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SPRING VALLEY REVISITED: THE STATUS OF THE CLEANUP OF CONTAMINATED SITES IN SPRING VALLEY

HEARING

BEFORE THE

SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA

OF THE

COMMITTEE ON
GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

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SPRING VALLEY REVISITED: THE STATUS OF THE CLEANUP OF CONTAMINATED SITES IN SPRING VALLEY

WEDNESDAY, JUNE 26, 2002

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA,
COMMITTEE ON GOVERNMENT REFORM,
Washington, DC.

The subcommittee met, pursuant to notice, at 10 a.m., in room 2154, Rayburn House Office Building, Hon. Constance E. Morella (chairwoman of the committee) presiding.

Present: Representatives Morella, Norton, Watson, and Shays.

Staff present: Russell Smith, staff director; Matthew Batt, Legislative assistant/clerk; Robert White, communications director; Shalley Kim, staff assistant; Heea Vazirani-Fales, counsel; Jon Bouker, minority counsel; and Jean Gosa, minority assistant clerk.

Mrs. MORELLA. I'm going to call to order the Subcommittee on the District of Columbia.

The hearing today is on "Spring Valley Revisited, the Status of the Cleanup of Contaminated Sites in Spring Valley." I want to welcome our colleague, who will be the first one to testify this morning.

But I would like to say that it was not quite a year ago the subcommittee convened our first hearing into the issue of arsenic and other chemical contamination in the Spring Valley neighborhood of the District of Columbia. The problems stemmed from a weapons laboratory that spread out across hundreds of acres of American University and the surrounding neighborhood during World War I. The American University Experimental Station, as it was known, was the second largest chemical weapons facility in the world at that time, employing as many as 1,900 military and civilian personnel. Untold numbers of experimental chemical weapons were created, exploded and buried on its grounds.

At the time, our last hearing, I said that we were on a search for answers. We wanted to know how these buried munitions remained undiscovered for nearly 80 years, whether Federal agencies or other parties could have been more aggressive in searching for possible contamination, and how quickly the Army Corps of Engineers was going to move to identify the extent of the problem and conduct the cleanup.

Congresswoman Norton and I, last year, requested a General Accounting Office investigation of the matter, and that completed report becomes part of the public record today. Even with the work

of the GAO, however, we are still in search of many answers. We still don't know why the Army Corps failed to identify the Spring Valley area as contaminated before 1993, when a construction crew accidentally discovered munitions. We still do not know whether the management of the Environmental Protection Agency back in 1986 received or reviewed photographic evidence of World War I chemical weapons testing in that area, evidence that was compiled by the agency's own photographic interpretation division. And we are still unclear about the progress of any criminal investigation into this matter.

Whereas last year's hearing focused on what went wrong in the past, and it's sad and disturbing that we may never know the whole story, today we're going to be looking ahead. There are some pressing issues that need to be addressed to ensure that the remediation process moves as quickly and as effectively as possible. The residents of Spring Valley and the people who work in the area deserve finality.

Yes, progress is good, and it does appear as if the Army Corps and its various partners are making solid progress in rectifying the situation. But we must have a definite and narrow timeframe as to when all testing, digging and cleaning up will be finished. We need to know that the Army Corps has a detailed remediation plan and enough money to finish the job.

I also hope this hearing will shed some light onto whether the residents, past or present, of the Spring Valley area face any long term health risks due to the arsenic that lay underground for so long. The Federal Government needs to be able to look the residents of Spring Valley in the eye and say, your house is safe, your property is safe, you are safe, your children are safe. We're very cognizant of the hard work being done by the Army Corps, the EPA, the District of Columbia Department of Health, the Mayor's Scientific Advisory Board and the Restoration Advisory Board. The GAO report commends this partnership for its effort in communicating with the public. And from my understanding, there truly has been a marked improvement in the public's participation in this process compared to the situation from early last year.

So as we look ahead at this hearing, I think there are still questions to be answered. I still consider it a work in progress and hope that we will be able to have some sense that we are moving ahead.

I now recognize the distinguished ranking member, Congressman Norton, for her opening comments.

[The prepared statement of Hon. Constance A. Morella follows:]

CONSTANCE A. MORELLA
8TH DISTRICT, MARYLAND

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CHAIRWOMAN CONNIE MORELLA
OPENING STATEMENT
"SPRING VALLEY REVISITED: STATUS OF THE CLEAN-UP OF CONTAMINATED SITES IN SPRING VALLEY"
JUNE 26, 2002

Not quite one year ago, this Subcommittee convened our first hearing into the issue of arsenic and other chemical contamination in the Spring Valley neighborhood of the District of Columbia. The problem stemmed from a weapons laboratory that spread out across hundreds of acres of American University and the surrounding neighborhood during World War I. The American University Experimental Station, as it was known, was the second largest chemical weapons facility in the world at that time, employing as many as 1,900 military and civilian personnel. Untold numbers of experimental chemical weapons were created, exploded and buried on its grounds.

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Congresswoman Norton and I last year requested a General Accounting Office investigation of the matter, and that completed report becomes part of the public record today. Even with the work of the GAO, however, we are still in search of many answers. We still do not know why the Army Corps failed to identify the Spring Valley area as contaminated before 1993, when a construction crew accidentally discovered munitions. We still do not know whether the management of the Environmental Protection Agency, back in 1986 received or reviewed photographic evidence of World War I chemical weapons testing in the area, evidence that was compiled by the agency's own photographic interpretation division. We are still unclear about the progress of any criminal investigation into this matter.

Whereas last year's hearing focused on what went wrong in the past – and it is sad and disturbing that we may never know the whole story – today we will be looking ahead. There are some pressing issues that need to be addressed to ensure that the remediation process moves as quickly and effectively as possible. The residents of Spring Valley, and the people who work in the area, deserve finality.

Progress is good, and it does appear as though the Army Corps and its various partners are making solid progress in rectifying the situation. But we must have a definite and narrow time frame as to when all testing, digging and cleaning up will be finished. We need to know that the Army Corps has a detailed remediation plan and enough money to finish the job.

I also hope this hearing will shed some light into whether the residents, past or present, of the Spring Valley area face any long-term health risks due to the arsenic that lay underground for so long. The federal government needs to be able to look the residents of Spring Valley in the eye and say, "Your house is safe. Your property is safe. You are safe. Your children are safe."

We are very cognizant of the hard work being done by the Army Corps, the EPA, the District of Columbia Department of Health, the Mayor's Scientific Advisory Board and the Restoration Advisory Board. The GAO report commends this partnership for its effort in communicating with the public, and from my understanding, there truly has been a marked improvement in the public's sense of playing a key role in this process, at least compared to the situation from early last year.

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Ms. NORTON. Thank you very much, Mrs. Morella. I want to thank our distinguished Chair, Representative Connie Morella, for calling this hearing to hear the results of a GAO investigation and report that she and I requested concerning World War I munitions buried by the U.S. Army in the Spring Valley neighborhood of northwest Washington. This is our second hearing on the cleanup. I requested the first hearing in February 2001 as the 107th Congress began, simply as matter of oversight before Spring Valley became the tangle of mystery and concern about responsibility, health effects and costs it has now become.

The first hearing, held in July 2001, became a matter of greater interest when a Washington Post investigation suggested that the Federal Government had failed to fully and expeditiously investigate and reveal evidence of buried chemical weapons, and in addition, had incompletely analyzed and conducted aspects of the cleanup. So many new questions were raised and these charges were so serious that they could not be sufficiently investigated through a congressional hearing alone. Mrs. Morella and I therefore requested the GAO report and findings to be reported today.

I will not rehearse the unfortunate and complicated set of events that led us to request the GAO report and to conduct our second hearing on this subject. But it is clear that more hearings, as part of the close and continuing oversight by this subcommittee, will be necessary for some years to come, until it is clear that the continuation of any resulting health effects, should there be any, are under control or have been eliminated.

I have been closely following the cleanup, and both the progress and the problems are considerable. However, now the Army Corps of Engineers is working closely with the community and the District. Recently I announced an additional $5.2 million that allowed work to continue at several sites. Through fiscal year 2001, the Corps has spent $53.4 million and $18 more is expected to be spent in 2002. But even now, it is not clear what the total cost will be. What is clear is that the Spring Valley residents are innocent victims and that the Federal Government is the responsible party to be held accountable until the cleanup and any health effects that are discovered have been eliminated.

We continue to be deeply concerned about what went wrong. There is no way to avoid mistakes in the future without assessing their causes. However, two questions will take primacy over all others for me today. First, what are the health effects of the contamination on my constituents and what can be done and is being done about them? Second, what will be the cost and duration of the cleanup, how can we assure continuing and uninterrupted funding, and what can be done to speed the cleanup process?

Spring Valley is a beautiful and highly desirable residential neighborhood. Most of its residents have lived in the District for years, including the years of the city's financial hardship, when many Washingtonians left for the suburbs. Spring Valley residents deserve to live in homes free from fears concerning their health and the health of their children. The obligation of this subcommittee is to assure these fears are eliminated by in turn holding the responsible Federal agencies accountable to meet their obligations

to the Spring Valley community. I have no doubt that both these obligations will be met.

May I welcome today's witnesses and thank them for their testimony. I especially welcome my good friend and colleague, Representative Earl Blumenauer, who has given important leadership to formerly used defense sites like Spring Valley located throughout the United States. Thank you, Madam Chair.

Mrs. MORELLA. Thank you, Congresswoman Norton. And again, I'm pleased to recognize our first panelist, Congressman Earl Blumenauer, who is a good friend who works with us on so many issues, particular those that have to do with the environment and personal safety. So I appreciate his being here and I now recognize him for a statement. Welcome.

STATEMENT OF HON. EARL BLUMENAUER, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF OREGON

Mr. BLUMENAUER. Thank you, Madam Chair and Ranking Member Norton. As a Member of Congress and as a part time resident of the District, I feel better knowing that you are on the job helping us out. Because this is a serious issue for us in both hats that we wear, as citizens and residents and as Members of Congress.

Last spring I was privileged to attend a little field trip with Congresswoman Norton, as we visited the sites, as we saw the child care center on American University's campus still closed, the rugby field that you'll hear about. We looked across the road and saw the back yard of the Korean ambassador's official residence dug out. And as we went through the neighborhood, looking at the work that was being done, it did bring home the stark reality, the magnitude of the problem that remains, and the importance of the work you're doing. Not just because it's important to assure the safety and security of the residents, the students, and the people in the District of Columbia, but because of what this represents nationally.

I am firmly convinced that our ability to understand what happened on this site, what is happening and how to appropriately remedy it is going to make a huge difference in our ability to deal with the broader issue of unexploded ordnance cleanup, and I salute you for the work that you are doing.

But there is special attention that needs to be focused on this particular site. As the Chairwoman mentioned, at one point this was a hotbed of activity. But it's not just in this area. Washington, DC, as the Nation's capital, has been the focal point for military operations since the founding of the capital. Despite its small size, the District, by the information I've received, is No. 10 amongst all the 50 States and the District. It ranks No. 10, ahead of 40 States, in terms of the number of potential buried ordnance sites, according to the Department of Defense ranking. As you mentioned, this is part of the toxic legacy of World War I chemical weapons. And it continues 84 years later.

It is critical to be able to put the laser light of attention that you can direct from this subcommittee. We've already had two cleanups on the site, and as you know, the job is not finished. Residents continue to be at risk. The situation that exists in Spring Valley today ought to force us to give the overall problem nationally the atten-

tion that it deserves. People at risk should not have to play politics and resort to the news media to be able to have the problems that they're experiencing appropriately addressed.

Across the Nation, tens of millions of acres are contaminated by the toxic consequences of our military activities. And if, when we are going to give approximately $400 billion or more in this fiscal year for our military activities, now is not, I think, an unrealistic time to have a small portion of that resource spent in helping the military clean up after itself. The one risk, the toxic legacy that most urgently needs to be addressed, is that of unexploded ordnance, the bombs and shells that did not go off as intended and subsequently litter the landscape and put people at risk. There are some 2,000 formerly used Defense sites and closed bases that are contaminated with UXO. No one yet is really in charge of dealing with the problem. And there certainly is not adequate funding to address it. What you are seeing with your GAO study, with the work that the subcommittee has ferreted out in the past, and continuing oversight these bring to the surface, is part of a larger question. If we were doing our job properly on a national basis, your task would not be so difficult.

Last year, the Department of Defense provided a $14 billion estimate for cleaning up UXO nationwide. But that is nowhere near the price tag. According to the General Accounting Office report of April last year, there are estimates within the Department itself for UXO cleanup on training ranges alone that total over $100 billion. This cost of cleaning up the ordnance and chemical weapons is tremendous. I have heard estimates that go far beyond that from the private sector people who are struggling to figure out how to deal with it. In addition, the Department of Defense has estimated that it will cost $16 billion to remediate the hazardous waste contamination at over 4,000 sites on the Nation's 1,700 active and recently closed bases, and at least 1,200 formerly used Defense sites.

I think, Madam Chair, Congresswoman Norton, that Spring Valley does emphasize three important lessons. The first is that we have to make more careful assessment of the needs of UXO problems. We can't be in such a hurry to finish cleanup that premature decisions are made that could potentially do more harm because people rely upon those decisions. Often, decisions are made that no further action is necessary, yet the public is still at risk. This is a mistake that both the State and Federal regulators have made repeatedly. The Corps of Engineers, with the concurrence of the Environmental Protection Agency, announced in 1995 that Spring Valley had been cleaned up. But since that declaration was made, as you well know, 700 mortar and artillery shells were found and 200 bottles of poison gas have been recovered so far. And the job is not finished.

The second lesson of Spring Valley is that proper record keeping of military activities is not just paper shuffling. It's not a secondary concern. Government records concerning military activity from decades past are hard to find. I note you have our favorite map here that goes back about 80 years. And people are looking at this aerial survey, trying to reconstruct what happened on the site. As you mentioned, almost 2,000 people worked there and over 100 structures were there.

This is not appropriate. In the Pacific Northwest, we're dealing with problems with the Hanford Military Reservation with toxic radioactive waste. We have no idea what is there. Better management of our activities with the information and archives and investing the money needed will provide better environmental and ordnance response and will make a huge difference in protecting the public.

Last but by no means least, with your help in focusing the attention on this, I think we can devote adequate funding to address these problems up front. I mentioned over $400 billion that's in the pipeline for the Department of Defense and related activity. This week, we're dealing with military construction and Defense appropriations. Although cleanup does not get cheaper, and costs can be an embarrassment if we don't do it right, not just in terms of requiring more money, but putting people at risk, the irony is that if we spend money properly, if we spend more money now to do the job right, actually the per unit costs are going to go down dramatically.

We will reduce liability. We will have more people participating. We can improve the technology. Some of it looked pretty primitive when Congresswoman Norton and I were looking at the activities that were going on. We can't really tell whether it's a hubcap or a bomb sometimes that's out in the countryside.

With your help, I know we can provide the long overdue treatment the District deserves and do the right thing for the country. A framework for addressing the problem must be put in place and much greater attention must be paid to the issue by Congress and the Department of Defense. Creativity and follow-through are essential. I know with your help we can achieve that. I deeply appreciate your continued interest, your dogged determination to do this right and I stand willing, even though I'm a little ways away from the District, to help in any way that I can.

[The prepared statement of Mr. Blumenauer follows:]

EARL BLUMENAUER
3D DISTRICT, OREGON

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House Committee on Government Reform
Subcommittee on the District of Columbia
Spring Valley Revisited–
The Status of the Cleanup of Contaminated Sites in Spring Valley
June 26, 2002
Written testimony of Representative Blumenauer

I welcome the opportunity to appear today before the District of Columbia Subcommittee of the House Committee on Government Reform to discuss the critical issue of cleanup of Spring Valley and the broader issue of unexploded ordnance cleanup nationwide.

Since this site is in our nation's capitol, we have a special stewardship responsibility to clean it up. The toxic legacy of World War I chemical weapons testing continues 84 years later. It is especially important to address this issue now. Two cleanups have already been done on this site and the job still is not complete.

Residents throughout the community are at risk. The Child Development Center and the intramural field at American University remain closed.

The situation that exists at Spring Valley today should force us to give the overall problem the attention it deserves. People at risk should not have to play politics and the news media in order for the problems they experience to be addressed. Across the nation, tens of millions of acres are contaminated by the toxic consequences of military activities.

The one risk in that toxic legacy that most urgently needs to be addressed is unexploded ordnance (UXO)--the bombs and shells that did not go off as intended and subsequently litter the landscape and put people at risk. Some 2000 Formerly Used Defense Sites and closed bases are contaminated with UXO. No one is really in charge of dealing with the problem and there is not adequate funding to address it.

Last year, the Department of Defense provided a $14 billion estimate for cleaning up UXO nationwide. However, it is important to note that according to a General Accounting Office report of April last year, DOD has estimates for UXO cleanup on training ranges alone totaling well over $100 billion. In addition to the huge cost of cleaning up ordnance and chemical weapons, the Department of Defense estimates that it will cost at least $16 billion to remediate hazardous waste contamination at over 7,000 sites on the nation's 1,700 active and recently closed bases and at least 1,200 formerly used defense sites.

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Spring Valley teaches us three lessons:

1) The first lesson is that more careful assessment needs to be made of UXO problems. We cannot be in such a hurry to finish cleanup that premature decisions are made that do more harm. Often, decisions are made that no further action is necessary, yet the public is still at risk. This is a mistake that both state and federal regulators have made repeatedly. The Army Corps of Engineers, with the concurrence of the Environmental Protection Agency, announced in 1995 that Spring Valley was cleaned up. Since that declaration was made, 700 mortar and artillery shells and 200 bottles of poison gas have been recovered so far and the digging is not done.

2) A second lesson of Spring Valley is that recordkeeping cannot just be paper shuffling. Government records concerning military activity from decades past are hard to find. Better management of such archives will lead to better environmental and ordnance response and will make a real difference in protecting the public.

3) Finally, we need to devote adequate funding to address these problems up front. Cleanup does not get cheaper and can cost not just embarrassment but also more money, and lives as well.

With your help, we can provide the long overdue treatment the District deserves and do the right thing for the country. A framework for addressing the problem must be put in place and much greater attention paid to this issue by the Congress and the Department of Defense. Creativity and follow-through are essential.

I appreciate your courtesy in allowing me to testify today and I appreciate the focus you are bringing to this crucial issue.

News from:

EARL BLUMENAUER

June 26, 2002

For Immediate Release
Contact: Freya Thoreson 202-225-4813

BLUMENAUER TESTIFIES ON MILITARY TOXICS AND THE SPRING VALLEY CLEANUP

Blumenauer Leading Fight to Clean Up Military Toxics Nationwide

WASHINGTON, DC—Today, Congressman Blumenauer (D-OR) testified before the House Committee on Government Reform Subcommittee on the District of Columbia, at a hearing entitled, "*Spring Valley Revisited--The Status of the Cleanup of Contaminated Sites in Spring Valley.*" At the hearing today, the subcommittee reviewed the findings of the General Accounting Office (GAO) investigation and report that was requested last year on the cleanup of contaminated sites in the Spring Valley area of Northwest Washington, DC. The report was asked to determine, among other things, the possible health risks, the effectiveness of the Army Corps of Engineers' ongoing efforts and what will be necessary in both time and funds for a total cleanup.

"The situation that exists at Spring Valley today should force us to give the overall problem the attention it deserves," said Blumenauer. "Across the nation, tens of millions of acres are contaminated by the toxic consequences of military activities. The one risk in that toxic legacy that most urgently needs to be addressed is unexploded ordnance (UXO)--the bombs and shells that did not go off as intended and subsequently litter the landscape and put people at risk. Some 2000 Formerly Used Defense Sites and closed bases are contaminated with UXO. No one is really in charge of dealing with the problem and there is not adequate funding to address it."

As a component of his support for the role the military can play in promoting livable communities, Congressman Blumenauer has undertaken a national effort to address the problems of waste left behind on formerly used defense sites. There is a legacy of former bases, arsenals, and training ranges from Martha's Vineyard to Camp Bonneville in metropolitan Portland contaminated with UXO. An April 2001 General Accounting Office report cites Department of Defense estimates showing that DOD's liability for training range cleanup alone could exceed $100 billion. At the current rate of spending, UXO cleanup will take over seventy-five years.

Blumenauer has introduced a free-standing bill, H.R. 2605, the Ordnance and Explosives Risk Management Act, laying out policy guidelines for dealing with UXO. The key provisions of H.R. 2605's sections were included in the FY02 and FY03 Defense Authorizations. Requests for additional funding for research & development and cleanup are pending in the Military Construction and Defense Appropriations bills.

Portions of the Spring Valley neighborhood were once used by military personnel assigned to the former American University Experiment Station from 1917 - 1919, to conduct research and testing on World War I chemical warfare materials.

# # #

Mrs. MORELLA. We appreciate your interest and followup. Your testimony was excellent, as well as the field trip and your passion for the issue. I note your three points—more careful assessment, record keeping, better management, adequate funding.

Given your knowledge and expertise on the Federal funding of the formerly utilized Defense sites, FUDS, as they call them, would you share with the subcommittee your thoughts and observations about how the Defense Department does allocate funds to these FUDS for environmental cleanup and compliance activities?

Mr. BLUMENAUER. Madam Chair, I am concerned that we are actualy putting the Department of Defense in a difficult spot. Thanks to the Corps of Engineers and our friends at the Department of Defense, there's been a lot of work that's been done of late, there's progress that's been made. You're going to hear from some really capable people who have been putting heart and soul into it.

The concern I have is that because this has not received the necessary priority, in the Defense authorization, for instance, we actually decreased to raise the level of potential research and other activities. What happens is that DOD has an impossibly small budget and we find that too often they get summoned when something gets in the news, and it's pretty dramatic what's going on in Spring Valley, so they have to shift resources. It's very hard for them to do this on a systematic basis.

I truly believe that it's going to require Congress to not be missing in action. We've got to authorize appropriate money for cleanup and for research, and we have to not have wide variations from year to year. This is because they truly don't know what they're dealing with.

So I know there are those who have more technical expertise than I and can talk about approaches and what-not. But I fundamentally believe the problem is that we in Congress haven't yet done our job.

