contractors had to chase contamination onto 25 percent of adjacent grids, indicating a confidence level of just 75 percent. EPA soil screening guidance recommends a confidence level of at least 95 percent. The Army Corps refused to resample "clean" properties.

26. Secret soil sampling

In 2001, the Army Corps conducted extensive sampling of four properties for approximately 250 AUES chemicals. The property owners were unaware of the sampling, until tow years later, when the Army Corps accidentally release the results. The Army Corps said there was no reason to inform the property owners because there was no health risk. More than 100 AUES chemicals were detected.

One RAB member said, "How can you say there is no health risk, when you haven't tested for 40 of the chemicals on the list?" Some of the chemicals were so rare they had no recommended background concentrations or reference doses. There were quality control/quality assurance issues with the sampling because the samples were held too long before being sampled, but the properties were never resampled. The Army Corps would not say why the four properties were selected, but all four properties had a history of health problems with past and present owners.

27. Groundwater monitoring

Groundwater contamination is a very serious concern because in several places in the neighborhood, groundwater comes to the surface or enters the basements of homes. Perchlorate has been detected at Sibley Hospital, American University and in Glover-Archbold Park.

Other FUDS sample groundwater on a quarterly basis to document seasonal changes in groundwater. In Spring Valley the monitoring has been conducted on less than an annual basis. It is usually done during the summer, when there is less chance of detecting AUES chemicals.

Groundwater monitoring can be used to determine the extent of contamination plumes, to determine if contaminants are entering the Dalecarlia Reservoir, and to locate burial pits. Groundwater monitoring has been so infrequent, it appears very little has been accomplished. There have been many disagreements among the Partners.

The Army Corps developed a groundwater flux model to determine if groundwater entering the reservoir might impact the drinking water. They determined there was no danger to the reservoir if the calculations came in under 1,000 parts per billion. The first calculations came in around 3,000 parts per billion. They recalculated until they came up with a more acceptable figure of 200 parts per billion. The Army Corps concluded that groundwater contamination posed no danger to the Dalecarlia Reservoir or the District's water supply. Perchlorate has been detected in the District's treated drinking water at 2.4 parts per billion.

28. Community outreach and health issues

The Army Corps Community Outreach Coordinator ignored health concerns that I brought to her attention regarding children who may have been exposed to perchlorate near Pit 3. Instead of looking into the matter, the Army Corps said there was no truth to the matter and questioned my integrity in bringing the issue to her attention. Perchlorate is associated with developmental delays in infants and developing fetuses.

29. Munitions destruction

Perhaps the greatest concern should be reserved for the proposed munitions destruction behind Sibley Hospital in June or July. The Army Corps hasn't provided much information on what will be destroyed. We know that one round is an explosively configured arsine-filled round. The others are likely mustard agent. Arsine is associated with brain tumors. There is no antidote. Mustard agent is mutagenic. Children are most susceptible to eye injury from mustard agent exposure.

Is it safe to destroy chemical munitions in the neighborhood next to Sibley Hospital and the District's water supply? Toxic chemicals will have to be trucked in to neutralize the chemical

warfare agents. Thousands of gallons of hazardous waste will have to be trucked out. There are no plans to use a blast containment structure in case of an accidental detonation, no warning siren in case of an accidental chemical warfare agent release, no signs posted by the safety circle to warn people in the area of the munitions destruction, and no instructions for residents on sheltering in place. These safety measures were all used at Pit 3, where the same munitions proposed for destruction were recovered.

At the March community meeting several people asked that the munitions destruction be moved to a nearby military base, such as the Naval Research Lab, a hazardous waste facility, where munitions have been safely destroyed in the past.

The Army Corps claims it is too dangerous to transport the munitions, but munitions have been safely transported from Spring Valley to Pine Bluff Arsenal in Arkansas in 1993 and to Battelle Institute in Ohio in 2001, as well as from American University to Sibley Hospital.

30. The function of the RAB

Another way to determine if the cleanup is complete is to look at the way the RAB has functioned. Instead of learning to work with its critics and people who have advocated for a more thorough research, investigation and cleanup, the Army Corps has removed those people from the project.

In 2006, the last original RAB member resigned in protest. He cited the Army Corps' attempts to keep certain project personnel from appearing before the RAB and keeping other people off the RAB.

31. Conflict, corruption or incompetence on the RAB

The Army Corps allowed a Pentagon employee onto the RAB who orchestrated the changing of the RAB's ground rules to remove the two RAB members who uncovered lapses in the historical research, investigation and cleanup.

Questions have been raised about several RAB members. One RAB member moved out of Spring Valley, but continues to be on the RAB in conflict with the RAB ground rules. The Horace Mann RAB representative has no connection with the school. The current RAB Community Co-chair works for a company that has contracts with the Army Corps, USEPA and DDOE. Another RAB member doesn't think arsenic is a health issue, even though arsenic has been detected at levels as high as 274,000 parts per million. (The arsenic cleanup level is 20 parts per million.)

One of the benefits of being on the RAB is attending Partnering meetings, but none of the RAB members attend. The Army Corps does not allow residents to attend Partnering meetings.

No one on the RAB raised a concern about the Army Corps being one year behind in posting Partnering meeting minutes to the Army Corps Spring Valley website. No one on the RAB asked why the Brandt construction workers were never asked if they found munitions or reburied munitions anywhere else on the Glenbrook Road site. No one on the RAB asked why a blast containment structure wasn't being used during the munitions destruction process.

Although there are some well-intentioned RAB members, there is an unexplainable lack of curiosity. Little effort is made by the Army Corps to provide the necessary background information to understand many of the issues. You would like to think that RAB members are doing their homework, especially when we are dealing with weapons of mass destruction, chemical warfare agents, toxic explosives, livens projectiles, 75 mm rounds, stokes mortars, toxic smoke candles, hand grenades, chemical contamination and people's health.

32. Additional red tape

The former RAB Community Co-chair asked me to apply for the RAB's worker representative position when my term on the RAB expired. I filled out the RAB application form and submitted it. The Army Corps then developed new requirements for the position that have never been required for any other RAB position, keeping me off the RAB. Some of the documents were postdated by the Army Corps.