Mrs. MORELLA. Is there criteria that you know of in terms of prioritizing those sites for funding?

Mr. BLUMENAUER. They can speak to that. But really, the work that I have done is that I have looked at various places. What's happened is a lot of this is driven by imperatives of what has happened in terms of unintended consequences and media and political intervention.

Mrs. MORELLA. So it's a reaction?

Mr. BLUMENAUER. Very much reactive.

Mrs. MORELLA. So what you're saying is that we need to have a whole plan. We need to establish criteria, prioritize, and be preventive.

Mr. BLUMENAUER. Madam Chair, that is well stated. But I will say that I think the reality is going to be that there will be certain things that will just burst on the scene that will have more of a dramatic or political impact. And those in the Corps of Engineers or Department of Defense will respond to the will of Congress and the public. That's not a way to deal with this massive problem, even just within the District of Columbia, let alone nationally.

Mrs. MORELLA. You have legislation you've introduced that deals with some of this. Would you like to expand on that?

Mr. BLUMENAUER. Yes, ma'am. We are seeking in part to have somebody in charge in the Department of Defense, to pinpoint responsibility. We have required that an inventory be developed. We have been slowly but surely getting little bits and pieces worked in, but we hope at some point we will get a comprehensive congressional statement. I'm happy to provide more of that to the committee as you see fit.

Mrs. MORELLA. Splendid. Thank you very much. And thank you for your continued work in this particular area. We appreciate it very much.

I am going to recognize the distinguished ranking member, but before I do, I would like to acknowledge that we have the gentlewoman from California who is here, Diane Watson, who serves on this committee.

Ms. NORTON. Thank you, Madam Chair. I'm not going to detail Mr. Blumenauer long, indeed, I apologize that beginning at 11 o'clock I'm going to have to come back and forth. There are two markups that begin there, including one concerning guns in the cockpit, which I strongly oppose. I'm going to therefore be detained.

I want to say that I am a co-sponsor of your bill, the Ordnance and Explosives Risk Management Act. It's a no-cost bill. You simply want a program manager, you want to prioritize and to identify where these funds are. Frankly, they are so widespread in so many districts, I can't believe that we will not have many allies, once they come to understand what is at stake. Spring Valley is a way to understand what is at stake. You emphasized quite correctly that we are No. 10 among the States with these sites.

Spring Valley should receive priority, not only because we rank so high, but because this is one of the few sites that has been uncovered in a densely residential area. And if I may say so, if the District had had home rule the way other States do, and had a Member of Congress during World War I, I doubt that they could have used our city within the city limits as a dumping ground. It is one more reason why every locality ought to have its own elected officials and its own Member of Congress with a vote, able to protect the locality. It's very easy to say, just dump it in the District.

That's why we're giving priority to the District, not to mention the fact that there are women and children involved here. It's not like it is in some States out in the desert some place. It's right here where our people live and work.

I certainly hope, however, that given the danger that these buried munitions pose wherever they are found, that your bill will get the attention and the support of the entire Congress. I thank you very much for being willing to come this morning and testify.

Mrs. MORELLA. Thank you, Ms. Norton. Ms. Watson, if you'd like to make any comments or have any questions of Congressman Blumenauer.

Ms. WATSON. Yes. This Spring Valley issue just points up a greater issue that we're going to have to take up seriously. And that is, what do we do with these depositories, with bases and so on that we leave behind contaminated? And I want to join with my other two distinguished colleagues in asking that we maybe request that there be action taken on the cleanup of Spring Valley that is long overdue and other top priority sites across the country.

I think that maybe we need to, the larger committee, needs to hold a hearing where we talk about other No. 1 sites and what the EPA is doing. But I see the Spring Valley as an issue that needs to be addressed at the current time, but we need to address the bigger issue about how rapidly we're doing the cleanups and budget for them.

So thank you so much for bringing the issue back again in front of us. I am with my colleagues in whatever we can do.

Mrs. MORELLA. And I think that's exactly what Congressman Blumenauer would like. I would now like to recognize one of the newest members of this subcommittee, the Honorable Chris Shays from Connecticut for any comments he may have.

Mr. SHAYS. Thank you, Madam Chair. Madam Chair, I am a new member to this committee and delighted to be a new member. I feel the responsibility that Congress has with D.C. is a tremendous responsibility. I don't think we have lived up to it. So I'm happy to kind of help you in this effort with your distinguished ranking member.

I just wanted to be here to also say that my Committee on National Security believes that Mr. Blumenauer is right on track with what's happening in D.C. and throughout the country, major expenditures that we have really put to the back burner because we don't want to confront them. And he is, in a sense, forcing us to confront them. I have tremendous respect for him and I just want to thank him personally for what he's done, and to let you know that our subcommittee, the National Security Subcommittee, is happy to work with you and to follow your guidance on this effort and see how we can help in other places around the country.

Mr. BLUMENAUER. Thank you.

Mrs. MORELLA. Thank you, Mr. Shays. Congressman Blumenauer, we thank you very much. As you can see, you have a very responsive group up here, and we will follow through.

Mr. BLUMENAUER. Super. Thank you.

Mrs. MORELLA. I'm now going to ask our second panel to come forward, please. David Wood, the Director of Natural Resources and the Environment, who's done the GAO report. Raymond J. Fatz, Deputy Assistant Secretary of the Army, Environment, Safety and Occupational Health. Colonel Charles J. Fiala, Jr., who is the District Engineer of the U.S. Army Corps of Engineers, the Baltimore District. He is accompanied by Major Michael D. Peloquin, who is the Deputy District Engineer of Spring Valley FUDS Site, the Army Corps of Engineers. Thomas C. Voltaggio, who is the Regional Administrator of the Environmental Protection Agency, in Region III. Theodore J. Gordon, who is the Senior Deputy Director for Operations, of the District of Columbia Department of Health. And Mr. Gordon is accompanied by Dr. Lynette Stokes, Chief, Environmental Health Administration of the District of Columbia Department of Health.

I would ask all of you to stand so I can administer an oath, which is the tradition of this subcommittee and the full committee. I would also ask Dr. Stokes and Major Peloquin, also, if they would be part of administering the oath, too.

[Witnesses sworn.]

Mrs. MORELLA. The record will show an affirmative response of all who are here. We will allocate each of you kind of a maximum of 5 minutes, so we have a chance to ask questions. Looking at the panel, if we could start off with Mr. Wood and move in that order. Thank you, sir.

STATEMENTS OF DAVID G. WOOD, DIRECTOR, NATURAL RESOURCES AND ENVIRONMENT, U.S. GENERAL ACCOUNTING OFFICE; RAYMOND J. FATZ, DEPUTY ASSISTANT SECRETARY OF THE ARMY, ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH; COLONEL CHARLES J. FIALA, JR., COMMANDER, BALTIMORE DISTRICT, U.S. ARMY CORPS OF ENGINEERS, ACCOMPANIED BY MAJOR MICHAEL D. PELOQUIN, DEPUTY DISTRICT ENGINEER, SPRING VALLEY FUDS SITE, ARMY CORPS OF ENGINEERS; THOMAS C. VOLTAGGIO, DEPUTY REGIONAL ADMINISTRATOR, MID-ATLANTIC REGION, U.S. ENVIRONMENTAL PROTECTION AGENCY; AND THEODORE GORDON, SENIOR DEPUTY DIRECTOR FOR PUBLIC HEALTH ASSURANCE, DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH, ACCOMPANIED BY LYNETTE STOKES, CHIEF, BUREAU OF HAZARDOUS MATERIALS AND TOXIC SUBSTANCES, DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH

Mr. WOOD. Thank you, Madam Chairwoman.

In response to the request from you and Ranking Member Norton, we gathered information on four aspects of the Spring Valley cleanup effort. These were, one, the roles of the Government entities involved, as authorized by statute, regulation and guidance, and as actually carried out; two, the progress that has been made in identifying and removing hazards at the site; three, the health risks that are associated with these hazards; and four, the estimated cost and schedule of the remaining cleanup activities.

Our report and my written statement provides an overview of the statutory authorities for the roles of the three Government entities, namely, the Army Corps of Engineers, the Environmental Protection Agency and the District of Columbia Health Department. The report and statement also provides updated information on the hazards that have been identified and removed from the site.

In the interest of time, I will not go over that information now, but will focus my remarks on the remaining two areas. First, the remaining health risks. Of the contaminants known to be present at elevated levels, arsenic is deemed to pose the greatest risk to human health. Over the past year, the agencies have been in the process of reaching agreement on a single level of arsenic that may remain in the soil throughout the site that is protective of human health and the environment.

Also, since last fall, the Corps has been sampling the soil on each Spring Valley property in order to identify those with the highest levels of contamination. Efforts have been underway to determine the health risks to Spring Valley residents specifically posed by the arsenic contamination in the soil. In these efforts, the agencies have been assisted by the Federal Agency for Toxic Substances and Disease Registry, or ATSDR. Further, they have received advice from the Mayor's Scientific Advisory Panel. The panel is specifically charged with reviewing the processes used to identify con-

taminants in the Spring Valley neighborhood and assuring that the best scientific knowledge is applied.

ATSDR has performed additional exposure testing of residents of Spring Valley properties with elevated soil levels. Further, the D.C. Health Department has carried out a descriptive epidemiological study of certain arsenic related health effects. In this study, data on incidents of certain cancers among Spring Valley residents were compared with those found in a control group located in another area. The Department concluded that for some cancers, the number of cases at Spring Valley was too small to conduct meaningful analysis. For others, specifically bladder, skin and lung cancers, the Department observed no excess of incidence in mortality in Spring Valley.

Residents have raised concerns about the scope and completeness of the exposure testing and epidemiological studies. The Department has stated that it will expand its investigations and include additional hazards if they are found at levels of concern in Spring Valley.

The final topic I will speak to is the projected cost and timeframe to complete the site cleanup. At our request, the Corps updated its estimates. As of April 2002, the Corps estimated that the remaining cleanup activities at Spring Valley would cost $71.7 million and require 5 more years until completion, projected to occur in 2007. However, many factors, such as the potential discovery of additional hazards or changes in annual funding levels, make these estimates uncertain.

Since fiscal year 1997, the Corps has increased the total estimated cost for the Spring Valley cleanup sixfold, from about $21 million in fiscal year 1997 to about $125 million as of April 2002. The Corps has reduced its estimate of the time it will take to complete the cleanup by increasing considerably the amount of annual funding it plans to devote to the site. However, any significant increases in the total cost of completing the cleanup or decreases in the amount of available annual funding would likely lead the Corps to extend the completion date further into the future.

Madam Chairwoman, in concluding, I'd like to note that the Spring Valley site, while unique in some respects, is one of some 9,200 formerly used Defense sites identified by the Corps. As was evident at your hearing last year, and as you alluded during your opening comments, the history of this site raises questions about the adequacy of the Corps' process for making cleanup decisions. We currently have work underway examining the basis for the U.S. Army's conclusions that no cleanup actions are needed. The Army has made this decision at over 4,000 sites. We anticipate further work on these issues in the future.

This concludes my prepared statement. I will be happy to respond to any questions you have.

[The prepared statement of Mr. Wood follows:]

United States General Accounting Office

GAO

Testimony

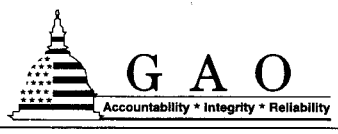
Before the Subcommittee on the District of Columbia, Committee on Government Reform, House of Representatives

For Release on Delivery
Expected at 10:00 a.m., EDT
Wednesday, June 26, 2002

ENVIRONMENTAL CONTAMINATION

Uncertainties Continue to Affect the Progress of the Spring Valley Cleanup

Statement of David G. Wood, Director
Natural Resources and Environment



GAO-02-836T

Madam Chairwoman and Members of the Subcommittee:

I am pleased to be here today to discuss the results of our work on the Spring Valley cleanup. As you know, during World War I, the U.S. Army operated a large research facility to develop and test chemical weapons and explosives at a portion of American University and in other areas that became the Spring Valley neighborhood in Washington, D.C. During the 1950s, and again in the 1980s, American University and others raised concerns about buried munitions in the Spring Valley neighborhood. The Army concluded in 1986 and again in 1996 that it had not found evidence of large-scale burial of hazards remaining at Spring Valley. However, subsequent investigations discovered ordnance in large burial pits and widespread arsenic-contaminated soil. This experience raised questions about the adequacy of the Army's process for assessing cleanup needs at sites formerly used for defense purposes, and we currently have work with a nationwide scope underway on that issue, which will result in a report later this summer.[1] At the Spring Valley site, the U.S. Army Corps of Engineers (the Corps) is still locating buried munitions and discovering elevated levels of arsenic in the soil on more properties.

My testimony is based on our report that you are releasing today.[2] At your request, and as agreed with your offices, the report provides information on the (1) specific roles and responsibilities of the government entities involved at the Spring Valley site, as authorized by statute, regulation, or guidance, and as actually carried out, (2) progress the government entities have made toward identifying and removing hazards at the site, (3) health risks government entities have determined are associated with the hazards at the site and the impact of these risks on cleanup decisions, and (4) estimated cost and schedule of the remaining cleanup. In addition, you asked us to provide a list of sites in the District of Columbia where hazards resulting from federal activities have been found. That list, which we compiled from information provided by the Corps, the U.S. Environmental Protection Agency (EPA), and the District of Columbia's Department of

[1] In examining the about 9,200 sites nationwide the U.S. Army has identified more than 4,000 as not needing cleanup. At the request of the Ranking Member, House Committee on Energy and Commerce, we are examining the basis for those decisions made by the U.S. Army where it concluded that no cleanup actions were needed.

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

Health, is included in our report. These three agencies are the primary government entities involved in the Spring Valley cleanup.

In summary:

- The principal government entities involved at the Spring Valley site are carrying out their roles and responsibilities in cleaning up the site primarily under the Defense Environmental Restoration Program (environmental restoration program), which was established by the Superfund Amendments and Reauthorization Act of 1986. Under the environmental restoration program, Defense is authorized to identify, investigate, and clean up environmental contamination at formerly used defense sites (FUDS). The Corps is responsible for these activities at Spring Valley. Defense is required under the environmental restoration program to consult with EPA, which has its own authority to act at the site under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (sometimes referred to as "Superfund"). Under the program, Defense's activities must also be consistent with a statutory provision that addresses, among other things, participation by the affected states—in this case, the District of Columbia. Under the Corps' program guidance for FUDS, the District of Columbia has a role in defining the cleanup levels at the Spring Valley site. In carrying out their roles, the government entities have, over time, formed an active partnership to make cleanup decisions. For example, the Corps leads the effort to identify hazards, but in many cases it uses the recommendations of the District of Columbia and EPA to look for hazards buried at certain sites. While the entities have not agreed on all cleanup decisions, officials acknowledge that, by having formed a partnership, a means exists to foster communication and collaboration, and officials of all three entities stated that the partnership is operating effectively. Continued progress at the site will depend, in part, on the effectiveness of this partnership over the duration of the cleanup period.

- The government entities have identified and removed a large number of hazards, but the extent to which hazards remain is unknown. The hazards identified include buried ordnance; chemical warfare agents in glass containers; and arsenic-contaminated soil. Beginning in 1986, the U.S. Army searched records and reviewed photographs to identify locations where ordnance and chemicals might have been buried and concluded that there was no evidence of large-scale burials at the site. However, following the discovery of buried ordnance by a utility contractor in 1993, the U.S. Army identified and removed 141 pieces of

ordnance, 43 of which were suspected chemical munitions (but most were destroyed before being tested). After the ensuing investigation of the site, the Corps concluded in 1996 that it was unlikely to discover additional hazards at the site. Since then, however, the Corps has found and removed 667 pieces of ordnance, 25 of which were chemical munitions, and 101 bottles of chemicals. Moreover, the Corps has discovered arsenic in the soil throughout the site that exceeds naturally occurring levels. As of April 2002, the Corps had identified and removed 5,623 cubic yards of arsenic-contaminated soil from three properties. The Corps has extensive work remaining to search for any additional hazards at the site, and, if found, remove them.

- The primary health risks influencing cleanup activities currently at Spring Valley are the possibility of injury or death from exploding or leaking ordnance and containers of chemical warfare agents and potential long-term health problems from exposure to arsenic-contaminated soil, according to the government entities involved. Because of the immediacy of the risks, ordnance and containers are to be removed as soon as possible after they are found. Efforts to determine the health risks posed by the arsenic contamination at the site are ongoing. Exposure to arsenic has been generally linked to cancers and other health conditions. A recent descriptive epidemiological study by the District of Columbia concluded that Spring Valley residents showed no increased incidence of certain cancers, while exposure testing by the Agency for Toxic Substances and Disease Registry (an agency of the Department of Health and Human Services) found no evidence of significant exposure to arsenic in the individuals tested. However, these studies, according to some residents, were not sufficiently broad, and additional studies to assess whether residents have actually been exposed to arsenic are ongoing. Over the past year, the partners have been in the process of reaching agreement on a single level of arsenic that may remain in the soil throughout the site and that is protective of human health and the environment.

- As of April 2002, the U.S. Army estimated that the remaining cleanup activities at Spring Valley would cost $71.7 million and take 5 years to complete, but the reliability of these estimates is uncertain. Many factors—such as the discovery of additional hazards or changes in annual funding levels—make it inherently challenging to estimate the costs and schedule for cleaning up the site. Since fiscal year 1997, the Corps has continually needed to increase the scope of the remaining cleanup, as more information about the hazards at the site became

known. As a result, the Corps increased the total estimated cost for the Spring Valley cleanup six-fold, from about $21 million in fiscal year 1997 to about $125 million as of April 2002. On the other hand, the Corps has reduced its estimate of the time it will take to complete the cleanup since fiscal year 2000 (the first year the Corps made public this estimate) by increasing considerably the amount of annual funding it plans to devote to the site. It is unclear at this time how long the Corps will be able to accommodate the increasing funding needs at Spring Valley because funding the cleanup activities at the site is currently adversely affecting the pace and progress of cleanups at other formerly used defense sites (according to Corps' data, approximately 2,800 such sites have been found to require remediation). Consequently, any significant increases in the cost of completing the Spring Valley cleanup, or decreases in the amount of available annual funding, would likely require the Corps to extend the completion date further into the future.

Background

During World War I, at a portion of American University and in other areas that became the Spring Valley neighborhood in Washington, D.C., the U.S. Army operated a large research facility to develop and test chemical weapons and explosives. After World War I, the majority of the site was returned to private ownership and was developed for residential and other uses. The site now includes, in addition to American University, about 1,200 private residences, Sibley Hospital, 27 embassy properties, and several commercial properties.

In 1993, buried ordnance was discovered in Spring Valley, leading to its designation by the Department of Defense (Defense) as a FUDS currently comprising 661 acres. FUDS are properties that were formerly owned, leased, possessed, or operated by Defense or its components, and are now owned by private parties or other governmental entities. These properties, located throughout the United States and its territories, may contain hazardous, toxic, and radioactive wastes; unexploded ordnance; and/or unsafe buildings. Such hazards can contribute to deaths and serious illness or pose a threat to the environment. According to the U.S. Army, Spring Valley is the only FUDS where chemical agents were tested in what became a well-established residential neighborhood at the heart of a large metropolitan area.

To fund the environmental restoration program, the Superfund Amendments and Reauthorization Act of 1986 (SARA) established the Defense Environmental Restoration Account. During the 5 most recent fiscal years (1997-2001), annual program funding for FUDS cleanups has

decreased from about $255.9 million to about $231 million, with program funding estimated to decrease further to about $212.1 million by fiscal year 2003. By the end of fiscal year 2001, the Corps had identified 4,649 potential cleanup projects on 2,825 properties requiring environmental response actions. Through fiscal year 2001 (the latest figure available), the Corps had spent about $53.4 million on cleanup activities at Spring Valley.

The Government Entities' Roles at Spring Valley

The principal government entities involved at the Spring Valley site are carrying out their roles and responsibilities under the Defense Environmental Restoration Program (environmental restoration program). The program was established by SARA, which amended the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). Under the environmental restoration program, Defense is authorized to identify, investigate, and clean up environmental contamination at FUDS. Defense is required to consult with EPA in carrying out the environmental restoration program; EPA, in turn, has established written guidance under CERCLA for its activities at FUDS. Defense is also required to carry out activities under the environmental restoration program consistent with a statutory provision that addresses, among other things, participation by the affected states—in this case, the District of Columbia.[3] Under the Corps' program guidance, the District of Columbia has a role in defining the cleanup levels at the Spring Valley site. According to a District of Columbia Department of Health official, the department assesses the human health risks associated with any exposure to remaining hazards at Spring Valley.[4]

In carrying out their roles, these government entities have, over time, formed an active partnership to make important cleanup decisions. Under the partnership approach, each entity participates in the cleanup at Spring Valley. The Corps, with extensive experience in ordnance removal, is carrying out the physical cleanup. Other activities include the following:

- **Identification of hazards:** Defense consults with EPA and the District of Columbia on cleanup decisions at specified points in the

[3] Specifically, Defense's activities addressing hazardous substances, pollutants, or contaminants are required to be carried out consistent with section 120 of CERCLA.

[4] The Department of Health defines exposure as any completed pathway—through the air, water, or soil—of the contaminant that results in an inhaled, ingested, or dermal-absorbed dose associated with adverse human health effects.

environmental restoration process. EPA has provided assistance in identifying possible buried hazards by using photographic interpretation of aerial maps and providing technical expertise with regard to the presence of hazards in soil, water, and air.

- **Assessing human health risks:** According to the District of Columbia's Department of Health, the department assesses the human health risks associated with any exposure to remaining hazards at Spring Valley. In addition, the District of Columbia, together with the Agency for Toxic Substances and Disease Registry (ATSDR), has been investigating whether residents have actually been exposed to arsenic in the soil.[5]

- **Selecting a cleanup level:** The entities are currently finalizing decisions on a cleanup level for arsenic that will determine how much contamination can be left in the soil throughout the site without endangering human health and the environment.

While the entities have not agreed on all cleanup decisions, officials of all three entities state that the partnership has been working effectively in the recent past. Continued progress at the site will depend, in part, on the effectiveness of this partnership over the duration of the cleanup.

Hazards Identified and Removed from Spring Valley

Although the U.S. Army twice concluded that it had not found any evidence of large-scale burials of hazards remaining at Spring Valley, an accidental discovery of buried ordnance and subsequent investigations have led to the discovery of additional munitions and chemical contamination. In March 1986, American University was preparing to begin the largest construction project in its history. At the request of American University, the U.S. Army reviewed historical documents and available aerial photographs of the site taken during the World War I era to determine whether chemical munitions might have been buried on campus. Based on the results of its review, in October 1986, the U.S. Army concluded that no further action was needed. However, in January 1993, a utility contractor accidentally uncovered buried ordnance at another location in the Spring Valley site. The U.S. Army immediately responded

[5] ATSDR is an agency of the Department of Health and Human Services. Created by CERCLA, its mission is to take responsive public health action and provide public health information to prevent harmful exposures and diseases related to toxic substances.

and, by February 1993, had removed 141 pieces of ordnance, 43 of which were suspected chemical munitions (but most were destroyed before being tested).

Immediately following this removal, the Corps began to investigate the site. To focus its investigation, the Corps identified 53 locations with the greatest potential for hazards. During the investigation, the Corps conducted subsurface (geophysical) soil surveys with metal detectors to identify buried ordnance and analyzed soil samples to identify chemical contamination. The Corps' soil surveys led the Corps to identify and remove one piece of ordnance containing a suspected chemical agent, 10 expended pieces of ordnance, an empty bomb nose cone, and several fragments of ordnance scrap. Concurrently with the Corps' investigation, another piece of ordnance was found by a builder during construction activities, and two pieces of ordnance were anonymously left for the Corps to find. Based on the results of soil sampling and the ensuing risk assessment, the Corps concluded that no remedial action was needed. Following this investigation, in June 1995, the U.S. Army determined that no further action was required at the Spring Valley site, except for an area that contained concrete shell pits, or bunkers, referred to as the Spaulding/Captain Rankin Area, which was then still under investigation. Subsequent sampling and a risk assessment indicated that no remedial action was necessary, and in June 1996, the Corps recommended that no further action be taken at this area as well.

In 1997, the District of Columbia raised a number of concerns about how the Corps had completed its investigation. In response, the Corps reviewed its work at the site and concluded that it had incorrectly located one of the potentially hazardous locations it had previously investigated, which should have been situated on a property owned by the Republic of Korea (South Korea) on Glenbrook Road. In February 1998, the Corps surveyed the soil on the South Korean property and identified two potential burial pits. By March 2000, the Corps had completed the removal of 288 pieces of ordnance, 14 of which were chemical munitions; 175 glass bottles, 77 of which contained various chemicals, including mustard and lewisite; and 39 cylinders and 9 metal drums. Subsequent soil sampling conducted by EPA led the Corps to remove arsenic-contaminated soil from these properties. By May 2001, the Corps had removed about 4,560 cubic yards of arsenic-contaminated soil from the South Korean property and the adjacent property. As of April 2002, the Corps had not yet removed contaminated soil from the third property, which is the American University President's residence.

After the discovery of hazards on the Glenbrook Road properties, in January 2000, at the request of the District of Columbia, the Corps expanded its arsenic investigation to include about 60 nearby residences and the southern portion of the American University campus. Sampling at these locations indicated that the Corps needed to remove arsenic-contaminated soil from the American University Child Development Center and other locations on the American University campus, and 11 residential properties. As of April 2002, the Corps had removed about 1,063 cubic yards of contaminated soil from American University.

At a public meeting in February 2001, community members urged testing the entire Spring Valley neighborhood for arsenic. The Corps began to test all 1,483 properties within the Spring Valley site for arsenic in May 2001. As of April 2002, the Corps had identified about 160 properties that will require some degree of cleanup, with 7 identified for priority removals of arsenic-contaminated soil because they present relatively higher risks of exposure. Recently, the District of Columbia's Department of Health has urged the Corps to consider including nine additional properties on the list. In addition, the Corps has sampled for additional chemicals at selected locations as a result of information it has about what type of research activities might have occurred at the locations in the past. The results of the sampling are currently under review, but preliminary results have not identified any additional chemicals of concern, according to the Corps.

In May 2001, at the urging of the District of Columbia and EPA, the Corps began to investigate an additional burial pit on the property line between the South Korean property and the adjoining residence on Glenbrook Road. The Corps is continuing to investigate the burial pit, and as of January 2002, had found 379 pieces of ordnance, 11 of which contained the chemical warfare agents mustard and lewisite; fragments of another 8 pieces of ordnance; 60 glass bottles and 3 cylinders, 24 of which contained mustard, lewisite, and acids; and 5 metal drums that showed signs of leakage.[6]

[6] In January 2001, the Corps also removed oil filters, glass, and lab equipment, along with soil contaminated with elevated levels of lead and arsenic from a small surface disposal area discovered on American University property adjacent to the South Korean property. However, according to the Corps, it was not possible to determine whether these hazards resulted from past Defense research activities, or from another source.

Concurrently with the efforts to expand the arsenic investigation, the Corps is planning to expand its efforts to survey properties for buried ordnance. The Corps plans to begin excavating two properties on Sedgwick Street where surveys indicate the presence of buried metallic objects that could possibly be pieces of ordnance. In addition, the Corps, in conjunction with EPA and the District of Columbia, is developing a list of properties to be geophysically surveyed for potential buried ordnance. Site-specific information, such as the results of a review performed by EPA's Environmental Photographic Interpretation Center, will be factored into determining priorities for surveying these additional sites. As of April 2002, the Corps had estimated that a total of 200 properties would be surveyed for ordnance. The government entities recognize that the extent to which hazards remain may never be known with certainty because of the technical limitations associated with sampling and geophysically surveying soil.

Health Risks Associated with Hazards Found at Spring Valley

At Spring Valley, cleanup decisions depend on the immediacy of the safety and human health risks presented. Throughout the cleanup of the site, identification and removal of buried ordnance have been and continue to be the government entities' top priorities in terms of human health concerns and cleanup decisions. The partners have agreed to remove buried ordnance as soon as possible after its discovery. Accordingly, since early in the Spring Valley cleanup effort, removal of buried ordnance has taken priority over other tasks. The partners also attempt to set priorities for cleaning up properties containing elevated levels of chemicals or metals in soil on the basis of the risk the hazards pose. Although many chemical agents were tested at Spring Valley during World War I, of those contaminants now present at elevated levels, arsenic is deemed to pose the greatest risk to human health and therefore is the contaminant of most concern to the partners.

During its remedial investigation of the site from 1993 to 1995, the Corps used EPA's criteria to assess the health risks associated with these hazards to determine whether further sampling or soil removal was necessary. This assessment found no elevated health risk requiring remedial action. Arsenic was not identified as a contaminant of potential concern for the risk assessment, since, according to the Corps, the sampling results of the arsenic level in the soil were not significantly different from naturally occurring levels. EPA noted that it was involved in the oversight of the cleanup and did not object to the decision made at the time. However, since early 1999, with the additional discovery of buried ordnance and elevated levels of arsenic-contaminated soil at the South

Korean property, the arsenic levels in the soil have become the primary focus of soil cleanup efforts.

Arsenic exposure at certain doses in drinking water has been generally linked to cancers and other adverse health conditions.[7] Based on scientific studies, the District of Columbia has identified lung cancer, bladder cancer, and skin cancer as effects associated with the long-term ingestion of arsenic. However, the precise extent to which arsenic is present and residents are exposed through ingestion, inhalation, or external contact at Spring Valley is unknown, and recent and ongoing efforts are directed at providing this information.

- **Soil sampling:** Through soil sampling, the partners have attempted to detect levels of arsenic in the soil to assist in ascertaining health risks and to set priorities for cleanup. Recent sampling results have registered elevated levels of arsenic in the soil at certain residences. Consequently, the District of Columbia's Department of Health has requested that additional properties be added to the priority removal list.

- **Exposure testing:** After the Corps confirmed elevated arsenic soil levels at American University's Child Development Center, at the request of the District of Columbia, ATSDR conducted an exposure study to determine the extent of arsenic exposure in children and employees at the site. After testing hair samples, ATSDR concluded that the children and employees had had no significant exposure to arsenic. At the request of the District of Columbia, ATSDR is conducting another exposure study (biomonitoring), in which it is studying the level of arsenic present in biological samples from residents on Spring Valley properties with the highest levels of arsenic in the soil. The individual results from the biological samples collected during the exposure investigation were mailed to the residents and were reviewed and discussed by the Mayor's Scientific Advisory Panel. During the Panel's recent meeting, several members noted that this study was a small sample screening investigation, not a full scientific human research project or epidemiological study. The Panel discussed

[7] For example, EPA recently established a more stringent standard for arsenic in drinking water. See U.S. General Accounting Office, *Environmental Protection Agency: Use of Precautionary Assumptions in Health Risk Assessments and Benefits Estimates*, GAO-01-55 (Washington, D.C.: Oct. 16, 2000).

the possibility of ATSDR's continuing a screening investigation during the summer months.

- **Descriptive epidemiological studies:** The District of Columbia has also conducted descriptive epidemiological studies in an attempt to assess the arsenic-related health effects in Spring Valley compared with two control groups as well as with the nationwide incidence and mortality rates for certain cancers. The studies examined bladder, skin, lung, liver, and kidney cancers. However, the number of cases of liver and kidney cancers at Spring Valley was too small to conduct a meaningful statistical analysis. Of bladder, skin, and lung cancers, however, the District of Columbia observed no excesses of cancer incidence and mortality in Spring Valley.

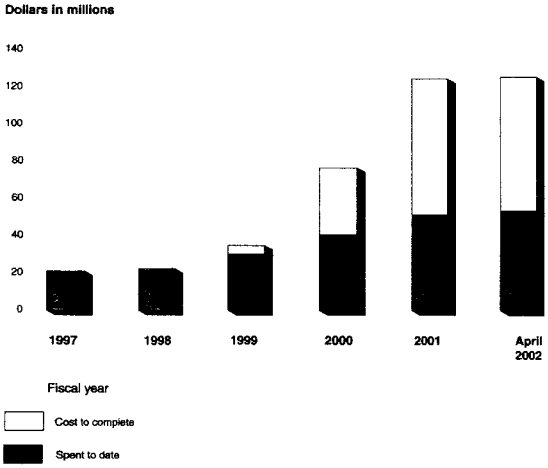
Residents have raised concerns about the extent of the population studied and completeness of data used for the exposure tests and epidemiological studies. For example, some residents have voiced concerns that the full suite of hazards—not just arsenic—present at Spring Valley, even at trace levels, has not been factored into exposure and epidemiological studies. The District of Columbia and the Corps have indicated that mustard agent was found in containers in the pit discovered at Glenbrook Road in May 2001. The District of Columbia's Department of Health does not plan to study exposure to mustard agent, however, because it did not identify a pathway of exposure to mustard agent that could produce a dose resulting in adverse human health effects. The District of Columbia's Department of Health has told Spring Valley residents that, if necessary, it will expand the investigation to hazards other than arsenic, if the hazard is found at levels of concern in Spring Valley.

The Corps' Estimated Cost and Cleanup Schedule

Under the environmental restoration program, the Secretary of Defense is required to report annually to the Congress on the progress the department has made in carrying out environmental restoration activities at military installations and FUDS. From fiscal years 1997 through 2001 (the most recent report available), the total estimated cost to clean up Spring Valley reported by Defense increased by about six-fold, from about $21 million to about $124.1 million. In response to our request, the U.S. Army provided us with a more up-to-date estimate. As of April 2002, the Corps had slightly revised its estimated cost to about $125.1 million, as shown in figure 1.[8]

[8] For our report, we focused on the revised cost figures that the Army provided to us in April 2002, rather than the figures reported in the fiscal year 2001 Defense Environmental Restoration Program report. According to the Corps, the revised figures more accurately reflect the costs incurred by the Corps through fiscal year 2001 and the Corps' estimate of the cost to complete cleanup activities at Spring Valley.

Figure 1: Total Estimated Cost to Clean up Spring Valley, Fiscal Years 1997 through 2001 and as of April 2002



Note: For April 2002, "spent to date" reflects the Corps' revised total of the dollars spent through the end of fiscal year 2001 (September 2001), whereas "cost to complete" reflects the Corps' revised estimate for fiscal years 2002 through 2007, as of April 2002.

Source: GAO's analysis of data from Defense's Defense Environmental Restoration Program annual reports to the Congress, fiscal years 1997 through 2001, and data from the Corps.

Costs have increased principally because the Corps needed to increase the scope of the remaining cleanup, as more information about the site became known. For example, from fiscal year 2000 to fiscal year 2001, the Corps doubled its estimate of the cost to complete the cleanup to include the cost of expanding the scope of planned investigation activities. In fiscal year 2000, the Corps estimated that completing the cleanup would cost about $35.8 million. In fiscal year 2001, the Corps raised its estimate to about $72.9 million to include the cost of sampling the entire Spring Valley site for arsenic-contaminated soil, geophysically surveying selected properties for buried ordnance, and completing additional work needed to remove buried hazards at one location. As of April 2002, the Corps slightly

lowered its fiscal year 2001 estimate to about $71.7 million, as the preliminary results of the sitewide soil sampling yielded additional information about the extent of arsenic contamination.

The Corps' latest estimate of the cost to complete the cleanup depends on assumptions the Corps has made about how many properties will require the removal of arsenic-contaminated soil and how many properties will need to be surveyed and excavated to remove possible buried hazards. For example, as of April 2002, the Corps estimated that, in addition to the ordnance and soil removal activities taking place at the South Korean property and two adjacent properties, arsenic-contaminated soil will need to be removed from another 161 properties and 202 properties will need to be excavated for possible buried ordnance.

Despite the large increases in the scope and cost of the remaining cleanup work, in April 2002, the Corps shortened its estimate of the time to complete the cleanup by 5 years, projecting completion in fiscal year 2007. Prior to fiscal year 2000, Defense's annual reports to the Congress did not provide any estimate of when the Corps planned to complete cleanup activities at Spring Valley. In Defense's fiscal year 2000 annual report to the Congress, the Corps estimated that it would complete such activities by the end of fiscal year 2012. The Corps plans to meet the shortened time frame by applying considerably more funding to the site in the near term.

However, we question whether the Corps will be able to achieve its planned completion even if there are no further changes to the scope of work. As part of its April 2002 revised estimate, the Corps acknowledged that meeting the schedule would depend on the FUDS budget and the U.S. Army's ability to apply the specified funding to the Spring Valley site. In order to continue to meet these needs, the U.S. Army may have to reprogram funds from possible use at other sites nationwide in each of the remaining years of the cleanup. Furthermore, in fiscal year 2002, the Corps planned to allocate to Spring Valley about 8 percent of the national budget for FUDS—which has declined in recent years—and about 86 percent of the FUDS budget for the Baltimore District, which includes funding for FUDS in six states and the District of Columbia. According to the U.S. Army, the provision of funds for the Spring Valley cleanup is already adversely affecting the availability of funding and progress at other sites.

As more information becomes available about the hazards at the site, the Corps will develop a clearer sense of how reliable its assumptions are on the extent of the hazards present and the cost of removing them. The Corps' experience with excavating buried hazards at two Glenbrook Road

properties illustrates the difficulty of estimating the cost of removing buried hazards. In fiscal year 2002, the Corps determined that completing the removal would cost about $6 million more than anticipated at the end of fiscal year 2001. Furthermore, the Corps assumed that arsenic would remain the focus of its efforts to reduce the risks of exposure to contaminated soil, and based its cost estimate on the work needed to meet a proposed cleanup level for arsenic; as of April 2002, the partners had not finalized this level. As part of its expanded soil sampling efforts, the Corps could identify the presence of yet other chemicals and expand the scope of soil removal. Until more complete information is known about the actual types and extent of the hazards present throughout the site and the actual cost of removing them, the reliability of the Corps' estimate of the cost and schedule to complete the cleanup remains uncertain.

Properties in the District of Columbia Where Hazards Resulting from Federal Activities Have Been Found

We found data on 58 properties in the District of Columbia where hazards resulting from federal activities have been found, using Defense data as of March 2002, EPA data as of April 2002, and District of Columbia data as of January 2002. These properties included 8 active Defense installations and 30 FUDS. For an active Defense installation, the host military branch of the installation is responsible for the cleanup, while the Corps is responsible for the cleanup of all FUDS. We also found six properties involving other federal agencies, including the Department of Agriculture and the National Park Service. Hazards at these sites include, among others, ordnance and explosive waste; hazardous, toxic, and radioactive waste; polychlorinated biphenyls (PCB); petroleum by-products; solvents; and heavy metals contamination. Finally, we found data on 30 federal properties (including 16 of the properties already identified) in the District of Columbia on which remediation of leaking underground storage tanks was in process, as of January 2002. Hazards at these sites include, among others, diesel fuel, gasoline, heating oil, kerosene, and waste oil.

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In conclusion, Madam Chairwoman, a number of interdependent uncertainties continue to affect the progress of the Spring Valley cleanup. Until some of the existing uncertainties are resolved, the government entities will not be able to provide the community with definitive answers on any remaining health risks or the cost and duration of the cleanup.

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

GAO Contact and Staff Acknowledgement

For further information on this testimony, please contact me at (202) 512-3841 or Peg Reese at (202) 512-9695. Stephen Cleary, Richard Johnson, and Margaret McDavid also made key contributions to this testimony.

Mrs. MORELLA. Thank you, Mr. Wood. We are going to have a vote, but we do have time to hear Mr. Fatz, Deputy Assistant of the Army, Environmental, Safety and Occupational Health.

Mr. FATZ. Madam Chairwoman and members of the subcommittee, I am pleased to have this opportunity to appear before you today to discuss the Spring Valley formerly used Defense site and the GAO report.

I would like to update you on the progress the Army has made over the past year and reinforce our commitment to protect the health and safety of the residents of Spring Valley. I believe Spring Valley is a safe place to live and raise a family. There is no doubt that munitions, both conventional and chemical, pose a risk. However, because they are buried and not widely scattered, these buried munitions are contained and less likely to be encountered by the public.

It is true that we still need to do additional work to identify any remaining buried munitions. To address this concern, the Army, EPA and D.C. Health developed a plan to evaluate potential ordnance sites, and to identify these sites for subsequent action on a priority basis. The Army will take whatever action necessary to safely recover any munitions. Although arsenic is present in soil at Spring Valley, 90 percent of the properties tested this past year had arsenic below the cleanup level. At the remaining 10 percent of properties, the risk is related to long term exposure.

To deal with this remaining risk, we have a plan in place. We know where the arsenic is located. We have communicated the hazards to the public, and we are onsite and will be cleaning up to community agreed levels. Since the last time I appeared before you in July 2001, the Army has made significant progress in characterizing arsenic contamination in soil. We adopted a priority wide cleanup level and we located and safely excavated an historic burial pit on Glenbrook Road. None of this progress would have been possible without the support of the community and the cooperation between the partners, which include the Army, Environmental Protection Agency and the District of Columbia Department of Health.

At the time of the last hearing, and at the request of the community, the Army recently initiated a comprehensive effort to sample all properties in the Spring Valley community for arsenic. To date, 90 percent of the approximately 1,500 residential and non-residential properties have been sampled. We now understand the extent of arsenic contamination in the soil. It is important to note that 90 percent of those properties we have sampled require no further action. There are approximately 160 properties where we need to take removal action which will begin next month on a priority risk basis.

I believe we have made great progress since last year's hearing, and have significantly reduced uncertainty about the extent of the contamination. The agreement on a property wide cleanup level for arsenic was a major milestone for the project. Since there is no District of Columbia standard for arsenic in soil, the EPA provided the leadership in proposing a cleanup level that was both logical and provided a consistent level of protection throughout the community. It was adopted by the partners and supported by the Mayor's Scientific Advisory Panel and the community. As a result, we have an

established protection level and will begin cleanup on the first group of properties next month.

Our success in this area is due to the active participation by each of the partners in a decisionmaking process. I believe the relationship between the partners is a model of collaboration and cooperation that should be applied at other cleanup sites. During the past year, after the extensive effort, the Army was successful in locating a World War I burial pit that contained a large cache of munitions. The Army has safely recovered most of the contents and we are working to gain property access to complete the excavation.

This operation turned out to be much larger than anticipated and required considerably more resources and time to complete than originally planned. Again, the Army demonstrated our commitment to the safety of the community by reprogramming resources within the FUDS program to address this unforeseen requirement. The Army has committed to funding the cleanup at levels that will allow completion over the next 5 years. Our plan represents a balance between national program priorities and the needs of Spring Valley.

I would now like to briefly provide my thoughts on the GAO report on the Spring Valley cleanup. In my review of the draft report, I found the report to be a positive testimony to the progress and the complexities of the Spring Valley cleanup project. I think it is important to note that the uncertainties of Spring Valley are inherent to any environmental cleanup project where our understanding of site conditions has changed so dramatically over time. I believe the Army has approached the cleanup of this site in a good faith, systematic manner. Where there are uncertainties, the partners have worked together to address them and will continue to do so.

I want to emphasize the No. 1 priority in all decisions made at Spring Valley is the health and safety of the community and our workers. We value the participation of the Restoration and Advisory Board and are striving to keep them informed as well as other community members. The residents of Spring Valley can count on the Army to keep them well informed on our activities there. Throughout the process, we have kept open lines of communication through public meetings, newsletters, the Corps Web site, direct interaction with residents and other public releases of information. We are committed to an open, continued dialog on our activities at the site, and appreciate the feedback we have received from the community. It is our intention to continue our policy that whatever we know about the site, we will share with the community in as timely a manner as possible.

Madam Chairwoman, I wish to thank you and the subcommittee for its interest and support in our efforts at Spring Valley. I look forward to working with you toward a successful cleanup of the site. Thank you.