33. Ethics investigation

The former RAB community co-chair who testified in 2001 and 2002, worked for the USEPA. This conflict of interest was brought to the Co-chair's attention by several RAB members. After several instances of not allowing open discussion at several RAB meetings and efforts to falsely discredit project personnel and RAB members, an ethics complaint was filed with the Co-chair's employer.

34. A lack of curiosity

There appears to be a lack of curiosity on the part of the RAB. Some RAB members, who are concerned about declining property values, would like the Army Corps to leave as soon as possible. Their motto was "Finish in four years." That was seven years ago.

At times there is very little effort on the part of the RAB to press the Army Corps for information, or to verify the accuracy of the information.

The RAB agenda has included some issues that have nothing to do with the Spring Valley cleanup, such as supplying water to District residents and replacing lead service pipes. Other RAB agendas covering relevant topics have little substance, such as risk assessment process. Even though many risk assessments have been conducted for Spring Valley, none have been shared with the RAB.

35. Dissolving RABs

The RAB does not represent the community's best interest. When the Pentagon employee changed the RAB ground rules to remove certain RAB members, one Advisory Neighborhood Commissioner said, " We have just witnessed a gross miscarriage of democracy." We will never get a thorough investigation and cleanup as long as the RAB allows the Army Corps to conduct business as usual. RABs have been dissolved at other FUDS for one reason or another. Perhaps the Spring Valley RAB should have been dissolved a long time ago. It just isn't working.

36. Superfund National Priorities List

With the new leadership at EPA there is renewed optimism that Formerly Used Defense Sites across the nation will finally get the attention they deserve. It is clear that the current process is not working. One solution is to place Spring Valley on the Superfund National Priorities List and have EPA take over the project.

37. The bigger FUDS picture

Spring Valley is one of 9,000 Formerly Used Defense Sites across the US. Unfortunately, what is going on in Spring Valley is likely being played out at other FUDS. The Pentagon estimates there are approximately 3,000 FUDS requiring cleanup, but State regulators place the figure at closer to 5,000. At current Pentagon funding levels of just $250 million annually, it will take 80-160 years to cleanup known contamination. Some estimate the cleanup to cost more than $200 billion as more contamination will be uncovered during the cleanup. If FUDS funding were increased to $2 billion annually, FUDS could be cleaned up in a more reasonable 10-20 years. At FUDS where there are potential exposure pathways speeding up the cleanup will reduce the number of people exposed to toxins.

38. Increased transparency and oversight

Last month, Councilmember Mary Cheh and her staff put in countless hours on the Spring Valley Roundtable Panel, as did Advisory Commissioners Nan Wells and Tom Smith. But they can not continue putting in the hours that this project has required. They have done an excellent job, but it isn't their responsibility to oversee Federal agencies.

It just doesn't make sense to continue letting the fox guard the henhouse. It isn't good for business. It isn't good for the health and safety of the residents of Washington, DC. It is time for a change. We need your help.

Ms. NORTON. Thank you, Mr. Slowinski. Mr. Beumel.

STATEMENT OF GREGORY BEUMEL

Mr. BEUMEL. Congresswoman Norton and members of the committee, I want to thank you for the invitation to speak to you today. I am Greg Beumel, the community co-chair of the Spring Valley Restoration Advisory Board [RAB]. I began serving on the RAB in June 2002 and became co-chair in 2005. I have also served on the Science Task Group of the RAB and am Chair of that group. I am joined today by Dr. Peter deFur, the science advisor of the RAB.

To answer some previous questions, the Restoration Advisory Board was established by the U.S. Army Corps of Engineers under DOD regulations to obtain community input into the Environmental Restoration Program at Spring Valley. Members come from two categories, residential and institutional. Residential members are volunteers who must live or work within the boundary of the FUDS. Institutional members represent the major institutions in Spring Valley and include AU, the Horace Mann Elementary School, the D.C. Department of the Environment, the U.S. EPA, and the Army Corps of Engineers. When voting to provide advice to the Army, only residential members are counted.

Briefly, I am a toxicologist with 20 years experience in human health risk assessment, quantitative and qualitative analysis of chemical data, regulatory support, data base management, communications, and program and project management. I performed more than 50 risk assessments at Federal facilities nationwide ranging from baseline risk assessments to toxicity assessments.

This statement is my own evaluation and comment on the cleanup at Spring Valley. It is based on a meeting with the Science Task Group of the RAB, consisting of Dr. David Feary, a geologist on the staff of the National Research Council, and Dr. Peter deFur, the technical advisor to the RAB who is a Research Associate Professor at Virginia Commonwealth University and a full time private consultant. Much of this testimony was presented by Dr. deFur at a meeting called by Councilmember Mary Cheh of the District of Columbia City Council.

Jumping ahead to save time, an upcoming project concern is the plan to destroy military munitions recovered during the investigations that are now ending. The plan to destroy the munitions in an especially designed and constructed mobile facility located on the Federal property makes sense and presents the lowest risk situation, in my professional opinion and that of the members of the RAB Science Task Group. Our conclusion is based on risk factors identified for destruction activities, the design and operation of the destruction equipment, and the characteristics of the known threats to human health.

Two of the greatest risk factors are the handling and the transport of such items. Each handling increases the probability that a mistake can result in an accident. Transportation not only requires special permits from any State through which the items must move but increases the probability for accidents and unexpected events.

In terms of special actions and risks onsite, the risks are lowered by the fact of two containment systems, air handling systems, well

tested equipment, experienced operators, distance from the facility to any residents or commercial facilities, and a plan to monitor local weather and proceed only when safe conditions prevail. Given all the specific risk factors, I agree with the decision to proceed with onsite destruction using this equipment.

In 1993, the Army dramatically flew Spring Valley munitions out of the neighborhood via helicopter. Those days have ended as communities realize that they do not want to become a secondary dumping ground for highly dangerous materials recovered in another community.

In 1999, the Army completed fabrication of a usable prototype of the mobile explosive destruction system that has allowed for the destruction of chemical munitions closer to the location of discovery. Since then the EDS has been used at a number of communities throughout the United States, including Spring Valley, with great success.

In the look for independent oversight, I don't claim to have independent oversight. But we do have a technical advisor who works for the RAB and has been represented in most of the technical discussions and deliberations. They have taken his input and contributions on par with other agency input.

According to Army policy, this TAPP grant is supposed to last for 5 years with a $25,000 limit on each year. On two occasions I have requested that the Baltimore District Commander of the U.S. Army Corps of Engineers ask the Deputy Assistant Secretary of the Army to waive caps on the TAPP grants for Spring Valley. In both cases my request has been granted. We continue to receive funding and continue to have this outside technical expertise available to the community.

He attends the monthly technical partnering meeting when available. He also attends calls and meetings on groundwater, soil sampling, determining the list of chemicals to sample, special site investigations, etc. He was part of the group that investigated other areas that may have been overlooked, the Area of Interest Taskforce. And he helped arrange a site visit by Rick Woods, who had discovered munitions more than 10 years ago.

I am going to jump to the end because I know you are out of time. The purpose of these investigations is to find other World War I era items if they exist so I will be surprised if additional discoveries are not made. The current schedule leaves time for additional discoveries of the size made this past May of World War I 75 millimeter munition items and pieces of grenades. If there is a major discovery such as a new burial pit, the schedule will need adjustment. At this point, we will need to see the resolve of the U.S. Army Corps of Engineers to complete the project.

Thank you.

[The prepared statement of Mr. Beumel follows:]

Spring Valley Formerly Used Defense Site Clean Up
Subcommittee on Federal Workforce, Postal Service, and the District of Columbia
June 10, 2009

Statement of Gregory A. Beumel
Community Co-Chair, Spring Valley Restoration Advisory Board

I am Greg Beumel, the Community Co-Chair of the Spring Valley Restoration Advisory Board (RAB). I began serving on the RAB in June 2002 and became co-chair in January 2005. I have also served on the Science Task Group of the RAB and as chair of task group.

Briefly, I am a toxicologist with 20 years experience in human health risk assessment, quantitative and qualitative analysis of chemical data, regulatory support, database management, communications, and program and project management. I have performed more than 50 risk assessments at federal facilities nationwide ranging from baseline risk assessments to toxicity assessments to support U.S. EPA rulemakings. I am currently supporting EPA's Office of Water as a contractor to the Water Security Division.

This statement is my own evaluation and comment on the cleanup at Spring Valley. This statement is based on a meeting with the Science Task Group of the RAB consisting of Dr. David Feary a geologist and Dr. Peter deFur, the technical advisor to the RAB under the Technical Assistance for Public Participation (TAPP) program. Much of this testimony was presented by Dr. deFur at a hearing called by Council member Mary Cheh of the District of Columbia City Council.

Spring Valley is a most challenging site from a technical point of view because of the diversity of problems and the length of time that has passed since the initial releases and disposals. Spring Valley has or had contaminated soil, groundwater contamination, buried munitions, chemical weapons from WW I, and undocumented activities.

The process of cleanup at Spring Valley is treated similarly to an Early Action would be conducted on most Superfund sites. This designation means that the agency, in this case the Army, has determined, with the concurrence of the EPA and DC Department of the Environment, that the contamination problems are sufficiently well described and documented that remediation should proceed in order to more quickly reduce or remove health threats. The data obtained prior to 2002 provided sufficient evidence and justification for remediation actions to address:

- soil contamination with arsenic,
- groundwater contamination,

- surface water contamination,
- burial of military debris, chemical weapons materiel, etc.,
- military debris and materiel in soil

Other information has informed further investigations into any and all aspects to contamination, whether chemicals in soil, possible burial pits or individual items beneath the surface. At the conclusion of these remediation activities, the Army will be preparing an analysis of the conditions, as known, documenting sources and nature of threats to health and environmental conditions, and propose what actions may need to be taken as a result of the analysis. This process is known as the Remedial Investigation and Feasibility Study (RI/FS). A risk assessment of the entire site will be completed at that time.

The process used here at Spring Valley has proceeded with remediation more expeditiously than at other sites where I or Dr. deFur have worked. Usually, for a site as large as Spring Valley, a complete RI/FS is conducted early in the process, delaying many remediation efforts by years.

At present, there are a number of activities in progress to address the problems at Spring Valley. The actions in progress include:

- Completing the investigation at the Glenbrook Road address,
- Removing soil and items from a debris field at the AU Public Safety Building,
- Removing arsenic contaminated soil,
- Investigating groundwater contaminated with arsenic and perchlorate,
- Investigating possible military items in residential properties by geophysical scanning and some excavating
- Investigating possible military items and contamination on the federal property north of Dalcarlia Blvd,
- Disposal of military items recovered in earlier investigations
- Planning for the investigations and completion of the work

An upcoming project of concern is the plan to destroy military munitions recovered during investigations that are now ending. I have signed a confidentially agreement with the U.S. Army Corps of Engineers, and I will not be in a position to say more of what will be destroyed. That information must be obtained from the Army under whatever conditions are appropriate.

The plans to destroy the munitions in a specially designed and constructed (mobile) facility located on the federal property makes sense and presents the lowest risk situation in my professional opinion and that of the member of the RAB Science Task Group. Our conclusion is based on risk factors identified for destruction activities, the design and operation of the destruction equipment and the characteristics of the known threats to human health. Two of the greatest risk factors are the handling and transport of such items. Each handling increases the probability that a mistake can result in an accident. Transportation not only

requires special permits from any state through which the item(s) must move, but increases the probability for accidents and unexpected events.

In terms of the specific actions and risks on site, the risks are lowered by the facts of:

- Two containment systems,
- Air handling systems,
- Well tested equipment,
- Experienced operators,
- Distance from the facility to any residences or commercial facilities, and
- A plan to monitor local weather and proceed only when safe conditions prevail.