[The prepared statement of Mr. Fatz follows:]

RECORD VERSION

STATEMENT BY

RAYMOND J. FATZ

DEPUTY ASSISTANT SECRETARY OF THE ARMY

(ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH)

BEFORE THE

SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA

COMMITTEE ON GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

SECOND SESSION, 107TH CONGRESS

JUNE 26, 2002

PROGRESS ON SPRING VALLEY CLEANUP PROJECT

NOT FOR PUBLICATION UNTIL
RELEASED BY THE GOVERNMENT REFORM COMMITTEE

Madam Chairwoman and members of the subcommittee, I am pleased to have this opportunity to testify concerning the Army's progress in identifying and cleaning up DoD contamination resulting from World War I era defense activities at the Spring Valley Formerly Used Defense Site (FUDS). I will also address the draft General Accounting Office (GAO) report entitled: Environmental Contamination: Many Uncertainties Affect the Progress of the Spring Valley Cleanup (GAO-02-556).

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 programs and their implementation at Army installations all over the world.

The FUDS Program is part of the Defense Environmental Restoration Program (DERP), which was established by Congress in 1986. Under the DERP, the Department of Defense (DoD) has the authority and funding to respond to releases of hazardous substances or pollutants and containments caused by Defense activities. FUDS are properties that the military services owned, leased, possessed, or used prior to 1986. The Army is the DoD Executive Agent for the FUDS Program, having responsibility for all sites, regardless of which military service used the site. I am the senior Army official who oversees Executive Agent activities. The Corps of Engineers (CoE), which is well suited to the task because of its technical expertise, experience, and organizational capabilities, executes the program through its geographic Divisions and Districts.

On July 27, 2001, I provided written and oral testimony to this Committee on the FUDS program, the Army's role in the program, and the status of the Spring Valley cleanup. Today, I would like to update you on progress made at Spring Valley and also to discuss our response to GAO's draft report.

Last July, I testified that the Army's number one priority for Spring Valley is to ensure that any remaining Defense related contamination that presents a risk to human health and the environment is quickly identified and eliminated. We remain committed to this goal and have been working closely with the community and regulators to complete a safe and thorough cleanup.

Over the past year, we have made considerable progress on a number of different fronts.

Investigation and cleanup

- In October 2001, the Army completed the removal of contaminated soil at the American University (AU) Child Development Center. The site has been restored using clean fill. Although the University has not yet reopened the Child Development Center, pending completion of work on a nearby athletic field, we expect them to do so once that work is completed later this year. Soil removal in other areas of the AU campus is scheduled to begin this month.

- In addition to the work at the Child Development Center, the Army has tested over 1,400 Spring Valley properties for arsenic contamination. We have received results for approximately 1,100 of these properties, and of those, 146 require follow-on grid sampling. The results of this soil sampling also indicated that an expedited response action is required for seven properties. The contract for this work has been awarded, and soil removal and replacement is scheduled to start in early July. As a result of this comprehensive characterization effort, the Army has a better understanding of the nature and extent of arsenic contamination in the Spring Valley community and has developed a plan to address it.

- Restoration of the Korean Ambassador's property to its original condition is being completed with the removal of contaminated soil, replacement with clean fill, and completion of landscaping.

- Work on the unoccupied property next door to the Ambassador's residence continues. Following the discovery in May 2001 of a former burial pit, the Army excavated and removed almost 400 ordnance-related items and research-related glassware. Most of the excavation was completed before the Right of Entry expired in May 2002. Despite lengthy discussions, the Army has not yet been able to obtain a renewal. As a result, the containment facility has been dismantled and the pit has been filled in. Plans call for completion of the work in 2003.

Regulatory Involvement and Cooperation

- Such progress would not have been possible without the extensive involvement and cooperation of regulatory oversight agencies, specifically the D.C. Department of Health (DC Health) and the Environmental Protection Agency (EPA). Both have worked closely with the Army to ensure the highest level of confidence in the investigation, assessment, and response phases of the work.

- A Senior Executive Review Group (SERG), composed of senior officials from the Army, the EPA, DC Health, the Army's Center for Health Promotion and Preventive Medicine (CHPPM), the Agency for Toxic Substances and Disease Registry (ATSDR), and Restoration Advisory Board (RAB) has been established for this project. This group met in February 2002 met to discuss outstanding issues and review project progress.

- After considerable study and review, the Army, EPA, DC Health, and the Mayor's Scientific Advisory Panel have agreed to a property-wide cleanup level of 20 parts per million (ppm) for the arsenic-contaminated soil remediation. With the standard now set, cleanup activities can proceed and results measured with assurance that the response has been successful.

Community Involvement

- Defense and Army policies continue to stress the importance of regulatory and community outreach. After the discovery of munitions by a construction crew in 1993, the Army conducted extensive outreach to the community. This included development of a Public Involvement and Response Plan that had the specific objectives of keeping the community informed; providing an opportunity to review and comment on work being conducted; and ensuring that community concerns are integrated into plans and actions.

- The Restoration Advisory Board (RAB) was established in May 2001 and serves as one mechanism by which the community can become involved and voice its views. The Spring Valley RAB meets monthly and provides valuable input to the project planning and decision making process. These meetings are open to the public and provide a venue for all Spring Valley residents to gain an understanding of both ongoing and future work.

- The Corps of Engineers updates the Spring Valley web site regularly. This site provides the public with links to articles, project specific information, photographs, minutes of RAB meetings, and a vast amount of information on the Spring Valley cleanup. The website address is http://www.nab.usace.army.mil/projects/WashingtonDC/springvalley.htm

Funding

- The Army has programmed over $17 million fiscal year (FY) 2002 funds for the cleanup. This amount includes an increase of $5.2 million in February 2002 to meet emerging, unprogrammed requirements that require immediate action.

- So, as you can see, a lot of progress has been made in several areas over the past 11 months. Our work is not yet completed, and we have much to do now

and into the future. But I believe that the Army has demonstrated its resolve to address its responsibilities aggressively and completely. Such progress would not have been possible without the active involvement of our regulators, EPA and DC Health; the scientific expertise of the Scientific Advisory Panel and the ATSDR; the technical expertise and dedication of numerous military and civilian professionals in the Corps of Engineers; and most important the direct and active interest and involvement of the community. I would also like to acknowledge the indispensable role that the Congress has played in ensuring the availability of the funds necessary to discharge our responsibilities here and at other FUDS. None of these advances would have been possible otherwise.

I would like to conclude with a few observations concerning the draft GAO Report entitled: Environmental Contamination: Many Uncertainties Affect the Progress of the Spring Valley Cleanup, dated May 2002. The Army believes that GAO did a professional and accurate job of reporting their findings and generally agrees with the report.

We agree with GAO that there are uncertainties associated with the Spring Valley cleanup. We believe it is important to note, however, that uncertainties are not unique to the Spring Valley site. Every environmental cleanup involves unknowns, regardless of the locale, type of contaminants, or entity conducting the cleanup. Spring Valley is a highly complex project involving conventional munitions, chemical warfare materials, and hazardous wastes. Our understanding of the site has changed drastically over the past 10 years, and information available to decision makers will continue to improve. By working systematically and cooperatively, the Army is attempting to reduce the uncertainties associated with the nature and extent of contamination, the risk to human safety and health and implementation of the appropriate response actions. As the site characterization process continues, the Army, with its regulatory partners--the DC Department of Health and the EPA--will continue to address each discovery in the same deliberative and responsive manner.

GAO noted that the Army, EPA and DC Health have adopted a partnership approach to Spring Valley cleanup decisions. We appreciate the substantial commitment of resources that our regulators have made to ensure their active, integral participation in all aspects of the decision making process. The cooperative relationship among the three agencies should serve as a model for regulatory relationships. Each agency's commitment to the partnership and dedicated participation in critical decisions has led to substantial progress in effectively addressing contamination arising from war preparation activities of almost a century ago.

I would like to provide two specific examples of how each partner has been integrally involved in key decisions. After the community requested that more extensive sampling be conducted, the partners jointly developed a comprehensive sampling plan that addressed every property and focused on points of interest. The community accepted the jointly developed plan, and we began to implement the plan last May. We will complete sampling in August 2002, only a couple of months from today.

The second example of successful partnering is the establishment of a site-wide cleanup level for arsenic. The Army identified several alternative cleanup levels based on health protection and risk. EPA proposed a different cleanup level based on their experience with sites in the general area of Spring Valley and factors such as background level. The EPA-proposed level was slightly higher than background, yet lower than non-cancerous hazard level. After considerable discussion among all agencies, and after obtaining the Scientific Advisory Panel's review and concurrence, all agencies agreed to support the EPA-proposed level.

This collaboration among the partners, in contrast to a potential enforcement approach, has resulted in a more timely and cost effective cleanup. The Army has every reason to expect that this relationship will continue to be effective into the future.

As GAO recognized in its report, DoD has established a systematic means of communicating information to and receiving input from the residents of Spring Valley

and interested members of the public. We have invested considerable resources to do so, and community interest and support has been high. The RAB has been in place for over a year, several public meetings have been held, newsletters are published regularly, and an information repository is maintained and consulted. We have expanded the availability of information regarding Spring Valley through our extensive Internet site. We will continue to make community involvement a key part of the process.

In regard to funding, DoD has continually demonstrated our financial commitment to completing the cleanup at the Spring Valley site. Over the last 10 years, the Army has allocated over $50 million to this cleanup. The Army intends to continue this high level of funding support for the next five years. At this rate, we anticipate having remedies in place for all known contamination at the Spring Valley property by the end of 2007. Our funding plans represent a balance between national program requirements, and the needs at this property.

Based on our experience with Spring Valley, the Army initiated a program to identify FUDS that may raise similar concerns, to prioritize the sites for characterization, and, where necessary, to initiate clean up at these sites. The Army views the identification, assessment, and cleanup of FUDS as a responsibility it has to the American people.

In conclusion, I would like to emphasize the Army's continued commitment to the cleanup of Spring Valley. We have dedicated the expertise and level of funding to ensure that this project moves forward as a priority. The Baltimore District Corps of Engineers continues to oversee the technical aspects and day-to-day operations of this project in an exemplary manner. Colonel Charles Fiala, Commander, Baltimore District, is here today to present testimony on the Corps' on-site activities. I will continue to monitor progress on a regular basis and be involved in critical decisions.

Thank you for the opportunity to testify on our progress on this important project.

Mrs. MORELLA. Thank you, Secretary Fatz.

I am now pleased to recognize Colonel Fiala.

Colonel FIALA. Good morning, Chairwoman Morella and members of the subcommittee. I am Colonel Charles Fiala, the Commander of the Baltimore District Corps of Engineers. Thank you for your invitation this morning to testify before this committee.

Last July I testified about our past work at the site. Today I would like to discuss our recent progress at the site and other FUDS sites in the District of Columbia. In the past year, we have made significant progress in the Spring Valley project on three fronts. First, our project team has been extremely busy defining the scope of DOD contamination at the site and removing hazardous material found. Second, the project partners, that is, the Corps of Engineers, EPA Region III, and D.C. Health have made great strides in our working relationship. All three parties agree that their effectiveness continues to improve as they move forward in openness and cooperation, drawing on the strengths that each brings to the fight.

Last, we have actively solicited the community input on key project decisions and increased residents' opportunities to get involved. Field work in the last year has greatly reduced the uncertainties about the extent and location of arsenic contamination at the site. We have nearly completed this site-wide soil sampling effort developed by the partners at Spring Valley in 2001.

To date, we have sampled 95 percent of the 1,158 residential properties at the site. On the map before you and on the map on the screens of the side of the wall, the area shaded in green and light yellow have already been sampled. Based on sampling results, we expect to conduct soil removals at approximately 160 properties. Besides arsenic, the sampling results have not identified any other chemicals of concern at the site.

In addition to delineating the scope of soil contamination, we are reducing the hazards associated with this contamination. Since last July, we have removed arsenic contaminated soil at the American University Child Development Center playground and just began soil removal at the adjacent grounds and intramural field to address those hazards before the return of children to the facility. We are also beginning the first soil removals at residential properties with arsenic contamination.

The Corps has reduced hazards associated with buried ordnance and chemical warfare material at the site. We safely investigated a large burial pit straddling two Glenbrook Road properties. This investigation yielded more than 370 ordnance items, a small fraction of which contained chemical warfare agents and over 50 sealed bottles, many of which contained agents. We conducted this work in a safe manner, ensuring no chemicals were released.

Regarding the status of the project partnership, I am confident that the Corps, EPA and D.C. Health will continue to forge an effective working relationship. We work together on management, technical and community issues. Let me give you a few examples of what I mean.

Last fall, the Corps tested several updated instruments used to detect potential ordnance burials. From those results, the partners selected equipment for future investigations. Concurrently, our

partners developed a site evaluation scheme to identify and prioritize areas for ordnance investigation. This led to the identification of the highest priority areas, many of which have now been surveyed with the new equipment.

As another example, the EPA took the leadership role in proposing a significantly protective site-wide arsenic cleanup level. In reviewing this proposal, the partners sought input from two advisory groups, the D.C. Mayor's Spring Valley Scientific Advisory Panel and the Project Restoration Advisory Board. Their input proved very helpful in the partners' recent adoption of that cleanup standard.

Established of the RAB highlights the third area of progress. Our interaction with the RAB, participation in public meetings and our daily conversations with individual residents have helped us to fully appreciate the community's diverse concerns. Important decisions are now routinely discussed with the RAB and interested members of the community. The result is that partners now have a better understanding of our community issues as we plan work for the future.

Last, I would like to discuss the status of FUDS in the District of Columbia. We have identified 59 sites in D.C. Of these, 45 have received a classification of no DOD action indicated, NDAI. And 11 sites are ineligible under the FUDS program. We have current response activities at three remaining sites. They include Spring Valley, Camp Simms and Catholic University. All there were NDAIs originally. But this classification is always open to reevaluation if warranted by new information.

In conclusion, we have worked hard during the past year to reduce the uncertainties associated with Spring Valley FUDS by defining the extent of DOD contamination and solidifying the partnership's collaboration. To succeed in this challenging site, we will continue its synergistic partnership with EPA and the District of Columbia, seeking full and open consultation with the community.

As always, we remain committed to aggressively responding to the risk associated with the former Department of Defense activities at Spring Valley FUDS. I would like to thank the subcommittee for the opportunity to speak, and I am prepared to answer your questions regarding the Corps of Engineers' efforts at the site.

[The prepared statement of Colonel Fiala follows:]

RECORD VERSION

STATEMENT BY

COLONEL CHARLES J. FIALA, JR.

COMMANDER

BALTIMORE DISTRICT

U.S. ARMY CORPS OF ENGINEERS

BEFORE THE

SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA

COMMITTEE ON GOVERNMENT REFORM

U.S. HOUSE OF REPRESENTATIVES

SECOND SESSION, 107TH CONGRESS

JUNE 26, 2002

PROGRESS ON SPRING VALLEY CLEANUP PROJECT

NOT FOR PUBLICATION UNTIL
RELEASED BY THE GOVERNMENT REFORM COMMITTEE

Introduction

Thank you for your invitation to testify regarding the Corps of Engineers' ongoing activities at the Spring Valley Formerly Used Defense Site (SV FUDS) in Washington, D.C. On July 27, 2001, I provided this committee oral and written testimony on the Corps' actions to identify and remove contamination at the SV FUDS since February 1993 when it initiated operations at the site. Today, I would like to update you on our progress in identifying and removing contamination at this and the other FUDS in the District of Columbia over the last year. Additionally, I would like to describe the role, authority and responsibility of the Corps at this site.

The Spring Valley site consists of approximately 661 acres in the Northwest section of Washington, D.C. During the World War I era, the Chemical Warfare Service, originally under the Bureau of Mines and later under the War Department, used the major portion of the area, known as American University Experiment Station (AUES), as a research and development facility for chemical agents, equipment, and munitions. The Army used the remaining part of the area, known as Camp Leach, for a camp to house and train engineer troops.

Historical and archival information indicates that onsite development and testing of ordnance and chemical warfare material occurred on the AUES portion of the site between 1917 and 1920. The majority of the real property was returned to private ownership by October 1920. The current owners of the Spring Valley site include American University (70 acres) and numerous residential homeowners (591 acres), including at least 14 embassy residences.

Agency Roles, Authority, and Responsibilities

The Defense Environmental Restoration Program (DERP), established by the Superfund Amendments and Reauthorization Act of 1986 (SARA), gives the Department of Defense (DoD) the authority to identify, investigate, and clean up hazardous substances at Formerly Used Defense Sites (FUDS) in accordance with the

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The DERP-FUDS Charter, as reviewed and approved by DoD in 1990, designates the Secretary of the Army as the Executive Agent for DoD for the purpose of conducting environmental restoration activities at FUDS regardless of which DoD component previously owned the property. The Secretary of the Army further delegated FUDS execution responsibilities to the Chief of Engineers.

The objective of DERP-FUDS is to reduce the risk to human health and the environment resulting from past DoD activities in a timely and cost-effective manner. The program requires the development of an execution strategy that will ensure continued protection of health and the environment, comply with legally enforceable agreements and orders, and incorporate the principle of reducing risk over time.

The Corps' responsibilities include determining the eligibility of properties for inclusion in the FUDS program, identifying the requirements for funding the FUDS program, conducting environmental restoration activities at eligible properties, and reporting on the cleanup progress. Environmental restoration activities include the following: management and execution of all studies and cleanup projects, ensuring that program activities are in compliance with applicable legal requirements and consistent with DoD and Army environmental restoration policies; utilization and oversight of experts to conduct specialized activities such as demonstration of innovative technologies, risk assessment, removal of ordnance and explosives, and chemical or biological warfare materiel. Since Spring Valley site has been determined to be a FUDS site, the Corps is authorized to carry out the cleanup activity under CERCLA.

The DERP provides that responses at FUDS be carried out in accordance with CERCLA. Therefore, in managing the SV FUDS, the Corps is responsible for consulting with the U.S. Environmental Protection Agency Region 3, and with state and local authorities, including the District of Columbia Department of Health (the District of Columbia). Additionally, the Corps' strives to accommodate standards, requirements, or criteria requested by EPA-3 and the District of Columbia where they are consistent with

CERCLA in an effort to ensure that decisions regarding remedial investigation and environmental restoration activities reflect a broad spectrum of advice, expertise, and stakeholder concerns.

The Corps, EPA-3, and the District of Columbia have formed an active and formal partnership in order to reach agreement on important investigation and remediation decisions. In general, the Corps leads the effort to identify hazards and propose plans, but in many cases it follows the recommendations of the District of Columbia and EPA-3. For example, both regulatory agencies have significantly contributed to how and where the Corps tests for potential ordnance and chemicals contamination at the site. Additionally, both are now providing management input regarding the prioritization of properties for both investigation and cleanup.

The Corps also coordinates with EPA-3 and the District of Columbia on health-related issues. The partners recently agreed to a site-wide cleanup level for arsenic in soil in the absence of a promulgated standard. The Corps previously developed property-specific soil cleanup levels at the SV FUDS using property-specific risk assessments. However, the partners agreed that a site-wide cleanup standard was needed and the EPA proposed a level that the District of Columbia and Corps reviewed and accepted. As with the resolution of issues related to site characterization, remediation, and the assessment of health risks, the three project partners worked closely with technical experts from the public and private sectors in determining an appropriate cleanup level for arsenic. This standard protects public health and the environment while minimizing disturbance to the lives and property of affected residents.

Additionally, in the past fifteen months, advisory entities have been created to further facilitate stakeholder participation in the process. The DC Mayor's Spring Valley Scientific Advisory Panel (SAP) and the Restoration Advisory Board (RAB) are two active advisory entities with which the partners exchange information and collaborate on site characterization, remedial decisions and potential health risks. Important decisions,

such as the arsenic cleanup levels for soil at the SV FUDS and the plan to prioritize properties for cleanup, are now routinely discussed among these entities. The District of Columbia created the SAP in March 2001 to advise the District of Columbia and other partners on health risks associated with the hazards at the SV FUDS. The SAP has evaluated site sampling data and relevant health literature and has recently recommended to the District of Columbia Mayor that the District adopt the proposed 20 parts per million (ppm) cleanup level for arsenic in soil at the SV FUDS. The RAB, created by the Corps in May 2001 at the request of the community, consists of residents of Spring Valley as well as representatives from EPA-3, the District of Columbia, and American University, and other local stakeholders. The Corps will continue to foster open communication and collaboration with these advisory groups, believing the project will continue to benefit from their input.

Status of Efforts to Identify and Remove Contamination at the Spring Valley FUDS

Comprehensive Soil Sampling Program

The site-wide comprehensive sampling program began on May 31, 2001, and continues to the present. The purpose of this sampling was to characterize the entire SV FUDS with regard to arsenic contamination and numerous other potential contaminants that may have resulted from the development and testing of munitions and chemical warfare materiel at the American University Experimental Station during World War I. The Corps developed this sampling plan in the spring of 2001 in collaboration with the EPA-3 and the District of Columbia and presented it to the community at a pubic meeting in late March 2001. After receiving public and additional comments from project partners, the Corps formalized the written plan, which is available to the public at both the local information repository at the Palisades Library in Northwest DC, and at the following link from the Corps' project website: http://gis.parsons.com/springvalley/

To date, the Corps has nearly completed the soil screening of all properties within the project boundary. Approximately 95% of the 1,158 residential properties and 74% of 325 non-residential lots have been sampled. The initial sampling results for almost 12% (146) of the properties and lots indicate arsenic levels potentially above the normal background level. Nearly all (145) of these 146 properties/lots have since undergone more extensive sampling to establish the magnitude and extent of potential arsenic contamination. Termed "grid sampling", this process established 20-foot by 20-foot grids on each of the 145 properties. One surface soil sample (top six inches) was taken from each grid. The upper six inches of soil represents the region in which human exposure is most likely to occur. Grids that contain arsenic at levels greater than the recently adopted site-wide cleanup standard of 20 ppm are designated for removal.

The results of grid sampling the 145 properties have identified 139 properties thus far with soil arsenic above 20 ppm. The Corps expects to identify a total of approximately 150 such properties/lots by the completion of all sampling. Having previously identified 11 similar properties in a sampling event completed in early 2001, the Corps anticipates finding approximately 161 properties with arsenic in surface soil at levels above 20 ppm.