Given all the specific risk factors, I agree with the decision to proceed with on-site destruction using the equipment described.

As a matter of policy, governments and communities across the nation have repeatedly expressed a preference for local treatment of highly dangerous materials, over transportation through other communities with the attendant increase in risk factors. In 1993, the Army dramatically flew Spring Valley munitions out of the neighborhood via helicopter. Those days have ended as communities realized that they did not want to become a secondary dumping ground for highly dangerous materials recovered in another community. In 1999, the army completed fabrication of a useable prototype of a mobile explosive destruction system (EDS) that allowed for destruction of chemical munitions closer to the location of discovery. The EDS has been used in a number of communities throughout the U.S., including Spring Valley, with great success.

The Spring Valley clean up has complications, difficulties, challenges and more unknowns than most contaminated sites and more than most people envisioned when the clean up started. In spite of all these factors, or perhaps because of these factors, there are a number of important and, in some cases, unique aspects of the Spring Valley project. These features are briefly explained below.

Other scientific opinions, and other inputs and concerns are included in the discussions and deliberations, leading to improvements and changes in what is done and how it is done. The Army has sought and accepted the input from not only EPA and DC, but also from American University, the RAB TAPP advisor, US Geological Survey, Washington Aqueduct, and outside scientists. Work on a number of areas has been drastically influenced by other scientists, including the groundwater investigation, soil sampling, intrusive investigation at Lot 18, Public Safety and Pit 3, arsenic removal, and the search for other areas to investigate.

The USACE managers have included Dr. deFur as the technical advisor and RAB representative in all the technical discussions and deliberations, taking his contributions on par with the agency input. According to Army policy, the TAPP

grant is supposed to last for five years with a $25,000 limit each year. On two occasions, I have requested that the Baltimore District Commander of the USACE ask the Deputy Assistant Secretary of the Army to waive caps on TAPP grants for Spring Valley, and in both cases my request was granted. The RAB has used Dr. deFur extensively to monitor the technical aspects of the project. He attends the monthly technical partner meetings of agencies and contractors, and also attends calls and meetings on groundwater, soil sampling, determining the list of chemicals to sample, special site investigations, etc. He was part of the group that investigated other areas that may have been overlooked, the Area of Interest Task Force, and helped arrange a site visit by Rick Woods who had discovered munitions more than 10 years ago.

When appropriate and applicable, the USACE has used alternative technologies and sought to collect important data that will inform this effort and future efforts. The USACE used ferns to remove arsenic, and used a new method of air sampling that does not require pumps. The USACE collected data using multiple methods of sampling to determine the best and most complete approach.

Starting at the end of 2002 or beginning of 2003, when the military project manager in Spring Valley was reassigned to Iraq, civilian project managers at USACE took over the responsibility for clean up. After this change in management, the process has opened up, increasing transparency and improving community relations. The USACE managers recognized two important, and I think necessary, elements in contaminated site clean up: such sites are not planned and documented at creation and will present unknowns and surprises in remediation; in spite of seeking perfection, there will be mistakes that must be acknowledged, corrected, learned from and move on. The current leaders from the USACE continue to strive for an open and transparent process.

As responsible project managers, however, they must make and attempt to adhere to schedules. Much is made of their schedule to end the field work in Spring Valley in 2010. Some behave as thought this means that the USACE has already left town. The investigation, however, is continuing. As recently as last month the investigation of underground metallic anomalies continued at two residential properties where WWI-related items were recovered during each investigation. Pieces of debris from a WWI 75 mm munition item were removed from one property. At another property, the field personnel recovered dozens of munitions debris items alongside the remnants of a WWI-era wooden storage box and packing material. The debris included the handle and top of a grenade, and small detonator tubes that may have been used to initiate the explosive chain during tests of munitions in place. Since some of the tubes were still intact and potentially contained a small amount of initiating explosive, the field team will complete the anomaly removal at this property within a slightly wider safety zone, but this will not impact neighborhood traffic or nearby residents. Completion of the anomaly removal at this property is anticipated within the next month.

The purpose of these investigations is to find other WWI era items if they exist, so I be surprised if additional discoveries are not made. The current schedule leaves time for additional discoveries of the size made in May. If there is a major discovery such as a new burial pit, the schedule will need adjustment. At that point, we will need to see the resolve of the USACE to complete the project in Spring Valley.

Ms. NORTON. Thank you. Mr. Barton, let us take as much of your testimony as we can. That is the 15 minute bell. It usually lasts more than 15 minutes but I would like you to summarize your testimony, please.

STATEMENT OF JAMES BARTON

Mr. BARTON. Yes, ma'am. Thank you. We haven't found everything that is at Spring Valley and we are not going to the way we are doing it. A new methodology is called for, one that is not being used anywhere else in the country, that uses the latest science and technology and brilliant minds to detect the presence of and map trace amounts of these toxins.

We need third party oversight. We need somebody who is not currently at the table, I think. But we definitely need a new approach of doing it.

There are new and emerging technologies that are non-invasive and allow us to take atmospheric, surface water, runoff water, and groundwater samplings quicker, faster, smarter, and more effectively which can direct our remedial efforts in the right direction. If your house, for instance, has gas coming in it, we will do what we can do then because we know where it is coming from. If we can't eliminate it, perhaps that house has to go. But at lease we now have a focused look using the latest technology. And we are not doing it. We are using standard protocols as you would anywhere else in the country.

There is nothing normal about this particular site. This is the birth of our chemical weapons program for this country and it is in unrestricted residential use. Oh my God, you know? They were mixing and matching everything here. And you can find it everywhere. And we haven't found it everywhere. We haven't even begun to find a lot of this stuff.

But what is most important is finding what is coming into your homes, finding what is killing us. Why are there people in the ground? Why are there professionals who are not in their offices anymore and don't have a job anymore because they rub somebody the wrong way?

There are a lot of things we can do better than what we are doing right now. I would like to help do that if I could.