In addition to sampling of surface soils, the Corps has taken over 525 soil borings throughout the SV FUDS to test for arsenic contamination below the ground surface level. These borings are generally 6-10 feet in depth with samples collected at one-foot intervals from the boring, resulting in over 3,250 discrete subsurface soil samples. Borings were concentrated in areas where historic records indicated testing of chemicals or ordnance. In addition, many other properties also received a subsurface boring. Whenever possible, the Corps took the borings from locations on the identified properties/lots where the EPA-3's analysis of historical aerial photographs identified potential soil disturbance or indicators of environmental stress. Only eight of the 3,250 subsurface soil samples had arsenic levels above 20 ppm and only one of the eight was

taken at a depth below twelve inches. Thus the sampling evidence does not indicate appreciable arsenic contamination of subsurface soils.

While arsenic has been the primary focus of the ongoing sampling event, the Corps has also gathered over 250 specialty parameter samples. These subsurface samples were taken from areas identified by the project partners based on historical records. Only four samples have indicated detectable chemicals. All four of these samples indicated cyanide at 0.2 ppm. The risk based concentration, or screening level, for cyanide in soil is 160 ppm. The Corps has sent explanatory letters covering over 1,250 properties to date informing owners of sampling results related to their property.

Soil Removal Actions

a. Time Critical Removal Action - American University Child Development Center. From August 2001 to October 2001, the Corps conducted a Time-Critical Removal Action at the Child Development Center (CDC) on the American University campus. Grid sampling results from January 2001 indicated arsenic concentrations at the CDC ranging from 3.43 to 498 ppm. Arsenic-affected soils were excavated and shipped off-site for burial at an approved and licensed disposal facility permitted to receive soils of this type. After removing the top two feet of contaminated soil, the Corps took confirmation samples from the sides and bottom of the excavation. During this effort, the Corps removed approximately 1,958 tons (or 1,064 yards) of arsenic-contaminated soil from the CDC playground area and replaced it with clean soil and grass.

b. Time Critical Removal Action – American University Athletic Fields and Lots. Grid sampling conducted in March 2001 identified arsenic concentrations on portions of the American University property adjacent to the CDC that were well above the background level. Given the potential that removal activities in these areas could impact the children at the CDC, the Corps expanded the original TCRA conducted on

the CDC grounds in 2001 to include the surrounding areas of arsenic contamination, including the AU Athletic Fields. The intent is to complete this removal before the temporarily relocated children return to the CDC. This removal action is expected to run from June through September 2002 and remove an estimated 4,518 cubic yards of contaminated soil located in 145 grids. Dust control and air monitoring measures will be employed to ensure that site workers and university personnel are not subjected to dust above prescribed action levels. Similar precautions were taken during last year's removal at the CDC itself. The Corps will restore excavated areas to original grade and compensate the university for the loss of landscape features (trees, shrubs, etc.) after work activities are completed and the extent of impact is known.

The removal activities at the American University grounds adjacent to the CDC will also include the investigation of approximately fifteen (15) subsurface anomalies that were identified during a geophysical investigation conducted in April 2002.

c. Time Critical Removal Action – Seven (7) Private Residences. Based on the arsenic sampling results gathered during the comprehensive sampling program, seven (7) residential properties have been designated for time-critical removal activities. During the earlier part of fiscal year 2002, the Corps proceeded to develop a scope of work for this action and secured an experienced contractor to carry out the removal activities. Fieldwork began in June 2002 and will continue through September 2002. Approximately 135 surface grids (20'x20'x2') and 15 subsurface grids (20'x20'x1') totaling approximately 4,222 cubic yards of arsenic contaminated soil are to be excavated. The Corps has made provisions to relocate the impacted residents and has recommended that these residents relocate during the construction activities. The sites will be restored to original grade by backfilling with clean fill material and covering with six inches of topsoil. Sod will be placed on top of all disturbed soil surfaces to establish grass. Residential property owners will be compensated for the loss of landscape features (trees, shrubs, etc.) suffered during the removal activities. In conjunction with this soil removal activity, the Corps will also sample for additional chemicals at several

of the properties with the highest arsenic levels. The Corps is conducting this additional sampling at the District of Columbia's request made during a partnering meeting.

Future Soil Work

The Corps plans to complete the comprehensive sampling effort to the fullest extent possible as authorized by Rights of Entry (ROEs). This will be followed by an Engineering Evaluation/Cost Analysis (EE/CA) that studies the requirements and suitability for removal activities at properties and lots with elevated arsenic levels. The Corps expects to conduct removal actions as needed to reduce arsenic levels to acceptable levels on a non-time critical basis.

The Corps has demonstrated flexibility during the SV FUDS and will continue to investigate new areas for the presence of arsenic or other contaminants that may pose a risk to human health or the environment as determined necessary based on new information or regulator requests.

Ordnance and Chemical Warfare Materiel

Prior to May 2001, the Corps had identified ordnance items only in certain areas near American University, the static test fire area and the 52nd Court trench area. Chemical warfare materiel had been identified only at the 52nd Court trench and on one Glenbrook Road property adjacent to American University. However, in May 2001, the Baltimore District discovered a third burial pit on a Glenbrook Road property.

This third burial pit is located on the boundary line between property owned by the Republic of South Korea and a residential property adjoining it. Initially, the Corps anticipated that the work in this pit would be completed last fall. However, items recovered late last summer and in early fall necessitated further investigation. To date, this investigation has yielded over 370 ordnance related items, 15 of which have been confirmed or are suspected of containing chemical warfare agent; fragments of another

eight pieces of ordnance; 60 glass bottles, 24 of which contained chemical warfare agents or acids; three empty metal cylinders; and five empty metal drums. Investigations of the portions of the pit on the South Korean property have been completed and the pit was backfilled during May 2002. The Corps will complete the site restoration at the Korean property by October 2002. Work on the adjoining property was halted in March because the Corps' right of entry to perform the work there had expired. The Corps expects to resume intrusive investigations of that portion of the pit in early FY03.

In the fall of 2001, the Corps tested several updated geophysical surveying instruments for potential use at the SV FUDS. After reporting on the results in February 2002, the project partners agreed on the equipment they believed would be most effective in additional survey efforts. Concurrent with the equipment selection, the project partners developed an overall, yet preliminary prioritization of sites requiring future geophysical investigations. The project partners reached a consensus on the top 50 sites requiring additional geophysical investigations. As a result, geophysical investigations on American University and several residential properties were completed in April 2002 and a number of anomalies were identified that required intrusive investigations. The anomalies identified on AU will be addressed in conjunction with the upcoming arsenic-contaminated soil removal. The Corps will also address two anomalies in the Sedgwick Trench area and anomalies on one residential property in August 2002. Investigations will be completed in September 2002 assuming no large burial pits similar to those found on the Glenbrook Road properties are found.

To expedite future ordnance investigations, the Corps has coordinated the development of a site-wide safety submission with appropriate agencies in the Federal and local governments. Simultaneously, the Corps has coordinated intrusive investigation plans for the Sedgwick Trench area, American University, and one residential property in advance of receiving final approval of the site-wide safety submission. The intent is to expedite intrusive investigations while minimizing inconvenience to property owners,

Future Ordnance and Chemical Warfare Materiel Work

In August 2002, the Corps and project partners will identify additional sites requiring geophysical investigations. Approximately 30-40 properties will be identified initially. It is difficult to speculate how many of these new sites will require intrusive investigations as a result of the geophysical data obtained. However, it is expected that at least several new anomalies requiring excavation will be identified during FY03. The Corps and project partners will jointly prioritize this new work based on the results of the geophysical investigations, and on-going historical research.

Public Involvement

The Corps recognizes the need for a comprehensive and complete public involvement program. We have maintained a vigorous, multifaceted public involvement program to keep the community informed and to be accessible to community members and civic leaders and include community concerns in the remedial process. The following list contains a summary of the public involvement activities during the last calendar year:

- *Restoration Advisory Board.* This board is comprised of 14 community members, a community co-chair, a government co-chair and officials representing the other agencies involved in the project. The community members were selected by fellow community members to serve on the board. The board meets once a month and meetings are open to the public.

- *Community meetings.* These meetings are held as needed and are open to community members as well as the general public. The meetings provide a forum for the Corps and community to exchange information about the site and activities associated with the investigation.

- *One-on-one meetings.* Throughout this project, the Corps has maintained an open-door policy. We regularly meet with officials and community members to discuss questions or issues related to the investigation.

- *Community newsletters.* The community newsletter, *The Corps'pondent*, is prepared by the Corps of Engineers, Baltimore District, and specifically geared toward keeping the community apprised on activities related to this project. Published 6 to 12 times a year, it is mailed to every resident within the SV FUDS and posted on the project's Internet web page.

- *Email newsletter.* This electronic newsletter is prepared by the Corps of Engineers, Baltimore District, and sent to the seven property owners requiring soil remediation under a Time Critical Removal Action plus their neighbors. This newsletter is intended to keep property owners and adjacent neighbors apprised of the site-specific activities involved with this expedited cleanup action.

- *Letters.* Letters are sent to residents and property owners to inform them of developments specifically concerning them or their property, and to solicit their input or obtain permission for additional investigation on their property.

- *Telephone information line.* This telephone message board is updated regularly and checked twice a day for messages. The appropriate project person promptly follows up on messages left on this 1-800 line. You can reach this number by calling 1-800-434-0988. This phone number is included in briefing, letters, newsletters, and other correspondence sent to the community.

- *Internet web page.* This Internet web page provides current project information and includes maps, photos, news releases, minutes of meetings and community newsletters and many other pieces of project information. Updated weekly, and sometimes daily, this web page contains a link to an interactive web site

(gis.parsons.com/springvalley/) that allows users to obtain detailed information on specific locations within the study area. The address is http://www.nab.usace.army.mil/projects/WashingtonDC/springvalley.htm.

- *Informational fact sheets.* The Corps prepared a series of informational fact sheets to provide information on various topics of interest to the community. These topics include soil sampling for arsenic, contractor safety, and public involvement.

- *Public document repository.* An information repository has been established at the District of Columbia Palisades Public Library, 49th and V Streets, N.W., Washington, D.C. Information on past project activities at the SV FUDS, as well as current information on the project, is available at the repository.

- *Partnering with other government agencies.* The Corps has been participating in monthly partnering meetings with officials from both EPA-3 and the District of Columbia to ensure resolution of all concerns about the site. Since the fall of 2001, these meetings have been open to all RAB members to provide them with information on the roles and activities performed by the participating organizations.

- *Media coverage.* News releases and advisories are regularly sent to media outlets with an ongoing interest in the project. Corps officials routinely make themselves available for interviews. The result is numerous articles and considerable broadcast coverage of the project, which helps keep the community informed.

Spring Valley Funding Status

The SV FUDS site characterization and remediation has presented a unique challenge to the Corps, EPA-3, District of Columbia and the scientists involved in the project. This is due in part to the nature and extent of the contamination and the resulting enormous impact on project scope and funding requirements when munitions or new contamination is discovered. Furthermore, the costly safety considerations

required to remediate ordnance in a densely populated area place an additional strain on the annual budget.

Project costs for SV FUDS are estimated by expert scientists and analysts based on known conditions and assumptions about the most probable site conditions. Many of the assumptions are derived from extensive discussions among the Corps, EPA-3, the District of Columbia and community members. As additional information relating to the nature and extent of the contamination becomes available, the estimates and work scopes are refined and become more accurate.

Initially, the FY 2002 project work was scoped for $11.8 million. The discovery of a previously unknown munitions burial pit on the South Korean property and the adjoining property, combined with arsenic soil contamination elsewhere in the SV FUDS, caused the FY2002 budget requirements to increase by $6.1 million in unforeseen remedial action. Through reprogramming, the Army authorized an additional $5.2 million necessary to complete the work in the FY 2002 scope. The revised cost for FY 2002 is $17.9 million, which includes the $5.2 million increase from the Department of the Army.

As of the end of FY 2001, the Corps has expended $53.4 million at Spring Valley and is scheduled to conduct an additional $71.7 million in characterization and remediation activities, including the FY 2002 budget. The project total cost is estimated to be $125 million through FY 2007. This estimate includes costs for soil removal and landscape restoration at an estimated 160 properties; intrusive investigation of two Sedgwick Trench anomalies; geophysical surveys, intrusive investigation and restoration at an estimated 200 properties; DC Police support, paramedic support, and in-house Corps costs. Maintaining the proposed budget and schedule will depend upon many factors including the possible discovery of additional contamination or buried munitions and the FUDS budget. The U.S. Army may have to reprogram funds from possible use at other sites nationwide in each of the remaining years of the cleanup to

meet current project requirements. As the Corps better defines the nature and extent of the contamination at the SV FUDS, it will further refine the costs to complete the project.

FUDS within the District of Columbia

The Corps has identified 59 FUDS in the District of Columbia. As defined by the DERP-FUDS program, the DoD owned, occupied, or controlled these locations prior to 1986. FUDS properties undergo a research and evaluation process to identify any remaining environmental hazards resulting from past DoD activities at a site. Each of the 59 FUDS in the District of Columbia has undergone this process. The Corps is currently conducting response activities at three of these sites: Spring Valley, Camp Simms, and Catholic University. Forty-five of the FUDS in the District of Columbia have received a classification of "No DoD Action Indicated" (NDAI). Of the 45 NDAI properties, 24 were classified as NDAI based on recommendations in the Inventory Project Report (INPR) and 21 were classified NDAI based upon the conclusions of a more detailed Archival Search Report (ASR). The Corps has determined that these sites are free of significant hazards and risks associated with past DoD activity at the site. The remaining 11 sites are ineligible for cleanup under the FUDS program.

Under the DERP-FUDS, the NDAI determination is not necessarily a permanent classification. New information such as archival records, testimony, or contamination found at a site may reactivate a site for further consideration. This consideration may include such activities as archival records search, risk analysis, site investigation, and remediation. The Corps will return to all eligible sites and clean up DoD contamination whenever new information warrants action. This has been previously demonstrated at Spring Valley, Camp Simms, and Catholic University. One of the sites currently classified as NDAI, Diamond Ordnance Fuze Laboratory, will be reevaluated by the Corps during FY 2003 in response to information provided in an EPA site assessment.

Of the 11 ineligible sites, two are active U.S. Navy installations, six are duplicates of other eligible sites, and no relevant information was found for three sites during the

ASR effort. The two active installations are not included in the FUDS program but will be addressed by the Navy under their Installation Restoration Program.

Conclusion

The Spring Valley site characterization and remediation has presented a unique challenge to the Corps, EPA, District of Columbia and the scientists involved in the project. This is due in part to the nature and extent of the contamination and the enormous impact on the project scope and funding requirements by the discovery of munitions or new contamination. The Corps is systematically addressing the uncertainties associated with the nature and extent of contamination at the SV FUDS through the remedial investigation. Furthermore, the Corps is constantly seeking to improve the working relationship with the partners, EPA-3 and the District of Columbia.

The Corps values the contributions of our partners and community members alike. As a result, there is now a better understanding of the nature and extent of the activities that occurred on the site over 80 years ago. Despite this, we continue to find new information affecting the project. We are initiating a removal action this month for contamination in areas that the project partners doubted contained arsenic contamination only a year ago. In the last several months residents and partners may have found additional historical information on the testing conducted at AUES. In its latest round of geophysical surveys, the Corps employed technology that didn't exist eight years ago. The point is clear; we can and should expect the information available to the project decision-makers to continue to change. To succeed in such an environment, the Corps will continue to partner with the EPA and the District of Columbia, leveraging the expertise of the three organizations. And it will do so in open consultation with the community. While the conditions may change, the Corps remains committed to adequately address risks associated with former Department of Defense activities at this site.

Mrs. MORELLA. Thank you very much, Colonel Fiala. Now I will turn to Mr. Thomas Voltaggio.

Mr. VOLTAGGIO. Good morning, Chairwoman Morella and members of the committee. I am Thomas Voltaggio, of EPA's Middle Atlantic regional office. I'm pleased to be here.

Today I want to report on the progress of the Spring Valley cleanup effort, comment on the GAO report and discuss other formerly used Defense sites, or FUDS, in the District, and most importantly, offer EPA's judgment on the remaining health risks to the residents of Spring Valley.

Let me address the last issue first. The risk from arsenic contaminated soil is now very well characterized. With a few residences still to be sampled, I am glad to report that nearly 90 percent of the homes in the Spring Valley neighborhood do not have elevated arsenic levels. None of the elevated levels of soil arsenic that have been identified presents an immediate threat to human health.

They must be cleaned up, however, to eliminate the long term threat that these soils pose if people were to be exposed to them for decades. The first of these residential cleanups, as you heard, will begin next month.

I realize that there is no such thing as a routine cleanup of arsenic contaminated soils if they are on your property. But I can assure the subcommittee that we have extensive experience in the kind of soil remediation that's required here. And the technical difficulty in removing these kinds of soils is not great.

The risk from buried chemical weapons is certainly higher, but well contained. As these burial pits are identified, they are being cleaned up in a way that is safe for both the workers and the neighboring community.

In summary, the vast majority of residents in Spring Valley appear to be at no unacceptable risk due to World War I era chemical weapons work. Today, there is still a substantial, highly site specific risk at ordnance disposal areas. And there is a long term risk for about 10 percent of the local homeowners because of arsenic contaminated soils. That risk is only related to longer term exposure and cleanup will be underway shortly.

I would now like to report on the status of EPA's activities at Spring Valley since last July. Since last July, the team, consisting of the Corps, EPA and the District, have been working on a number of issues that you have identified. Firstly, the Corps has conducted an extensive cleanup of a burial pit that was identified on Glenbrook Road, including hundreds of pieces of ordnance. Tons of contaminated soil in the Child Development Center have been removed, and the Korean ambassador's residence work is virtually complete. Approximately 1,300 properties have now been sampled.

In short, the actual cleanup of hazards is moving ahead with vigor. Indeed, the amount of hazardous substances that have been removed in the last 11 months is roughly comparable to all of the materials that had been removed in the previous 8 years.

I would now like to turn to EPA's comments on the GAO report. EPA has not seen the final GAO report, so my comments are limited to the draft that we received last month. Generally, we believe the draft has done an excellent job in presenting the facts. The

GAO recognizes the important role of the robust partnership that now exists among the Corps, EPA and the District. We agree that the partnering effort has allowed the cleanup to move ahead with both speed and thoroughness.

Whereas the arsenic sampling is nearly complete, and we have a pretty thorough idea about the scope of the contaminated soil problem, the team does not have the same amount of certainty regarding ordnance. The GAO is right to emphasize the uncertainty associated with that part of the overall effort. Additional disposal pits may be discovered. And if they are, significant work will need to take place. And significantly more work, of course, means more time and more money.

Finally, the GAO draft report discusses the statutory responsibility for the cleanup of FUDS. There is consensus among all the participants that it is the Department of Defense's responsibility to clean up Spring Valley. Regardless of whether that cleanup would occur under the FUDS program authority or under EPA's Superfund authority, the Army has primary responsibility for the cleanup effort and has to pay for that effort.

I would now like to turn to the status of EPA activities at other FUDS in or near D.C. In addition to Spring Valley, there are dozens of other FUDS located in the District. EPA has reviewed the entire FUDS listed and has identified three sites that should receive attention in the near future. These are the former Maloney Chemical Lab at Catholic University, Diamond Ordnance Fuze Lab, and the C&O Canal near the Chain Bridge. In addition, we are reviewing information to locate the site of a 1-day test of chemical materials referred to as the Conduit Road Field Test site in the old Army documents.

The Corps has funded further investigative work at the Maloney Chemical Lab. Because the Army reports that it currently has no additional funding for the other two sites, EPA plans to take a larger role in investigating them.

So in conclusion, I would like to say that Spring Valley cleanup is moving in the right direction. We will continue to assist the partnership and we pledge to assist the efforts to investigate FUDS in the D.C. area. I want to acknowledge the work of the other organizations that have been involved in the cleanup effort: Colonel Fiala, Major Peloquin and the Corps; Ted Gordon and the District's environmental team; and the various health experts, such as the ATSDR, the Mayor's Science and Advisory panel and the District's Department of Health are all to be commended.

Thank you for the opportunity to testify. I will be happy to answer questions at the appropriate time.

[The prepared statement of Mr. Voltaggio follows:]

TESTIMONY OF
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DEPUTY REGIONAL ADMINISTRATOR
MID-ATLANTIC REGION
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BEFORE THE
SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA
COMMITTEE ON GOVERNMENT REFORM
U.S. HOUSE OF REPRESENTATIVES

June 26, 2002

Good morning, Chairwoman Morella and Members of the committee. I am Tom Voltaggio, Deputy Regional Administrator for the EPA's Mid-Atlantic Regional Office. I am pleased to be here today to discuss the on-going cleanup activities in the Spring Valley neighborhood here in the District of Columbia.

In today's testimony I would like to report on the site activities since last summer's hearing; discuss other Formerly Used Defense Sites (FUDS) in the District, and, most importantly, offer EPA's judgment on the remaining health risks to the residents of Spring Valley. Let me address that last issue first:

The risk from buried munitions and chemical weapons at Spring Valley is real, but appears to be well contained. Some sites have been identified, but they are being cleaned up in a way that is protective of both the workers doing the removal action and the neighboring community.

The risk from arsenic contaminated soil is now very well characterized. While there is a limited amount of additional sampling that needs to take place, we can today say with confidence that nearly 90% of the homes in the Spring Valley neighborhood do not have elevated arsenic levels that present any significant long-term threat to human health. I can make that statement based on sampling that has taken place in people's yards and measured against a scientifically-based standard. In the cases where elevated levels of arsenic have been identified, we know how to clean up the properties and are putting into place a plan to conduct those cleanups in a worst-case first fashion. Homeowners have been notified and have been given advice about how to limit their exposure until the cleanups are completed. None of the levels presents an immediate threat to human health. Arsenic soil cleanup is required in these cases to eliminate the long-term threat that these soils pose if people were to be exposed to them for decades without remedial action. Soil cleanup of residential properties to address arsenic will begin next month.

In summary, the vast majority of residents of Spring Valley appear to be at no unacceptable risk due to World War I era chemical weapons work that took place in that neighborhood. Today there is still a substantial, highly site-specific risk at the ordnance disposal areas. And there is a long-term risk for about 10% of local homeowners because of arsenic-contaminated soils. That risk is only related to long-term exposure and cleanup of those properties will be underway shortly.

Status Report on EPA's Activities At Spring Valley Since Last July

On a number of important fronts, I can report today that progress at the site is moving ahead at a good pace.

Since last July the team, consisting of the Corps of Engineers, EPA and the District government, have worked diligently on a number of the issues that you specifically identified as weaknesses in the response actions at Spring Valley. Let me be specific:

- The Corps has conducted an extensive investigation and cleanup of a burial pit that it identified on Glenbrook Road. As of this spring, the Corps had found nearly 400 pieces of ordnance, 11 of which contained the chemical warfare agents mustard and lewisite; 60 glass bottles and 3 cylinders, 24 of which contained mustard agent, lewisite, and acids; 5 metal drums, and fragments of another 8 pieces of ordnance.
- Tons of contaminated soils in the Child Development Center have been removed, and the Korean Ambassador's residence work is virtually complete.
- Citizen involvement is much higher with the creation of the Restoration Advisory Board, and the partners value the RAB's input to the project. In addition, the team participates in periodic meeting with the general public.
- Over 1,300 properties in Spring Valley have been sampled for arsenic and other compounds, including 95% of the residential properties.
- Removal of soils on American University and for at least seven homes with high arsenic will be completed this Summer.
- The Corps has committed to conduct a ground water study and extensive further investigation of buried ordnance.

In short, the actual cleanup of hazards is moving ahead with vigor.

- Indeed, the amount of hazardous substances that have been removed in the last 11 months is roughly comparable to all of the materials that had been removed in the

previous eight years.

- The spotty communications with local residents has been replaced with an active citizen-led Restoration Advisory Board, a group that had just been formed when the subcommittee held its hearing last summer.
- In addition, the sometimes contentious relationship among the Corps, EPA and the District has been transformed into a partnership. We still have our disagreements, but the group is now better able to reach consensus on important policy issues. For example, on the difficult issue of deciding on a cleanup standard, we have reached agreement on 20 parts per million of arsenic, a standard that has been independently endorsed by the Mayor's Science Advisory Panel.

And importantly for the many people who live and work in the area, we are now nearing the completion of the arsenic sampling of every property in Spring Valley, an effort that had just begun a year ago. Almost 90% of the residential properties can now be declared free of any dangerous levels of arsenic. Fewer than a dozen homes have levels high enough to warrant quick removal, and that will be done in the next few months. The other residences with slight- to moderately-elevated arsenic levels will be remediated on a schedule that follows the higher risk cleanups.

Specific Examples of EPA's Recent Efforts at Spring Valley

EPA is providing continuing oversight of the Corps efforts and technical assistance to the partners. EPA has spent a substantial amount of effort to provide the public generally and the RAB specifically with information relevant to the site cleanup. EPA's Environmental

Photographic Interpretation Center (EPIC) continues to provide valuable insights to the project team, including digital correlation between historic operations and contemporary maps.

As an aside, let me also note that Delegate Norton was justifiably critical of EPA at last summer's hearing when I testified that the aerial photographic analysis done by EPIC in 1986 for the Army had not been shared with my hazardous sites cleanup staff in Region III until several years later. That obvious failure to effectively communicate among EPA offices has been rectified. EPIC no longer does independent contract work. Today any federal agency that would want to use EPIC's photographic interpretation expertise would have to go through either EPA Headquarters or the Regions. EPIC continues to provide important support to the overall Spring Valley effort, but now and in the future it is being done with our full knowledge.

Concerns have been raised about the quality of the data generated by the Corps and its contractors. Consequently, in the past year EPA has made a substantial effort to verify that the Corps' arsenic data is of acceptable quality. The quality assurance and quality control plans and lab procedures were reviewed by EPA's Environmental Science Center at Ft. Meade, Maryland, and found to be acceptable. Samples with known levels of arsenic were sent to the Corps' lab to test its accuracy and the lab passed the test. EPA collected split samples, analyzed them and performed a statistical analysis which showed that the Corps data was the same as EPA's within normal data variation limits.

EPA provided field oversight of Corps activities, performed reviews of important documents, and participated in project planning and partnering meetings.

EPA participated in community and RAB meetings, and provided the public and RAB members with substantial information on arsenic background levels, arsenic toxicity, and typical arsenic cleanup levels across the country. EPA provided information on EPA's soil sampling procedures under several different EPA guidance documents.

EPA developed draft comfort letters, draft warning letters and discussed EPA's plans to produce a registry of residential properties that have been remediated or did not need remediation. EPA also worked closely with the Corps to ensure continued access to specific properties in the neighborhood.

EPA coordinated with DC Health, the Corps, the Senior Environmental Review Group , the RAB and the Mayor's Science Advisory Panel to finalize the soil cleanup level of 20 ppm arsenic in soils for Spring Valley. EPA will work with the Corps and residents to allow flexibility of up to 43 ppm in the cleanup level at a few homes when it will minimize impacts on properties without reducing protectiveness.

EPA's Comments on the GAO Report

EPA has not seen the final GAO Report, so my comments on the Report are necessarily limited to the draft version we received over a month ago. We submitted comments to the GAO on the draft and I assume that those comments were either incorporated into the final report or included as an appendix, as is GAO's custom. Consequently, I will not go into detail on those items during my testimony today.

Generally we believe the draft report has done an excellent job presenting the substantive historical facts of this very complex and challenging site cleanup.

The GAO notes positively the important role of the robust partnership that now exists among the Corps, EPA and the District. As I noted earlier, we share that perspective, and believe that the partnering effort has allowed the cleanup to move ahead with both speed and thoroughness.

At the time of the draft report, the partners had not finalized our agreement on an arsenic cleanup level. That important decision has been made, and EPA is now confident that the cleanup level will be appropriately protective of human health. This critical part of the cleanup, the part in which EPA has the most expertise and experience, can now move ahead with a much greater degree of certainty. Spring Valley is perhaps the most carefully characterized neighborhood in the country, and the team now has a nearly complete roadmap as to what soils will need to be remediated and a scientifically-based priority listing for that phase of the cleanup effort.

I realize that there is no such thing as a "routine" cleanup of arsenic contaminated soils if they are on your property, but I can assure the subcommittee that the kind of soil remediation needed is the kind of work that we have extensive experience in dealing with. The technical difficulties in removing these kinds of soils are not great.

The identification, excavation and removal of ordnance-related items, however, is a different situation entirely. And in this regard, too, we are in agreement with the GAO draft

report. There are enormous uncertainties still in this phase of the cleanup work. As I have noted before, the Corps has the expertise in this challenging part of the cleanup. EPA and the District will continue to support this phase of the cleanup in part by working diligently to identify suspected ordnance disposal areas. Whereas the arsenic sampling is nearly complete and we have a pretty thorough idea about the scope of the contaminated soil problem, the team does not have the same level of certainty regarding ordnance, and the GAO is right to emphasize the uncertainty associated with this part of the overall effort. Additional caches may be discovered, and if they are, significant additional work will need to take place. And additional work, of course, means more time and money.

The good news is that we have a rigorous effort underway to identify any other burial pits, and the Corps has demonstrated its expertise in actually removing caches of old chemical munitions safely.

Finally, the GAO draft report discusses the statutory responsibility for the cleanup of this Formerly Used Defense Site. There is consensus among all the participants that it is the Department of Defense's responsibility to cleanup Spring Valley. And regardless of whether that cleanup would occur under the FUDS program authority or under EPA's superfund program authority, the Army would have primary responsibility for the cleanup effort and would have to pay for that effort.

Status of EPA Activities At Other FUDS In or Near DC

In addition to Spring Valley, there are dozens of other FUDS located within the District of Columbia. Of these, three are associated with the chemical weapons testing done at American University in the early 1920's, 25 are former forts designed to protect the capitol

during the Civil War, and one is associated with the manufacturing of ordnance. Information from our review effort continues to come in on these as well as for the remaining sites. We are finding that most of the remaining sites were used primarily for troop support and administration and which we believe pose little risk of contamination.

EPA has been working with the Corps of Engineers and the DC Department of Health to focus our efforts on those sites deemed high priority based on information from historical documents culled from the Corps of Engineers' files and national archives, previous studies and investigations completed by the District and the Corps, and aerial photographs from the time frames in question. We've also been working with the Navy Research Lab and the National Park Service on a site being investigated for possible usage as a disposal area for munitions from American University.

Currently, we have reviewed the entire FUDS list and have identified three sites that we believe should receive attention in the near future. These are: 1) The former Maloney Chemical Lab at Catholic University; 2) Diamond Ordnance Fuze Lab, and 3) C & O Canal near the Chain Bridge area. The Maloney and Diamond Ordnance sites have a history of potential contamination, and the C&O Canal site has been identified as a suspected ordnance burial location although no specific hazardous materials have been found there. Our review of the other FUDS continues as information is received from our file review effort, and in addition to the evaluation of past disposal practices, we are also considering other factors such as proximity of schools and population demographics in determining sites which may require additional investigation. Finally, we are reviewing information to locate the site of a one day test of chemical materials, referred to as the Conduit Road Field Test Site by old Army documents.

The Corps of Engineers has funded further investigative work at the Maloney Chemical Lab and is working with EPA and the District to develop a work plan for the sampling effort. Because the Corps reports that no additional Defense Environmental Restoration Program funding is currently available now or likely in the next year for the other two sites, EPA plans to take a larger role in investigating them. For example, we are reviewing the Preliminary Assessment and aerial photography for the former Diamond Ordnance Fuze Lab to determine the direction of site investigation work.

Conclusion

EPA believes that the Spring Valley cleanup is moving in the right direction, although this massive effort will take a substantial time to complete. EPA will continue to assist the partnership in the coming years of the project. EPA will also assist in the effort to investigate FUDS in the DC area.

I would also like to again acknowledge the work of the other organizations that have been involved in this cleanup effort. The Corps continues to commit substantial resources, expertise and effort to this extremely challenging project. The District of Columbia also deserves special praise. The research conducted by some of its staff both in the past and recently has given other team members extremely valuable new information. The work of various health experts such as the Agency for Toxic Substances and Disease Registry, the Mayor's Science Advisory Panel, and the District's Department of Health are also noteworthy.

Thank you for the opportunity to testify. I would be happy to answer any questions.

Mrs. MORELLA. Thank you, Mr. Voltaggio. Mr. Gordon, we look forward to hearing from you. I would like you all to know that your testimony in its entirety as presented to the committee will be in the record. I know time constraints have prevented you from reading all of it. Thank you.

Mr. GORDON. Good morning, Chairwoman Morella, Ranking Minority Member Norton and distinguished members of the subcommittee.

I am Theodore Gordon, I am the Senior Deputy Director for Public Health Assurance of the District of Columbia Department of Health. I am joined to my left by Dr. Lynette Stokes, who is the Chief of the Bureau of Hazardous Materials and Toxic Substances for the Department of Health.

Thank you for the opportunity to present testimony to the subcommittee this morning on our agency's role, its authority and its responsibilities in the effort to remediate buried munitions and other contaminants in the Spring Valley neighborhood and other formerly used Defense sites in the District of Columbia. My comments will focus on providing you an update of the work the District of Columbia Department of Health has completed in Spring Valley since your last hearing on this subject in July 2001.

But first I want to mention that the Department of Health has had an ongoing relationship with the representatives of the U.S. General Accounting Office [GAO], in order to be responsive to their questions as quickly as possible and provide as much information as we have available to the Department of Health.

As the Department of Health testified in July 2001, Mayor Anthony Williams assembled an independent group, the Spring Valley Scientific Advisory Panel, which includes seven specialists in the field of epidemiology, toxicology and environmental health, and members of the Spring Valley community. A Department of Health representative has contributed to each of the Spring Valley Scientific Advisory Panel meetings by presenting information or responding to panel recommendations. The Department has addressed each of the Panel's recommendations, received and will address those provided by the Scientific Advisory Panel meeting held on May 29, 2002.

The Department identified data gaps in our available information regarding issues in Spring Valley and acknowledged that additional data will be needed and collected to determine whether residents were exposed to elevated levels of arsenic in Spring Valley. We have followed the guidance from the Mayor's Scientific Advisory Panel and will respond to all future recommendations to address the concerns in the Spring Valley community.

The Department recognized the importance of the Scientific Advisory Panel's recommendations and requested further technical assistance from the Agency for Toxic Substances and Disease Registry to collect additional data, perform biomonitoring and exposure investigations of residents in Spring Valley.

As you are aware, the ATSDR provided similar technical assistance at the request of the Department of Health at the Child Development Center on the American University campus, where there was concern that children may have been exposed to arsenic contaminating the soil. The results of the ATSDR test indicate that

none of the children at the Child Development Center had been exposed to elevated levels of arsenic among the children who were currently enrolled at the Child Development Center.

The Department of Health and ATSDR met with community members to discuss the proposed exposure investigation in Spring Valley. We invited the community's participation at the very beginning to ensure that Spring Valley residents understood the objectives of the investigation and its limitations. We publicized the community meetings in our Spring Valley newsletter and have provided these newsletters, which are also posted on our Web site.

We have also provided the internet address for the most recent information about health effects associated with arsenic exposure. The Department of Health recognizes that the community must have a clear understanding of each step of the process. While we investigate the potential exposure to contaminants in Spring Valley, we will continue this process by meeting with the community and providing information to the residents of Spring Valley as we obtain it.

For the sake of time, Congresswoman, that summarizes my testimony. I would just like to add a few comments. And that is, I would like to really commend Dr. Bailus Walker, who is the chairman of the Mayor's Scientific Advisory Panel. He has done, in my opinion and in the opinion of other scientists and clinicians in the Department of Health a truly outstanding job in leading us and assisting us with the science, the engineering, in helping move forward to assure this community that what we're doing is right and correct, based on solid science and engineering. It has proved very beneficial to the Department of Health.

In closing, I would just say that our relationship with the Corps of Engineers, ATSDR and EPA has been, I guess the word I would use is superlative, in our working relationship. We look forward to continuing as we bring this matter to closure in the future. Thank you.

[The prepared statement of Mr. Buford, as presented by Mr. Gordon, follows:]

Testimony of
James Buford
Interim Director
District of Columbia Department of Health

Hearing On Spring Valley – US General Accounting Office Report
Capitol Subcommittee On The District of Columbia
Committee on Government Reform
House of Representatives
June 26, 2002
Washington, D.C.

GOOD MORNING CHAIRWOMAN MORELLA, RANKING MINORITY MEMBER NORTON, AND DISTINGUISHED MEMBERS OF THE SUBCOMMITTEE.

I AM JAMES BUFORD, INTERIM DIRECTOR OF THE DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH (DOH). I AM JOINED BY THEODORE GORDON, SENIOR DEPUTY DIRECTOR FOR PUBLIC HEALTH ASSURANCE. THANK YOU FOR THE OPPORTUNITY TO PRESENT TESTIMONY TO THE SUBCOMMITTEE THIS MORNING ON MY AGENCY'S ROLE, ITS AUTHORITY AND ITS RESPONSIBILITIES IN THE EFFORT TO REMEDIATE BURIED MUNITIONS AND OTHER CONTAMINANTS IN THE SPRING VALLEY NEIGHBORHOOD AND OTHER FORMERLY USED DEFENSE SITES IN THE DISTRICT OF COLUMBIA. MY COMMENTS WILL FOCUS ON PROVIDING YOU AN UPDATE OF THE WORK THE DISTRICT OF COLUMBIA DEPARTMENT OF HEALTH HAS COMPLETED IN SPRING VALLEY SINCE YOUR LAST HEARING ON THIS SUBJECT IN JULY OF 2001. BUT FIRST I WANT TO MENTION THAT THE DOH HAS HAD AN ONGOING WORKING RELATIONSHIP WITH THE REPRESENTATIVES OF THE US GOVERNMENT ACCOUNTING OFFICE (GAO) IN ORDER TO BE AS RESPONSIVE TO THEIR QUESTIONS AS POSSIBLE, AND PROVIDE AS MUCH INFORMATION AS WE HAVE AVAILABLE TO THE DOH.

AS THE DEPARTMENT OF HEALTH TESTIFIED TO IN JULY OF 2001, MAYOR ANTHONY WILLIAMS ASSEMBLED AN INDEPENDENT GROUP, THE SPRING VALLEY SCIENTIFIC ADVISORY PANEL, WHICH INCLUDES SEVEN SPECIALISTS IN THE FIELDS OF EPIDEMIOLOGY, TOXICOLOGY AND ENVIRONMENTAL HEALTH, AND MEMBERS OF THE SPRING VALLEY COMMUNITY.

A DEPARTMENT OF HEALTH REPRESENTATIVE HAS CONTRIBUTED TO EACH OF THE SPRING VALLEY SCIENTIFIC ADVISORY PANEL MEETINGS BY PRESENTING INFORMATION OR RESPONDING TO PANEL RECOMMENDATIONS. THE DEPARTMENT HAS ADDRESSED EACH OF THE PANEL'S RECOMMENDATIONS AND THE SPECIFIC ACTIONS THE DEPARTMENT OF HEALTH TOOK TO IMPLEMENT THEM ARE ATTACHED TO THIS WRITTEN TESTIMONY.

THE DOH IDENTIFIED DATA GAPS IN OUR AVAILABLE INFORMATION REGARDING THE ISSUES IN SPRING VALLEY AND ACKNOWLEDGED ADDITIONAL DATA NEEDED TO BE COLLECTED TO DETERMINE WHETHER RESIDENTS WERE EXPOSED TO ELEVATED LEVELS OF ARSENIC IN SPRING VALLEY. WE HAVE FOLLOWED THE GUIDANCE FROM THE MAYOR'S SCIENTIFIC ADVISORY PANEL AND EXPECT TO RESPOND TO ADDITIONAL RECOMMENDATIONS FROM THE MOST RECENT PANEL MEETING HELD IN MAY OF 2002.

THE DEPARTMENT RECOGNIZED THE IMPORTANCE OF THE SCIENTIFIC ADVISORY PANEL'S RECOMMENDATIONS, AND REQUESTED FURTHER TECHNICAL ASSISTANCE FROM THE AGENCY FOR TOXIC SUBSTANCES & DISEASE REGISTRY (ATSDR) TO COLLECT ADDITIONAL DATA AND PERFORM "BIO-MONITORING" (AN EXPOSURE INVESTIGATION) OF RESIDENTS IN SPRING VALLEY. AS YOU ARE AWARE, THE ATSDR

PROVIDED SIMILAR TECHNICAL ASSISTANCE AT THE REQUEST OF THE DOH AT THE CHILD DEVELOPMENT CENTER ON AMERICAN UNIVERSITY'S CAMPUS WHERE THERE WAS CONCERN THAT CHILDREN MAY HAVE BEEN EXPOSED TO ARSENIC CONTAMINATED SOIL. THE RESULTS OF THE ATSDR'S TESTS INDICATED THAT NONE OF THE CHILDREN AT THE CHILD DEVELOPMENT CENTER HAD BEEN EXPOSED TO ELEVATED LEVELS OF ARSENIC AMONG CHILDREN WHO WERE CURRENTLY ENROLLED AT THE CHILD DEVELOPMENT CENTER.

DOH AND ATSDR MET WITH COMMUNITY MEMBERS TO DISCUSS THE PROPOSED EXPOSURE INVESTIGATION IN SPRING VALLEY. WE INVITED THE COMMUNITY'S PARTICIPATION AT THE VERY BEGINNING TO ENSURE THAT SPRING VALLEY RESIDENTS UNDERSTOOD THE OBJECTIVES OF THE INVESTIGATION AND ITS LIMITATIONS. WE PUBLICIZED THE COMMUNITY MEETING IN OUR SPRING VALLEY NEWSLETTER AND HAVE PROVIDED THESE NEWSLETTERS, WHICH WERE ALSO POSTED, ON OUR WEB SITE. WE HAVE ALSO PROVIDED THE INTERNET ADDRESS FOR THE MOST RECENT INFORMATION ABOUT THE HEALTH EFFECTS ASSOCIATED WITH ARSENIC EXPOSURE. THE DOH RECOGNIZES THAT THE COMMUNITY MUST HAVE A CLEAR UNDERSTANDING OF EACH STEP IN THE PROCESS WHILE WE INVESTIGATE THE POTENTIAL EXPOSURE TO CONTAMINANTS IN SPRING VALLEY. WE WILL CONTINUE THIS PROCESS BY MEETING WITH THE COMMUNITY AND PROVIDING INFORMATION TO THE RESIDENTS OF SPRING VALLEY AS WE OBTAIN IT.

FOLLOWING OUR COMMUNITY MEETING WITH SPRING VALLEY RESIDENTS, WE REQUESTED THAT RESIDENTS PARTICIPATE IN AN EXPOSURE INVESTIGATION TO COLLECT BIOLOGICAL SAMPLES FOR TESTING TO DETERMINE WHETHER THEY HAD

BEEN EXPOSED TO ELEVATED LEVELS OF ARSENIC BY ABSORPTION THROUGH THEIR SKIN, OR INGESTION OR INHALATION.