Incidentally, and forgive me for not introducing myself, my name is James Barton. I am the president of Underwater Ordnance Recovery. I am a subject matter expert on munitions. I have been diving on piles of bombs for 34 years and because of the nature of my business, I am quite familiar with these.

Science is the answer, the new technologies and the science to detect and track trace amounts of toxins.

Thank you.

[The prepared statement of Mr. Barton follows:]

June 10, 2009

Witness Testimony from James Barton

President, Underwater Ordnance Recovery

The American University Experimental Station (Spring Valley)

Beginning in 1985, the US Army Corps of Engineers' response to toxic threats at the former American University Experimental Station has followed a pattern of managing crises as they emerge, then closing out the particular site in question and moving on. Attempts to identify and eliminate still undiscovered threats are hampered by a lack of precise period record keeping, unrestricted residential use of much of the property, and the limits of industry standard geophysics to find them.

This technology relies mainly upon the analysis of magnetic anomaly mapping of buried objects, useless in detecting non-ferrous targets such as liquid filled glass jugs and bulk explosives. Recent efforts to use "ground scarring" identified in early aerial photographs are a step in the right direction, but is of limited value since much of the topography has been physically altered or permanently covered with municipal and residential infrastructure.

It is clear that not all burial pits or areas containing abnormally high levels of toxins have been identified. Their inherently hazardous nature, the process and means by which they were combined, experimented with, bulk produced, and deployed on location, makes it unlikely that all the environmental or health concerns associated with this site could ever be eliminated entirely.

This legacy presents difficult remedial challenges that are compounded by the sites modern day residential land use. Combined, these two elements to make this site unique with regards to other FUDS sites found around the country, and clearly warrant an innovative strategy not currently in use by the US Army Corps of Engineers here or elsewhere in the country. For instance at this point, even if you could locate all the potential threats, removing them merely for the sake of doing so would involve destroying the very land use you are trying to protect.

A more efficient and proactive approach to preserving public safety and guiding future remedial efforts would be to initiate a long term comprehensive non-destructive monitoring program. This program would focus on identifying and tracking trace levels of pollutants with the potential to affect the health and welfare of local residents and the community at large.

The framework for this program should be outlined under an overall site conceptual model that consolidates earlier findings with results from the application of new and emerging methodologies for detecting and tracking the movement of trace amounts of pollutants released into the atmosphere, surface, and ground water runoff.

This program should be fully funded by the US Army Corps of Engineers, and managed under the direct supervision of the District of Columbia.

Ms. NORTON. Thank you very much. Let me say that the purpose of this testimony was not to, forgive me, cross examine the community, as it were. You are not the responsible parties. Of course, the RAB members have some responsibility but, again, they are not public officials. The point was to hear from people within the community, essentially a critique of what has been done. Now that has to be weighed alongside what the Army, the Army Corps, the EPA, and the officials said.

I want to express my appreciation for the Corps and the Army for remaining to hear you out. I had wanted to hear the community first because in fairness I thought the Army should be able to, for example, respond to some of what we heard. I think they would have felt better about responding since the whole point here is to solve a problem and to be truly transparent. But I appreciate that you regarded the testimony of the community important enough so that, as late as it is, you have stayed to hear it.

I must say, when we hear testimony, for example, and he had to give it this way, this is Mr. Beumel's testimony with some boiler plate in here, I have signed a confidentially agreement, one of the rest of you said that, too, speaking to a Member of Congress, speaking to a committee of Congress, I have signed a confidentiality agreement about some munitions that are 100 years old, and so I can't tell you what the weapons are, and I can't tell the community what the weapons are, that is a problem.

This community is going to know what those weapons were when this is all over. And I use the word were advisably because they were. I think what we have already found out in the 16 years you have been there is that most of what was there has withered away in some way or the other.

The health study notions are important. This is very controversial because after health studies nobody is ever able to say, when it comes to cancer, that this was the cause. You are able to see certain kinds of trends and make certain kinds of conclusions, and then I am not sure what you do about them.

But the remaining problem in this period is, as far as we are concerned, the Army's self declaration that it is leaving. Nobody leaves until the Congress of the United States says yes, we think it is time to go. We will have to see what these 2 years bring us. Much will depend on the transparency of the effort. We begin with transparency of what in the world we are talking about and what we have been talking about for 16 years. We don't even know that.

It makes many in the community, and it certainly makes this Member of Congress, feel that we are at ground zero because we don't even know what we have been digging about all this time. It is an absurdity, of course, but it is a bureaucratic absurdity that has been put upon everybody, including the public officials who are here. Because it is obviously above their pay grade. We are going to find out whose pay grade it is.

It would be impossible for this subcommittee and this full committee to authorize the end of this effort without knowing what we were ending and without the community knowing what we were ending.

The testimony has been very important. We have been taking notes and then we remembered that we will have it in writing in

any case. So these questions can be presented to the first witnesses who have been kind enough to stay so that they can have the opportunity to respond to them.

The subcommittee remains most interested in how we are going to reach agreement that the time has come to go. We are fully aware that we are dealing with ongoing issues and that they may come again. Mr. Beumel, I think your point was well taken. When we are talking about things that are hidden so deeply that we don't even know where they are, we can't say that nothing will ever happen again. That is why the nature of the monitoring and the nature of the testing frankly looks like testing and monitoring that is going to have to be permanent. As long as you tell me that there are places that you will never get to because they are buried so deeply and you don't even know where they are, I don't know that in that sense this site will ever be vacated as far as the Government is concerned.

I want to thank all of the witnesses, particularly for this testimony which has been invaluable to this committee. Of course as I indicated, this is the beginning. We don't mean to subject everybody to a continuous round of hearings but we have to answer the questions that you have very appropriately raised and have been raised throughout this hearing.

I thank you very much for this testimony. The hearing is adjourned.

[Whereupon, at 5:30 p.m., the subcommittee was adjourned.]

[Additional information submitted for the hearing record follows:]

CHARRTS No.: HOGR-05-004
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congresswoman Norton
Witness: Mr. Davis
Question: #4

Question: Please provide the Subcommittee with information pertaining to whether or not these sites have been examined.

Answer: There are 27 Formerly Used Defense Sites (FUDS) in Washington D.C., which had the potential for hazards based on military use, most of which were Civil War forts. Besides Spring Valley, two other FUDS in Washington D.C. (Camp Simms and Catholic University Research Station) required some cleanup, however only Camp Simms and Spring Valley require future cleanup or monitoring. Below is a list of all FUDS in Washington DC:

Formerly Used Defense Sites in the District of Columbia as of July 2009

PROPERTY NAME	Status
AAA FORT RENO	Preliminary Assessment Completed; no munitions hazard found
CAMP SIMMS MILITARY RESERVATION	Cleanup completed in 1999, continuing monitoring
CATHOLIC UNIVERSITY RESEARCH STATION	Cleanup of arsenic completed in 2008; no additional monitoring required
CHAIN BRIDGE	Preliminary Assessment Completed; no munitions hazard found
DIAMOND ORDNANCE FUZE LABORATORY	Preliminary Assessment Completed; no munitions hazard found
FORT BAKER	Preliminary Assessment Completed; no munitions hazard found
FORT BAYARD	Preliminary Assessment Completed; no munitions hazard found
FORT BUNKER HILL	Preliminary Assessment Completed; no munitions hazard found
FORT CHAPLIN	Preliminary Assessment Completed; no munitions hazard found
FORT DAVIS	Preliminary Assessment Completed; no munitions hazard found
FORT DERUSSY	Preliminary Assessment Completed; no munitions hazard found
FORT DUPONT PARK SITE	Preliminary Assessment Completed; no munitions hazard found
FORT GREBLE	Preliminary Assessment Completed; no munitions hazard found
FORT KEARNY	Preliminary Assessment Completed; no munitions hazard found
FORT LINCOLN	Preliminary Assessment Completed; no munitions hazard found
FORT MAHAN	Preliminary Assessment Completed; no munitions hazard found
FORT RICKETTS	Preliminary Assessment Completed; no munitions hazard found
FORT SLEMMER	Preliminary Assessment Completed; no munitions hazard found
FORT SLOCUM	Preliminary Assessment Completed; no munitions hazard found
FORT SNYDER	Preliminary Assessment Completed; no munitions hazard found
FORT STANTON	Preliminary Assessment Completed; no munitions hazard found
FORT STEVENS	Preliminary Assessment Completed; no munitions hazard found
FORT TOTTEN	Preliminary Assessment Completed; no munitions hazard found
FORT WAGNER	Preliminary Assessment Completed; no munitions hazard found
NAVAL STATION, ANACOSTIA ANNEX	Preliminary Assessment Completed; no munitions hazard found
SPRING VALLEY	On-going clean-up; removal actions and remedial investigation phase
WASHINGTON NAVY YARD	Preliminary Assessment Completed; no munitions hazard found

CHARRTS No.: HOGR-05-005
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congresswoman Norton
Witness: Mr. Davis
Question: #5

Question: Please provide the Subcommittee with the results of these studies.

Answer: There are 27 Formerly Used Defense Sites (FUDS) in Washington D.C., which had the potential for hazards based on military use, most of which were Civil War forts. Besides Spring Valley, two other FUDS in Washington D.C. (Camp Simms and Catholic University Research Station) required some cleanup, however only Camp Simms and Spring Valley require future cleanup or monitoring. Below is a list of all FUDS in Washington DC:

Formerly Used Defense Sites in the District of Columbia as of July 2009

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DIAMOND ORDNANCE FUZE LABORATORY	Preliminary Assessment Completed; no munitions hazard found
FORT BAKER	Preliminary Assessment Completed; no munitions hazard found
FORT BAYARD	Preliminary Assessment Completed; no munitions hazard found
FORT BUNKER HILL	Preliminary Assessment Completed; no munitions hazard found
FORT CHAPLIN	Preliminary Assessment Completed; no munitions hazard found
FORT DAVIS	Preliminary Assessment Completed; no munitions hazard found
FORT DERUSSY	Preliminary Assessment Completed; no munitions hazard found
FORT DUPONT PARK SITE	Preliminary Assessment Completed; no munitions hazard found
FORT GREBLE	Preliminary Assessment Completed; no munitions hazard found
FORT KEARNY	Preliminary Assessment Completed; no munitions hazard found
FORT LINCOLN	Preliminary Assessment Completed; no munitions hazard found
FORT MAHAN	Preliminary Assessment Completed; no munitions hazard found
FORT RICKETTS	Preliminary Assessment Completed; no munitions hazard found
FORT SLEMMER	Preliminary Assessment Completed; no munitions hazard found
FORT SLOCUM	Preliminary Assessment Completed; no munitions hazard found
FORT SNYDER	Preliminary Assessment Completed; no munitions hazard found
FORT STANTON	Preliminary Assessment Completed; no munitions hazard found
FORT STEVENS	Preliminary Assessment Completed; no munitions hazard found
FORT TOTTEN	Preliminary Assessment Completed; no munitions hazard found
FORT WAGNER	Preliminary Assessment Completed; no munitions hazard found
NAVAL STATION, ANACOSTIA ANNEX	Preliminary Assessment Completed; no munitions hazard found
SPRING VALLEY	On-going clean-up; removal actions and remedial investigation phase
WASHINGTON NAVY YARD	Preliminary Assessment Completed; no munitions hazard found

CHARRTS No.: HOGR-05-006
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Clay
Witness: Mr. Davis
Question: #6

Question: Please provide the Subcommittee with any documentation of follow up testing and assessments of groundwater that occurred in the St. Louis Army Ammunition Plant (SLAAP site).