THE ATSDR SUPPORTED THE DOH'S REQUEST FOR TECHNICAL ASSISTANCE AND WE COORDINATED OUR EFFORTS TO PROVIDE FURTHER INFORMATION ON POTENTIAL EXPOSURE TO ARSENIC CONTAMINATION. THE INITIAL REVIEW OF WHICH RESIDENTIAL AREAS TO INCLUDE IN THE EXPOSURE INVESTIGATION WAS DETERMINED FROM A REVIEW OF MAPS THAT IDENTIFIED WHERE THE HIGHEST LEVELS OF ARSENIC IN SOIL WERE LOCATED. IN ADDITION, PREFERENCE WAS GIVEN TO PROPERTIES WITH SMALL CHILDREN. THE OBJECTIVE WAS TO DETERMINE WHETHER THERE WAS ELEVATED LEVELS OF ARSENIC EXPOSURE AMONG RESIDENTS WITH THE HIGHEST ARSENIC CONTAMINATION ON THEIR PROPERTY BECAUSE WE BELIEVED THESE FAMILIES WERE AT THE HIGHEST RISK OF EXPOSURE. THE MAYOR'S SCIENTIFIC ADVISORY PANEL RECOMMENDED THAT WE COLLECT BIOLOGICAL SAMPLES FROM SPRING VALLEY RESIDENTS INCLUDING CHILDREN AS SOON AS POSSIBLE, AND DURING THE SUMMER MONTHS WHEN INDIVIDUALS ARE EXPECTED TO SPEND MORE TIME OUTDOORS. WE COMPLETED THE INITIAL COLLECTION OF BIOLOGICAL SAMPLES FROM SPRING VALLEY RESIDENTS IN MARCH OF 2002. THE INITIAL RESULTS SUGGESTED THAT SPRING VALLEY RESIDENTS HAVE NOT BEEN EXPOSED TO ARSENIC FROM CONTAMINATED SOIL ON THEIR PROPERTY. HOWEVER, THE ADDITIONAL COLLECTION OF BIOLOGICAL SAMPLES HAS NOT BEEN COMPLETED DURING THE SUMMER MONTHS, BUT WE EXPECT TO COMPLETE THESE BY COORDINATING WITH ATSDR THIS SUMMER. ONE OF THE CHALLENGES THE DOH FACES INVOLVES DESCRIBING THE SOMETIMES COMPLICATED CONCEPTS OF HOW CONTAMINATION IN THE SOIL RELATES TO HUMAN EXPOSURE AND HOW WE DETERMINE WHETHER PEOPLE HAVE RECEIVED AN AMOUNT

OF EXPOSURE THAT POSES A HEALTH RISK. IN ORDER TO HELP EDUCATE THE CONCERNED RESIDENTS, COMMUNITY MEMBERS, REPRESENTATIVES FROM THE RESTORATION ADVISORY BOARD AND OTHERS, THE DOH REQUESTED THAT THE ATSDR OFFER TRAINING ON THE PRINCIPLES USED TO DETERMINE HOW ENVIRONMENTAL DATA AND HEALTH OUTCOME DATA ARE USED TO:

- IDENTIFY ACTUAL EXPOSURES TO CHEMICALS AND OTHER CONTAMINANTS
- ASSESS REAL OR PERCEIVED SITE-RELATED HEALTH PROBLEMS
- RECOMMEND FOLLOW-UP ACTIONS
- RECOMMEND MEASURES TO STOP OR PREVENT EXPOSURE

THE DOH ALONG WITH ATSDR HAS HELD "FOCUS GROUP" DISCUSSIONS TO IDENTIFY THE COMMUNITIES CONCERNS AND TO HELP DETERMINE THE TYPE OF EDUCATION NEEDED FOR SPRING VALLEY RESIDENTS. THE DOH WILL EXPAND OUR OUTREACH AND EDUCATION OF THE SPRING VALLEY COMMUNITY TO PROVIDE MORE INFORMATION ON THE POTENTIAL HEALTH EFFECTS FROM ARSENIC.

IN ADDITION, THE DOH WILL ADDRESS ALL DISEASES THE COMMUNITY HAS CONCERNS ABOUT AND REVIEW THEIR POTENTIAL ASSOCIATION WITH ARSENIC EXPOSURE. WE WILL ALSO SUBMIT TO THE MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL THE VARIOUS DISEASES AND CONDITIONS REPORTED BY RESIDENTS FOR THE PANEL TO REVIEW.

THE DOH HAS REVIEWED, ALONG WITH OUR PARTNERS, ALL RESULTS FROM THE SOIL SAMPLING AND EXCAVATION OF PROPERTIES WITHIN SPRING VALLEY AND CONTINUES TO REVIEW ALL PLANS FOR ADDITIONAL GEOPHYSICAL SURVEYS WHERE OTHER

BURIED MUNITIONS MAY BE LOCATED. THE EPA HAS RECOMMENDED A SITE-SPECIFIC CLEAN-UP LEVEL IN SPRING VALLEY WHERE ARSENIC CONCENTRATIONS IN SOIL GREATER THAN 20 PPM BE REMOVED. THE DOH AND THE MAYOR'S SCIENTIFIC ADVISORY PANEL AGREE WITH EPA'S RECOMMENDATION.

OUR REVIEW OF INFORMATION REGARDING OTHER FORMERLY USED DEFENSE SITES WITHIN THE DISTRICT IS CONTINUING. UNDER THE DEFENSE/DISTRICT MEMORANDUM OF AGREEMENT (DDMOA) SIGNED IN MAY 1994, DOH IS RESPONSIBLE FOR REVIEWING AND COMMENTING ON SITE-SPECIFIC INFORMATION PROVIDED TO US BY THE APPROPRIATE MILITARY SERVICE. FOR FUDS, THE APPROPRIATE MILITARY SERVICE IS THE CORPS OF ENGINEERS. AS THE CORPS ADDRESSES EACH FUDS AND PROVIDES REPORTS AND OTHER DOCUMENTS TO THE DOH, A REVIEW IS CONDUCTED TO ENSURE THAT THE WORK BEING DONE AT THE SPECIFIC SITE IS BEING CONDUCTED ACCORDING TO DISTRICT LAWS AND REGULATIONS AND THAT IT IS PROTECTIVE OF THE PUBLIC HEALTH AND SAFETY. DOH STAFF MEETS WITH CORPS REPRESENTATIVES, ATTENDS TECHNICAL MEETINGS, CONDUCTS SITE VISITS IN CONJUNCTION WITH THE CORPS, AND PARTICIPATES IN ANY PUBLIC MEETINGS THAT MIGHT BE HELD FOR EACH OF THE SITES. AS PART OF THE DDMOA, THE DEPARTMENT OF DEFENSE HAS PROVIDED A LIST OF FUDS WITHIN THE DISTRICT. THE LIST OF FUDS CONSISTS OF A TOTAL OF THIRTY-TWO SITES, INCLUDING SPRING VALLEY. TWENTY-TWO OF THESE SITES BELONG TO WHAT IS KNOWN AS THE "CIRCLE OF FORTS", CIVIL WAR EMPLACEMENTS THAT WERE PART OF THE DEFENSIVE STRUCTURE OF THE DISTRICT DURING THAT WAR. THEY INCLUDE SUCH SITES AS FORT DUPONT, FORT BUNKER HILL, FORT TOTTEN, FORT RENO, FORT STEVENS AND OTHERS. THE CORPS HAS NOT YET ADDRESSED THESE SITES.

DURING THE JULY 2001 CONGRESSIONAL HEARING THREE FUDS WERE MENTIONED AS SITES IN THE DISTRICT WHERE THERE MAY BE CONTAMINATION. THEY ARE CAMP SIMMS, CATHOLIC UNIVERSITY AND THE UNIVERSITY OF THE DISTRICT OF COLUMBIA.

CAMP SIMMS IS A FORMER NATIONAL GUARD FACILITY IN SOUTHEAST WASHINGTON. THE NATIONAL PARK SERVICE CURRENTLY OPERATES A PORTION OF THIS SITE, AND THE REST HAS BEEN TRANSFERRED TO THE CONTROL OF THE DISTRICT OF COLUMBIA. IN THE 1990'S, THE CORPS OF ENGINEERS DID EXTENSIVE SURVEYS OF THIS AREA AND DECLARED THAT NO FURTHER ACTION WAS NEEDED. HOWEVER, AFTER MAYOR WILLIAMS ANNOUNCED THAT THE DISTRICT PORTION OF THE PROPERTY WOULD BE DEVELOPED INTO A SHOPPING CENTER AND RESIDENTIAL DEVELOPMENT, DOH BECAME CONCERNED THAT MUNITIONS REMAIN AT THE SITE. THIS CONCERN WAS BASED ON CREDIBLE INFORMATION THAT AMMUNITION AND RIOT CONTROL AGENT WERE BURIED AT THE SITE. LAST YEAR, AT OUR REQUEST, THE CORPS REVIEWED THE GEOPHYSICAL INFORMATION THAT THEY HAD COMPILED EARLIER AND DECIDED TO INTRUSIVELY CONDUCT A SUBSURFACE INVESTIGATION OF OVER 90 ANOMALIES. THIS INVESTIGATION CONCLUDED THAT THERE WAS NO BURIED ORDNANCE REMAINING ON THE PROPERTY. THE CORPS HAS ALSO, AT THE REQUEST OF THE DISTRICT'S DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT, CONDUCTED A FOCUSED SITE INVESTIGATION TO DETERMINE IF ANY CHEMICAL CONTAMINATION REMAINED ON THE SITE. THIS INVESTIGATION HAS CONCLUDED THAT THERE IS MINIMAL CONTAMINATION THAT WILL NOT POSE ANY POTENTIAL ADVERSE HEALTH EFFECTS. HOWEVER, IN OUR REVIEW OF THE REPORT ON THIS INVESTIGATION, WE DISCOVERED THAT A SMALL EXPLOSION HAD OCCURRED WHILE FIELD PERSONNEL WERE DIGGING A MONITORING WELL. SMOKE AND SOIL WERE BLOWN FROM THE WHOLE, BUT

FORTUNATELY NO ONE WAS HURT. EVEN THOUGH THE CORPS INVESTIGATED THIS EXPLOSION AND CONCLUDED THAT AN ORDNANCE DEVICE WAS NOT THE CAUSE, THEY WERE NOT ABLE TO CONCLUSIVELY DETERMINE WHAT CAUSED THE EXPLOSION. THEREFORE, WE HAVE ASKED THE CORPS TO CONDUCT A SUBSURFACE INVESTIGATION OF THIS ONE AREA TO ENSURE THERE IS NOTHING BURIED THAT COULD POSE A HAZARD DURING OR AFTER CONSTRUCTION.

AT CATHOLIC UNIVERSITY, DOH HAS MET WITH STAFF FROM THE UNIVERSITY, ALONG WITH REPRESENTATIVES FROM EPA AND THE CORPS, REGARDING POTENTIAL CONTAMINATION OF THE CAMPUS FROM PREVIOUS WWI ACTIVITIES. DOH HAD BEEN CONCERNED ABOUT THIS SITE BECAUSE OF THE REPORTED BURIAL OF CHEMICAL WARFARE AGENTS BEHIND THE MALONEY CHEMICAL LABORATORY ON THE CAMPUS. IN ORDER TO ADDRESS THIS SITE, EPA ENLISTED THE ASSISTANCE OF ITS ENVIRONMENTAL PHOTOGRAPHIC INTERPRETATION CENTER (EPIC). EPIC PRODUCED A SURVEY OF AERIAL PHOTOGRAPHS FROM THE WWI ERA THROUGH THE PRESENT. BASED ON A SITE VISIT THAT WAS CONDUCTED BY THE PROJECT PARTNERS (DOH, EPA, CORPS) ON MARCH 19, 2002 AND REVIEW OF EPIC'S SURVEY, THE PARTNERS DETERMINED THAT MORE INFORMATION WAS NEEDED BEFORE AN INFORMED DECISION COULD BE MADE ABOUT THE NEXT STEPS TO TAKE IN THIS INVESTIGATION. CATHOLIC UNIVERSITY GRANTED EPA PERMISSION TO REVIEW UNIVERSITY ARCHIVES, AND THE PARTNERS ARE STILL ANAYLZING THIS INFORMATION. DOH BELIEVES THAT THERE IS NO IMMINENT DANGER ON THE CAMPUS OF CATHOLIC UNIVERSITY.

THE UNIVERSITY OF THE DISTRICT OF COLUMBIA (UDC) IS THE SITE THAT WAS ONCE OCCUPIED BY THE NATIONAL BUREAU OF STANDARDS AND AN AGENCY KNOWN AS

THE DIAMOND ORDNANCE FUZE LABORATORY. THE FUZE LABORATORY IS ON THE LIST OF FUDS THAT THE DEPARTMENT OF DEFENSE PROVIDED TO DOH. DOH BECAME CONCERNED ABOUT THIS SITE BECAUSE OF ANECDOTAL INFORMATION THAT AT LEAST ONE ORDNANCE ITEM WAS DISCOVERED DURING THE CONSTRUCTION OF THE ENGINEERING BUILDING AT UDC. DOH HAS ASKED THE CORPS OF ENGINEERS TO INVESTIGATE THIS FACILITY. EPA-REGION III HAS BEEN ABLE TO PROVIDE FUNDING TO CONDUCT A PRELIMINARY ASSESSMENT OF THE SITE AND HAS RECOMMENDED THAT FURTHER INVESTIGATION BE DONE. EPIC HAS ALSO COMPLETED A SURVEY OF AERIAL PHOTOGRAPHS OF THE SITE, WHICH IS CURRENTLY UNDER REVIEW BY THE PARTNERS. UNFORTUNATELY, NO FURTHER INVESTIGATION CAN BE DONE AT THIS SITE UNTIL FURTHER FUNDING BECOMES AVAILABLE.

CONCLUSIONS

IN SUMMARY, THE DEPARTMENT OF HEALTH HAS ESTABLISHED AND MAINTAINED A WORKING RELATIONSHIP WITH THE ARMY CORPS OF ENGINEERS AND THE US ENVIRONMENTAL PROTECTION AGENCY, AND HAS SUCCESSFULLY REQUESTED AND RECEIVED TECHNICAL ASSISTANCE FROM THE AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY. THE MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL HAS CONSISTENTLY PROVIDED ADVICE THAT MAINTAINS THE DEPARTMENT OF HEALTH'S STRONG COMMITMENT TO ADDRESS ANY REAL OR PERCEIVED RISK FROM ENVIRONMENTAL CONTAMINANTS IN SPRING VALLEY. THE DEPARTMENT OF HEALTH HAS FOLLOWED ITS PLAN TO IDENTIFY EXISTING DATA AND COLLECT ADDITIONAL INFORMATION TO DETERMINE WHETHER RESIDENTS IN SPRING VALLEY HAVE BEEN EXPOSED TO CONTAMINANTS THAT WILL INCREASE THEIR RISK OF DISEASE OR DYSFUNCTION.

I INVITE ANY QUESTIONS YOU MAY HAVE CONCERNING THE WORK OF THE DEPARTMENT OF HEALTH OR MY TESTIMONY.

THANK YOU AGAIN FOR THE OPPORTUNITY TO PARTICIPATE IN THE SUBCOMMITTEE'S OVERSIGHT HEARING.

District of Columbia Department of Health

Response to:
Mayor's Spring Valley Scientific Advisory Panel Recommendations

Recommendation

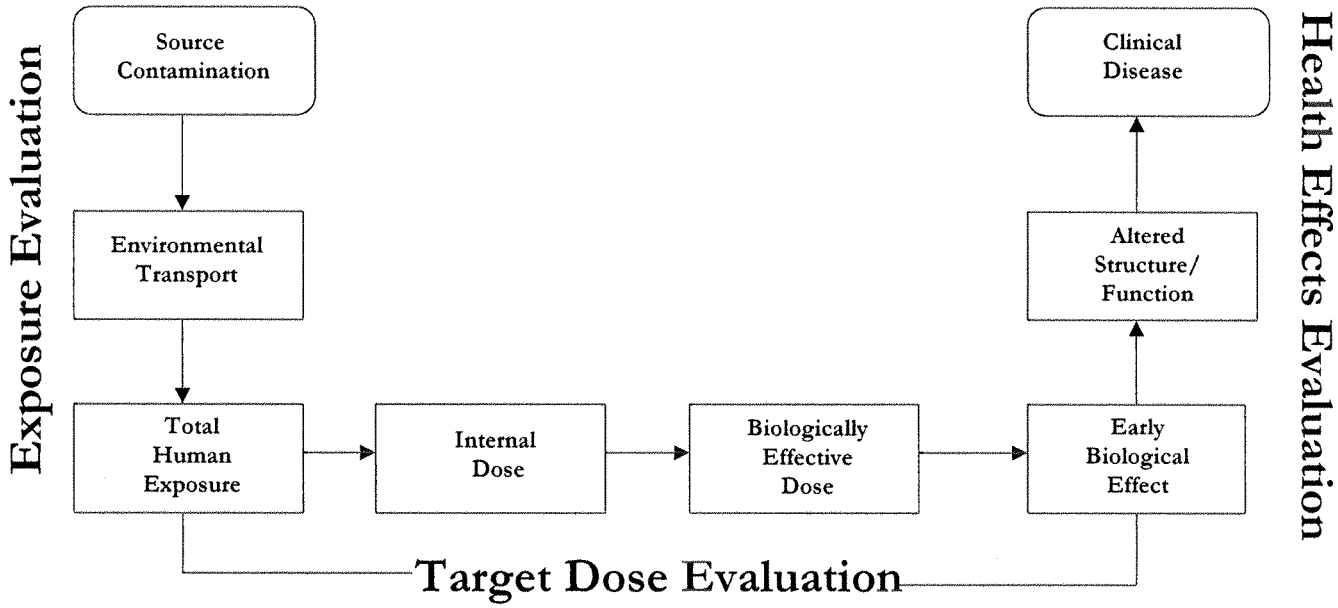
Department of Health should develop a comprehensive plan. The main objective of the plan is to address concerns about exposure to and the health effects of contaminants in the Spring Valley Community.

<u>Response</u>
The panel's recommendations have been added to our plan

Our plan is based on the standard model for relating environmental contamination with clinical disease

The District has identified data that is available for some aspects of the model.

Continuum for Relating Environmental Contamination with Clinical Disease



Environmental Assessment Components

Exposure Evaluation	Data Available	Data Not Available
Source of Contamination	X	
Environmental Transport (Pathway of Exposure)	X	
Total Human Exposure		X

Target Dose Evaluation	Data Available	Data Not Available
Internal Dose		X
Biologically Effective Dose		X

Health Effects Evaluation	Data Available	Data Not Available
Early Biological Effect		X
Altered Structure/Function		X
Clinical Disease	X	

Recommendation

Department of Health should conduct additional biomonitoring (hair analysis) in neighborhoods where families reside in close proximity to "hot spots" of arsenic in soil.

<u>Response</u>
DOH and ATSDR collaborating

Recommendation

Department of Health should select a different community for the purpose of comparing cancer incidence and mortality in Spring Valley.

<u>Response</u>
DOH is using Maryland cancer registry data and has selected a different control community (Potomac, Maryland).

Recommendation

The District in collaboration with other Agencies should develop an approach to risk communication:

The interpretation and translation of all environmental and health related data collected relevant to the Spring Valley Community.

<u>Response</u>
Collaboration with all agencies

Mrs. MORELLA. Thank you, Mr. Gordon. Mr. Theodore Gordon talked, as the others did, about the wonderful partnerships that evidently have been established in eradicating the Spring Valley problem of contaminated sites.

Now for the questioning, I'll try to confine each of us to about 5 minutes. We can go several rounds, and make it far more equitable.

I'd like to start off with GAO. After reading your report, Mr. Wood, it's clear that your agency has done a good job in making detailed observations concerning the Spring Valley site. But the subcommittee would like to know, however, that beyond just your observations, which we see in your report, what are your recommendations? I don't see any recommendations here.

Mr. WOOD. Madam Chairwoman, as with any project that we undertake, we always try to remain alert to the possibility of recommendations and in fact, if they are warranted, make them. One of the limitations of this study is that it's a review of a single site. What characterizes our work more is programmatic reviews of broad programs.

As I mentioned in my opening statement, we do have work underway looking at the decisionmaking process that the Corps uses at sites nationwide. That report will be coming out within the next 2 months. I can assure you, to the extent they are warranted, it will contain recommendations.

Mrs. MORELLA. Let me also ask you about the report, that in 1986, the Army searched records and reviewed photographs to locate those spots. They concluded that there was no evidence of large scale burials at the site. Of course, we've all talked about in 1993 they found it, and in 1996. Have you seen that report? Have you read that report in 1986?

Mr. WOOD. We have the report, yes, ma'am.

Mrs. MORELLA. You do have it?

Mr. WOOD. Yes.

Mrs. MORELLA. I would like to have this subcommittee have an opportunity to see that report.

Mr. WOOD. No problem. We can provide that.

Mrs. MORELLA. OK, so you do have that report. Who owned that Glenbrook Road property?

Mr. WOOD. Who owned that property in 1986?

Mrs. MORELLA. Yes, in 1986. I think AU was asking for the Army to comment or to review and study that area. Something flubbed up at that point. Did you notice that at all?

Mr. WOOD. The Army's study was actually initiated by the American University.

Mrs. MORELLA. AU, right.

Mr. WOOD. Who was planning to embark on some construction work. The Army contracted with the EPA photographic lab to do that photographic analysis. All of these events happened in 1986, but I think it was at the end of the year when the final results of the Army study were transmitted back to AU.

Mrs. MORELLA. What I'm wondering, as you can tell, is was there any responsibility in 1986 for not knowing, not being able to clearly reflect the fact that there were problems at this site?

Mr. WOOD. The question of disclosure and the obligation to disclose is a matter that we didn't undertake specifically, because there are currently cases in litigation where that is the central element. The GAO policy generally is to not undertake work if it could possibly influence ongoing litigation.

But the issue that you raise is actually the subject of this report that I referred to that will be coming out. The Corps didn't use quite the same process then that they use now, and the terminology is different. But in essence, the 4,000 sites that are the subject of a report that will be coming out are those that the Corps concluded there was no need to clean up the site, based on what they now call a preliminary assessment for eligibility. And it's basically a review of documentation, a site visit, interviews with current owners. It doesn't include typically any kind of sampling of environmental media, like soil or water sampling. And it's that very process that is the subject of our upcoming report.

Mrs. MORELLA. I look forward to seeing that report, or having you comment to us about it. Can you tell me what the status is of the EPA's criminal investigation?

Mr. WOOD. We checked with the criminal investigation division of the EPA, that's the unit of their enforcement office. We checked a few weeks ago, and at that time, they planned to have a final report by the end of May. Now, they haven't let us know that investigation is complete. Typically the outcome of that investigation would be a decision to either refer a matter to the Justice Department if they think there is evidence that an environmental law has been broken, with a criminal implication, or not.

Mrs. MORELLA. That was the end of May, and this is the end of June.

Mr. WOOD. Yes, ma'am.

Mrs. MORELLA. So perhaps we can get an update, maybe EPA can update us on the status.