Answer: In 2004 the Army conducted an Environmental Baseline Survey (EBS) on the entire SLAAP property to support transfer of the property to the local community. The EBS identified locations where potential contaminants were found above screening levels. Affected areas included the interior of buildings, including materials used to construct the buildings, the facility sewer system, soils and groundwater. The 2004 report indicated low levels of contamination from metals (which are indigenous to the area) and some low level volatile organic compounds and semi-volatile organic compounds. In January 2006, an agreement was signed by the Army, the Office of the Attorney General of the State of Missouri, and the Missouri Department of Natural Resources. The agreement provided for the transfer of the SLAAP property and the responsibility for cleanup to the Land Clearance for Redevelopment Authority of the City of St. Louis. Because of the status of the property and this agreement, SLAAP does not meet the criteria for a Formerly Used Defense Site. It is our understanding that the property is being cleaned up under the Missouri Brownfields Program.

CHARRTS No.: HOGR-05-007
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Clay
Witness: Mr. Davis
Question: #7

Question: Please provide the Subcommittee with information pertaining to any remedial investigation report which summarizes all samplings and cleanup actions taken and includes a human health and environmental risk assessment from the SLAAP site.

Answer: The Remedial Action report for the cleanup of Building 3, to include confirmation sampling, was completed in 2003. An Environmental Baseline Survey and human health risk assessment were conducted in 2004 to support transfer of the property to the local community. The risk assessment identified unacceptable risks to future workers and residents due to contamination in specific areas. It is our understanding that, the cleanup being conducted by the Redevelopment Authority is addressing these risks.

CHARRTS No.: HOGR-05-008
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Lynch
Witness: Mr. Davis
Question: #8

Question: Please follow up on the request to provide an opportunity for members of the Subcommittee to visit Spring Valley denotation site prior to the use of the exportable system used to destroy discovered munitions.

Answer: The Army will be pleased to host members of the Subcommittee at the site prior to any use of the portable munitions destruction system. In preparation for the previous munitions destruction event at the site in 2003, visits by local elected officials, Restoration Advisory Board members and members of the media, were hosted prior to use of the destruction system. Similar events will occur prior to any munitions destruction event that is conducted at this site and will be coordinated with the Subcommittee.

CHARRTS No.: HOGR-05-009
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Connolly
Witness: Mr. Davis
Question: #9

Question: Please provide the Subcommittee with the number of sites throughout the United States where there is either unexpected ordnance or testing grounds that could negatively affect residential communities.

Answer: In response to Congressional requirements [FY 2002 National Defense Authorization Act, Section 311], the Department of Defense (DoD) compiled and maintains an inventory of those defense sites, referred to as Munitions Response Sites or MRS, known or suspected to contain unexploded ordnance (UXO), discarded military munitions (DMM) or munitions constituents (MC). DoD reports this inventory annually in its Defense Environmental Programs, Annual Report to Congress (DEPARC).

The FY2008 DEPARC, provided to Congress in July 2009, listed 1,093 MRS located on Formerly Used Defense Sites (FUDS) properties. These properties have been transferred from DoD to a wide variety of private and public uses, including as residential areas, industrial parks, airports, public lands, or recreational areas. Although many MRS are located in undeveloped areas, some are located in established communities, or areas that may become residential in the future. DoD is currently applying the Munitions Response Site Prioritization Protocol (32 C.F.R. Part 179) to determine a relative priority for response actions to address the potential risk posed to the public by these munitions sites. Consistent with the potential risk posed, and in consideration of other factors (e.g., community interest in development, funding), DoD takes appropriate action to address the hazards associated with these sites. As a matter of policy, DoD addresses those MRS that pose the greatest potential risk (highest relative priority) before addressing MRS of lower relative priority. Additionally, DoD maintains the capability to support law enforcement's requests for support of an explosives or munitions emergency (i.e., an encounter with a military munitions by the public).

In the interest of public safety, as part of the Military Munitions Response Program DoD has implemented a comprehensive UXO Safety Education Program -- the 3Rs (Recognize, Retreat, Report) of explosives safety to warn the public about the potential hazards associated with military munitions and the actions to take should they encounter or suspect they have encountered a military munition.

CHARRTS No.: HOGR-05-010
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Lynch
Witness: Colonel Mueller
Question: #10

Question: Please provide the Subcommittee with all reports of discovered weapons at Spring Valley, Washington, D.C.

Answer: The Army conducted threat assessments for the site that indicated potential safety risks due to the location of the facility and the types of material stored. The Army will provide the list to the Subcommittee after it has reviewed the security of the present storage conditions and taken any necessary actions to enhance security of the storage facility and its contents. We anticipate this process will take 30 days.

CHARRTS No.: HOGR-05-011
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congressman Lynch
Witness: Colonel Mueller
Question: #11

Question: Please provide the Subcommittee with an explanation as to why the list of discovered weapons has not been made publically accessible.

Answer: The US Army Corps of Engineers, Baltimore District, released specific information to individuals, including federal and District environmental regulators and safety officials and members of the Spring Valley Restoration Advisory Board who agreed to non-disclosure conditions. Threat assessments completed for the site indicated potential safety risks due to the location of the facility and the types of material stored. As a result, a decision was made to not widely disseminate this information at the time.

CHARRTS No.: HOGR-05-013
House Government Reform Committee
Hearing Date: June 10, 2009
Subject: Environmental Restoration Program at Spring Valley
Congressman: Congresswoman Norton
Witness: Colonel Mueller
Question: #13

Question: Please provide the--Subcommittee with a complete list of any and all efforts that have been taken or will be taken to improve communication between the Army Corps ofEngineers and the community in Spring Valley, Washington D.C.

Answer: Public involvement continues to contribute to the Army's successful remediation efforts at the Spring Valley Formerly Used Defense Site (FUDS). This particular FUDS location presents unique challenges and requires continuous community cooperation in order to meet project goals. A Community Relations Plan is maintained to guide the Army's public involvement activities for the Spring Valley FUDS projects. A copy is provided on an attached CD. A community Outreach Hotline has been established and can be reached at 410-962-0157.

The Army maintains a full-time staff committed to informing the community about ongoing and upcoming project activities, as well as to foster better understanding of projects. Information is provided through holding monthly meetings, distributing monthly and quarterly newsletters, meeting and engaging in discussions with individual community members, and continuously coordinating with field teams to address individual community member concerns and obtain Right-of-Entry access to privately owned properties.

Effective outreach to the community involves developing various materials tailored to the many project efforts. Our staff sends individualized briefing materials to homeowners whose properties are proposed for survey and investigative activities. These materials not only provide owners with an overview of what they should expect to see when field teams work at their property, but include graphics overlayed on Google Earth and WWI-era aerial photograph images to point out locations of interest in the vicinity of their properties. The visual aides and personalized letters, followed by personal phone calls and meetings, prove successful in building a level of trust and confidence by assuring homeowners that field teams would be respectful and minimize impacts on their quality of life to the extent possible while cleaning up the hazards from past military use of the property.

Significant community involvement efforts were made for the fall 2007 initiation of one of the largest ongoing projects: the Pit 3 Area Investigation. It required the use of a Shelter-in-Place safety zone as a layer of protection for residents living close to the munitions removal excavation along Glenbrook Road. Door-to Door outreach was a key element in order to provide Shelter-in-Place training for every impacted resident and worker identified in the area. Three-step safety magnets were developed for different target audiences including pedestrians, drivers, children, and Spanish speakers. These and other informational materials were distributed through door-to-door canvassing, neighborhood meetings, site tours, open house events, and personal

appointments. As part of the Shelter-in-Place program, the Army, with cooperation from the community, also set up and maintained an automated phone and email messaging system to contact residents, nearby workers, and interested university students in the event of an emergency. In efforts to maintain community awareness of activities, this system was tested each month in conjunction with a test of the Shelter-in-Place siren. In response to additional community feedback, the Spring Valley project team also maintained a 24/7 hotline number that residents can continue to call if there is a possible emergency or urgent issue related to project activities.

The Restoration Advisory Board, comprised of local community members, the Army, and regulatory support agency members plays a major role in the Army's consistent engagement of the community in the cleanup process. Board members determine the main focus for their monthly meetings and provide meaningful feedback to the Army regarding ongoing, proposed, and upcoming cleanup activities. Aside from the monthly meetings, the Army strives to find additional ways, such as meeting with residents and canvassing areas particularly impacted by certain project activities, to involve board members and community members and stay apprised of community concerns.

The Army's commitment to public involvement in the Spring Valley FUDS continues to build a positive rapport within this unique neighborhood and supply added confidence to community members that their involvement makes a difference.

Spring Valley Community Outreach Statistics

Meetings:

Community & RAB Meetings: 30 RAB Meetings/10 Annually
5 Community-wide Meetings
3 Neighborhood informal briefings

Spring Valley Partnering Meetings: 33 Meetings/11 Annually
RAB members and Elected Officials are invited to attend each meeting.
Meetings are comprehensive and extend over 1-2 days.

Individual Resident Meetings:

Arsenic Soil Removal	~ 75 visits (1-3 visits/property)
Geophysical Survey	~ 30 visits (1-3 visits /property)
Anomaly Removal	~ 40 visits for properties done since 2007 (~1-3 visits/property)
RAB/Elected Official/Resident	~ 40 meetings
Embassy Properties	~ 25 meetings
Groundwater Well Installation	~ 5 meetings

2nd District Police Briefings: 5 efforts (10/07, 12/07, 5/08, 12/08, 5/09)
To: All 4 roll-calls of 2nd District MPD which has jurisdiction in Spring Valley

Door-to-door Outreach:

Shelter-in-Place Canvass: 3 efforts (10/07, 4/08, 10/08)
To: 49 residences in the Shelter-in-Place Zone, engaging over 150 neighborhood residents in personal training of the Shelter-in-Place steps

Munitions Destruction Issues Canvass: 1 effort (3/09)
To: 40 residences closest to sitting location for EDS destruction

Dalecarlia Woods Survey Canvass: 1 effort (3/09)
To: 12 properties with property next to DC Dalecarlia Woods to be surveyed

Soil Sampling Canvass: 2 efforts (2/09, 5/09)
To: ~ 6 & 12 properties respectively who had not responded to soil sampling request

Written Outreach:

Corps'pondent: 9 Issues
Sent to: Almost 2000 addresses, includes all residents within the Spring Valley FUDS Boundary and other stakeholders; also posted on the USACE Spring Valley Project Website

Monthly Project Update via Email: 37 Updates
Sent to: ~150 Community Members, Stakeholders and Elected Officials, posted monthly to Spring Valley Project Website

Pit 3 Email Update: ~12 Updates
Sent to: ~115 Neighborhood Residents and Workers who participated in our Shelter-in-Place Program

Shelter-in-Place Training Magnets, Bookmarks, and Cards: ~2000
Distributed to: Community Members, SIP Residents, MPD Officers, Horace Mann Elementary School Students

Arsenic Removal Update Briefs: ~2 Briefs
Mailed to: ~75 Property owners awaiting soil removal in both 2007 & 2008

Geophysical Survey Information: 1 Complete Package
Mailed to: 41 Owners of properties proposed for geophysical survey

Anomaly Removal Information: ~1 Complete Package
Mailed to: 14 Owners of properties proposed for anomaly removal

Telephonic and Electronic Outreach:

Property Sale Inquiries: ~300 calls/emails*
Follow-up Calls for ROE Requests: ~150 calls/emails*
Individual Project Updates: ~150 calls/emails*
Last Chance Effort: ~75 calls/emails*
Miscellaneous ~75 calls/emails*
* These estimates indicate the approximate number of initial calls and emails to individuals on one specific issue or property. These values do not attempt to quantify the number of follow-up conversations that may be required for each specific instance.

In addition to these communication activities, the Army maintains an administrative record file of project documents available to the public, including all project reports, site investigation data, public and regulator comments and Army responses, and response action decision documents. It is located at the Palisades Neighborhood Library, 4901 V Street, NW, Washington, DC 20007. The Army provides formal public comment opportunities to all members of the public before making removal or remedial action selection decisions. The Army has received and responded formally to public comments on proposed response actions, and will continue to do so in the future for all removal actions and the final remedial action. The designated community involvement point of contact is Joyce Conant at 410-962-2809/2626.

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