Mr. VOLTAGGIO. Congresswoman, I would be happy to pass this question up to the criminal investigation office in EPA. I have no direct knowledge in this area. I would be happy to work with your staff.

Mrs. MORELLA. Thank you. I also understand, I don't know whether this would be GAO, I think probably so, when we had our last hearing, we also had heard just a few days before that American University had filed a suit. I haven't heard anything more about it, have you? Does anybody know what the status is?

Mr. WOOD. The claims that we are aware of that are in litigation right now are I believe all from individual homeowners. I don't think we're aware of any involving AU.

Mrs. MORELLA. Somehow it has all disappeared. I remember it had been filed.

Mr. WOOD. There had been a number of counterclaims in some of these suits. So it may be that AU is involved in one of the counterclaims.

Mrs. MORELLA. I guess I would then look to maybe Colonel Fiala, although I notice my time is up. Let me defer to the ranking member and get back to you.

Ms. NORTON. Thank you, Mrs. Morella. Mr. Wood, how likely do you believe it is that this site could be finally cleaned up within 5 years?

Mr. WOOD. I don't think I have any better crystal ball than anybody else. We tried to make clear in our report, there's an awful lot of uncertainty associated with that estimate, not only the physical uncertainty of not knowing what's buried there, but also, it assumes a steady funding stream of something on the order of $11 million a year.

Ms. NORTON. Assume that for a moment, assume the funding stream.

Mr. WOOD. If the funding stream is there, I would have to say, I don't have a basis for knowing whether or not that would lead to the cleanup or not, because of the other uncertainties.

Ms. NORTON. So you don't believe we have a good fix on how, and I'd want anyone else to jump in here, on the amount of contamination yet, so that no judgment can be made on the reliability of the 5-year time line? Would somebody else care to comment?

Colonel FIALA. I will comment on that. No. 1, we do know a lot more than we did last year. We do know that 160 properties contain some level of arsenic contaminated soil. And we have a plan, pending a 5-year funding stream, to remove that, based on their various risks. We work that with the community and our other partners.

Second, we have about 200 areas of concern that we will go back and look at for possible ordnance burial areas. And the first 50 of those have been prioritized, based on risk and other factors, in conjunction with our partners, in conjunction with the community. And we will start work on those later this fiscal year.

The uncertainty that we talk about is as you go through the process of looking at these various areas of concern and you get into a large pit, burial pit of ordnance, that stretches the time out, that stretches the cost of cleanup out. Just like for example, the Glenbrook pit that we found last year, we are in the midst of continuing the work there, temporarily stopping because of access to the adjacent property that we're working through. But that takes time, and that takes resources.

So for us to look at the crystal ball and say, we'll be done in 5 years, you've got to make assumptions on how much if any are we going to find at these other 200 areas of concern. And that's difficult to make.

Ms. NORTON. So do you agree or disagree with the 5-year estimate?

Colonel FIALA. I'm saying, with the information we know right now, 5 years is a reasonable time line.

Ms. NORTON. We can't ask you to know what you know now and to do more than estimate based on what you know now.

I guess it is Deputy Secretary Fatz, I was a little concerned, in your testimony, when you indicated concerning how you decide on priorities, if I recall correctly, I tried to write it down, that you look at the balance between the national program priorities and Spring Valley. We've already had testimony that Spring Valley, this is a city, not a remote location. Spring Valley ranks among the 10, it's

not only a residential neighborhood, it's a densely populated residential neighborhood.

I would like to know what priority Spring Valley has with you, given those factors. The notion of balance, especially given the fact that FUDS don't tend to be located, so far as I know, in such neighborhoods, concerns me.

Mr. FATZ. We have demonstrated through our funding, particularly in the last couple of years, that this is the highest priority in the FUDS program. In 2001, we had program dollars and we added an additional $4 million in 2001. In 2002, at mid-year, we recognized the burial pit and the arsenic sampling must continue together, and we added an additional $5.2 million at that time.

One of the best things we can do for a program like this, to help Colonel Fiala and his team, is to have a consistent level of funding. So in our FUDS guidance for the next 5 years, we have programmed out $11 million for each year.

Ms. NORTON. I very much appreciate your stating this top priority. I think when the community hears that in the balance that Spring Valley will not be outranked, that's very important for the stability of the neighborhood and for whatever we can do to take uncertainty out of the picture for the community. I see my time is up, Madam Chair.

Mrs. MORELLA. The question I would ask all of you, are the residents and those who work in Spring Valley safe? Everyone is pausing to respond to that. Would you like to start it off, Mr. Wood?

Mr. WOOD. I think that's certainly the question that everyone would like to know the answer to. And I don't have a direct answer, I'll just be up front about that. I would say that based on the work that we've done, if I were a resident there, and I am a resident of the District of Columbia, I guess I would take the most comfort from know that there's a good institutional framework in place, including the Mayor's Advisory Panel, to give the best advice, to make sure that as health risks are identified, that they're dealt with as quickly as possible.

Mrs. MORELLA. Mr. Fatz.

Mr. FATZ. I believe that Spring Valley is a safe place to live. And as Mr. Wood said, it is our obligation to move quickly when there is a risk identified, particularly on the buried munitions. We have shown that in the last year, that we've done more there than, as our EPA colleague has stated, in the previous 8 years.

Mrs. MORELLA. Colonel Fiala.

Colonel FIALA. Ma'am, we consider Spring Valley to be a safe residential neighborhood. We have issues with munitions and arsenic in the soil, as I testified. We have a good handle on the extent of arsenic contamination across the community. We know where the high risks are, and we are communicating those risks with EPA, with our partners and to the community and the residents.

In addition, while we don't know the extent of buried munitions, we have a good idea of areas of concern. Nowhere has there been any reports of injuries related to munitions in Spring Valley. So the overall feeling of the team is that it does not pose imminent risk.

Mrs. MORELLA. Mr. Voltaggio.

Mr. VOLTAGGIO. Yes. Let me add to that, without repeating, because I do agree with the statements of the gentleman to my right,

but in addition to that, it is probably the best characterized neighborhood in the country. Every residential property and every nonresidential property has been sampled, 95 percent complete, but it will be totally completed soon. And as a result of that, people know what the contamination level is, if any, in their homes. That to me makes it safer than most anyone else's home where such sampling has not happened.

In my own home, I have no idea what the levels are. It was built on an orchard. Perhaps there is contamination there, perhaps there isn't. This neighborhood, what the residents can know is that they have been sampled, almost 90 percent of them have no problems with regard to elevated levels of arsenic. That to me is a very comforting thought.

Mrs. MORELLA. So 10 percent do, as you said in your testimony. So I think all of you, you're implying too, that it's not 100 percent. But we're getting there. We're checking. I'd like to give you a chance, Mr. Gordon.

Mr. GORDON. Well, I guess I'm going to be the oddball and say that I don't think you can really say that it's safe. But from a public health standpoint, we can say that the risk is low, based on the most available scientific data that we have today.

Mrs. MORELLA. I note that the GAO report on page 3 states that the partners have disagreed over the immediacy of the health risk posed by arsenic contaminated soil. Given the sample results in the ATSDR, how would you characterize the remaining environmental and health risks? Are there precautions that residents should take? Mr. Wood, I'd start with you, if anyone else wants to comment on it.

Mr. WOOD. The language in our report referred to the process of setting the site-wide soil standard for arsenic. I guess I would leave it to the health experts just how to characterize that level of arsenic in the soil.

Mrs. MORELLA. And that gets to another question I have about the parts per million of arsenic to soil, the ratio. I notice the ratio is 20 parts per million for arsenic contamination determined as a safe level at the Spring Valley site. How does this compare to natural background levels in the District of Columbia? And how do the numbers compare to other contaminationsites in the District of Columbia? You're anxious to start on that, I can tell, Mr. Voltaggio.

Mr. VOLTAGGIO. Yes. The Corps did an extensive background study with regard to arsenic levels in the District and outside of the Spring Valley area. The average is roughly five parts per million. If you look at a statistical 95 percent confidence of what the number would be it is that all the levels, we're 95 percent sure that all the levels are below 13 parts per million.

We have found background levels, individual background levels having nothing to do with Spring Valley, up to 18 parts per million. So that was our characterization of background, is if you look at a mean, if you look at a 95 percent confidence level, and you look at what the highest background level would be. So we know the backgrounds are around less than 20 parts per million, less than 18 most likely.

When we developed the cleanup level in a very consultative process with the Army and with the District, we looked at what the

health levels would be, what were the levels below which we would not have health effects. We looked at background levels and we found a number that seemed to be a good risk management decision with regard to what is a proper point at which to say, below that, a, there isn't any risk of any significant nature, and b, it's pretty close to what background level would be. That's how we came up to 20.

This is a judgment, this is a risk management decision. When you have a judgment on something as important as this, it's very important to get buy-in from as many scientific as well as community people as we can. That's why we went to the Restoration and Advisory Board with that number, got their input. We went to the District, of course, the District went to the Advisory Panel. This is why we feel comfortable that we had a very inclusive process that made sure that all of the stakeholders were involved, and we felt comfortable that the science and public policy considerations brought us to a number that we all can live with.

Mrs. MORELLA. So there is a variation, is what you're saying?

Mr. VOLTAGGIO. Sure. Background could be, I mean, it varies all over based upon the individual nature of the soils and the activity that was done, other than just Spring Valley type of activity.

Mrs. MORELLA. So you use some criteria, but you also have the arbitrary element that enters into that, too?

Mr. VOLTAGGIO. Yes.

Mrs. MORELLA. I'd like to hear from Mr. Gordon on that issue.

Mr. GORDON. We handed this off to the Mayor's Scientific Advisory Panel. And they concurred with the U.S. Environmental Agency that 20 parts per million was an acceptable level with minimal risk. We also know in the District that arsenic was used in pesticides, not just in the city, but it was sprayed. And there are considerable background levels that vary that we have encountered in the District of Columbia. We have found arsenic present in the proposed site for the World War II memorial, we found it in the soil there. And we found it in other locations, not that's associated with Spring Valley.

But arsenic is something that's fairly ubiquitous in the city, and it's something that we have to deal with in terms of cleanup and certainly in terms of protecting our groundwater and our soil. But again, we concur with the scientific advisory, the Mayor's Advisory Panel recommendations on this, and EPA provided extensive information to the panel on how they came up with the standards. So we consider it an acceptable standard.

Mrs. MORELLA. It' s just kind of worrisome in a way when you think about how it may vary from place to place, and you wonder about what goes into making that kind of decision.

Mr. VOLTAGGIO. Madam Chairwoman, the background varies from place to place. But what is on those properties we have sampled, and we know what it is, we know that the levels are, what the cleanup level tell us is once you find it, what do you clean it up to. So actually, I don't think the residents ought to feel that they don't know what the situation is at their residences as a result of this massive effort the Corps has done over the past year. We have sampled them all, 95 percent of them, and we will get them all sampled, and they will know what is there.

Mrs. MORELLA. And what to do about it. Ms. Norton.

Ms. NORTON. Thank you, Mrs. Morella. The most important issue raised by the contamination are the health issues. The information on the health issues has been the most disappointing to me, in particular. Certain of the health issues have no way to be put to rest immediately because they involve conditions that develop only over a period of years.

My own concern has been with the epidemiological studies. At first, it appeared that there was, if I recall correctly at the last hearing, there was a study without a control group, I believe. Then there was a study done with a control group in Potomac, Maryland, I believe. The testimony is that on the one hand, comforting, because at least as of now, there is no effect in one study we're told.

What I don't understand is why there would be any study apparently involving some cancers that was too small for you to draw conclusions. Why wasn't the study sufficiently large so that at least, with respect to what we can know, we could say what the answer is with respect to that group of cancers? When will we have a definitive, as definitive a epidemiological study as can be done at this time?

Dr. STOKES. My name is Dr. Lynette Stokes. I am Chief of the Bureau of Hazardous Material and Toxic Substances. What you refer to is the incidence and mortality review of Spring Valley for which Spring Valley was compared to an initial control group and the U.S. standard for particular cancers.

The cancers that were investigated were those that are identified in the literature for exposure to arsenic. We didn't just decide on certain cancers, we looked at those that we know in the literature have been observed and are associated with arsenic exposure.

You mentioned another control group was used. At the recommendation of the Spring Valley Scientific Advisory Panel, it was suggested that an additional control group be used. We compared those arsenic associated cancers with Potomac, Maryland. Both of those comparisons showed that there were no excesses of cancers in Spring Valley, comparing them to national rates and comparing them to either one of those control groups.

Ms. NORTON. What is the group that was too small to make the appropriate comparisons?

Dr. STOKES. Any time for the period that the incidence trend analysis was completed was a 12 year period. Many of these cancers are very rare. And over that 12 year period, there were few that were observed. That's the small number you're speaking of.

Ms. NORTON. Residents of course are concerned about drinking water, especially since this area is close to Delcarlia Reservoir. We understand that you have over this period, indeed before this period, been testing for arsenic. Is there arsenic in the water?

Dr. STOKES. No. We have observed for the last years of water, potable water data, that is delivered to the homes in Spring Valley. None of that data for the 20 year period of time shows any elevation in arsenic.

Mr. GORDON. If I might further add, we have also gathered information from Tom Jacobus, who heads the Delcarlia water treatment facility, as well as the Water and Sewer Authority, headed by Harry Johnson. There is absolutely no evidence at all of any ar-

senic in our drinking water system. We can give our community total assurance that their water is safe and free of any arsenic contamination.

Ms. NORTON. For the first time, during the last hearing, we learned that there were FUDS outside of Spring Valley. We have testimony here today from Mr. Fiala that there are 59, there were 59 FUDS sites in the District of Columbia, 45 no action indicated. Let me ask you about the three sites where you are conducting response activities. Spring Valley we know about of course. Camp Simms and Catholic University, what is the status of your work on those other two sites? What have you found?

Colonel FIALA. Yes, ma'am. We've made considerable progress on going back to Camp Simms. We completed another ordnance investigation last fiscal year and found no additional ordnance at Camp Simms. Additionally, we came back and did some soil sampling at some areas that our partners had some concerns about at Camp Simms. And we have a draft report that is being staffed with our partners on results of that investigation.

At Catholic University, we intend to get started on an investigation at the Maloney Lab later this year.

Ms. NORTON. Particularly when new names are thrown out, Camp Simms, Catholic University, there are of course concerns in those communities. When will the Catholic University investigation be done? Having started it yet, when do you anticipate being finished with it?

Colonel FIALA. We start an initial investigation this fall. Based on what we find in that initial investigation, we will either decide no further action or continue with——

Ms. NORTON. And when will you know that? When will the initial investigation tell you whether you need to proceed or not?

Colonel FIALA. Probably in November or December this year.

Ms. NORTON. I wish you'd let this committee know as soon as you know one way or the other.

Colonel FIALA. Yes, ma'am.

Ms. NORTON. Finally, if I may, I know my time is up, complete this subject matter, in Mr. Fiala's testimony he says, the remaining 11 sites are ineligible for cleanup under the FUDS program. Why are they ineligible? What kinds of sites are we talking about?

Colonel FIALA. Yes, ma'am. Six of them were duplicates of others just identified as different activities. Three have no historic records and two are active Department of Defense sites.

Ms. NORTON. Would you explain what it means to be active? Do you mean the Department of Defense is still doing stuff there?

Colonel FIALA. Active installations.

Ms. NORTON. In the District of Columbia?

Colonel FIALA. Yes, ma'am. We have——

Ms. NORTON. What are those sites? Are they bases?

Colonel FIALA. Anacostia Naval Station, Anacostia, and the Naval Research Laboratory at Belleview.

Ms. NORTON. I see. Thank you very much, Madam Chair.

Mrs. MORELLA. You know, I wondered if you could probably give us more insight in terms of the other three sites that were in the District of Columbia, maybe even looking into the Conduit Road site, which is in Montgomery County, the Maloney Chemical Lab

at Catholic, Diamond Ordnance Fuze Lab and the C&O Canal near the Chain Bridge area. What's the schedule for identifying the materials and the remediation?

Colonel FIALA. Well, again, we have a draft report on Camp Simms right now. We will start an initial investigation of Catholic University Maloney Laboratory this fall. At the Diamond Ordnance Fuze Lab, as Mr. Voltaggio stated, we don't have any other additional information to warrant going back. But EPA is doing some additional studies. Once we get those additional studies, or additional information, we'll make a determination whether or not we need to proceed with any other activities.

In the Conduit Road activity, or 1 day test site, we understand that the Navy at Carderock is in their normal business of doing installation and remediation work at an active installation, the Navy is doing some study and characterizing activities there.

Mrs. MORELLA. Are there any other sites in suburban Maryland that you all know of or are looking at?

Colonel FIALA. Yes, ma'am, there are two active Nike sites, one in Rockville and one in Olney, at which—down the road—we will schedule some activity.

Mrs. MORELLA. Mr. Voltaggio, did you want to comment on that?

Mr. VOLTAGGIO. Yes. We are really acting as a team here to the extent that the Army is doing some work, and we can supplement their investigative work with assessments of our own, we will do so. We have agreed to work with them through the summer to work on the three sites that we've identified, the Diamond Fuze, C&L and Anaconda Road, and any other site that may come up through the investigations, through the Army archives and through the information where it appears that there is an immediate need, we will be happy to place our inspectors and investigators at the disposal of the team in order to assess whether there is any immediate types of assessment work that need to be done.

So we are working through this together, and we are working through the summer hopefully the three that I identified in my testimony to be able to better characterize, to know whether there is no further action needed or whether further action is needed. I expect that between us, by the end of the summer we will have identified these higher profile kinds of FUDS sites. There are dozens of other FUDS that were all Civil War sites that are lower in the priority scheme.

So we want to use a prioritization scheme that recognizes the association with Spring Valley or any other reason that it would bring it to the top of the heap. So we are working together to make that happen as quickly as we possibly can. That will be our major activity this summer here.

Ms. NORTON. Good. Thank you. Keep us posted.

I guess my final question at this point, because of time, is to Mr. Gordon. It was during your testimony at last year's hearing on Spring Valley that you mentioned that the D.C. Health Department was partnering with EPA in the cleanup of the Navy Yard, which is the District of Columbia's only Superfund site. I wonder if you would compare the Department's experiences working with EPA in the Navy Yard site with its experiences with the Corps of Engineers on the Spring Valley site. Are there lessons that we can

learn from that experience that could be useful to the remedial activities?

Mr. GORDON. Congresswoman, let me just say this. There have been very contentious discussions. The Navy Yard, we are a full partner under the designation as a Superfund site. We have had many acrimonious discussions. There have been disagreements, there have been points of interest that we didn't agree on. But it has been a very professional, it has been what I would again characterize as an outstanding working relationships. We have had similar activities with the Corps and EPA on Spring Valley.

But that's what this process is about. We have a responsibility to the residents of this city to assure that their public health is safe. And we are going to do everything we can to reach the highest degree of confidence that we can to ensure that. That may involve some very technical and acrimonious debates on how we proceed.

But in the final analysis, I would say that both experiences are good. Both experiences are highly professional, highly technical, and more importantly, most respectful of the District from the Federal agencies. And they have worked with us. It's not a bully pulpit type of atmosphere. It is really a professional atmosphere that I would characterize as absolutely outstanding.

Mrs. MORELLA. I'm glad to hear that. Although you had also commented there was no question with regard to arsenic in the District's drinking water. The Department asked the Corps Baltimore District Office to test the groundwater in the Spring Valley area to determine if it had any arsenic contamination. Has the Corps preformed these tests and how often is the drinking water tested and for contaminants? And is the public given the results?

Colonel FIALA. Ma'am, we have not yet tested the groundwater issue. I think you're referring to the groundwater issue at Spring alley. We plan to do that down the road. But because of this priority of risks, we feel it's a very, very low risk and that will happen down the road. Again, I've got to say that I run the Washington Aqueduct, Tom Jacobus works for me. We pull water out of the Potomac River to provide drinking water to the District of Columbia. And again, I go back to what has been testified previously, there has been no identification of arsenic in the drinking water over 20 years.

Mrs. MORELLA. When you do test the groundwater, will you be providing the results to the public? I think it's important the public be advised.

Colonel FIALA. Yes, ma'am, that's part of the CERCLA requirements.

Mrs. MORELLA. Thank you. I will now defer to Ms. Norton for any questions.

Ms. NORTON. Thank you, Mrs. Morella. Just a couple more questions. We've been talking about arsenic here, because we know that is the major contaminant. Has there been any evidence of significant exposure of residents to other contaminants like mustard gas, lucite and the like?

Colonel FIALA. We have no incidence of any exposure to any chemical material, to either the residents or the significant work force that we contract and we have onsite.

Ms. NORTON. You've tested for that, I take it?

Colonel FIALA. Ma'am, when we go in to open a potential burial site, there are significant safety requirements that are laid out, that are reviewed not only by our partners, but are reviewed by the ordnance and chemical experts in the Department of the Army before we go to work.

Ms. NORTON. So we're dealing with arsenic here, and arsenic only, for the most part. One more question, it really has to do with the role of EPA. And I go back to the GAO report that notes that in 1995, when the Corps concluded that no further action was necessary, and here I'm quoting from the GAO report, EPA FEwas involved in the oversight of the cleanup and did not object to the decision made at that time." What I want to know is what the exact role of the EPA is. Do existing regulations or law require the EPA to concur in or otherwise dissent from the Corps' decision and take any action of any kind? What exactly is the role of the EPA in this matter and what role should we conclude the EPA will be playing now, given the role it played in 1995?

Mr. VOLTAGGIO. In 1995, from 1993 to 1995, EPA considered this site as an ordnance disposal site where the authority, the responsibility and the expertise resided with the Department of Defense. Because there were obvious environmental concerns with regard to any removal of ordnance, we were at Spring Valley to assure the public health with regard to any airborne contamination or surface contamination that might have resulted from the excavation and the disposal of the ordnance.

Ms. NORTON. You were asked to do that, but was that a matter of your regulations, the Corps' regulations or of Federal law?

Mr. VOLTAGGIO. We were acting under the authority of Superfund in the emergency response program to provide that service. But because of our expertise with regard to environmental contamination, we were brought on as part of that team as well. It was never a case of the Army asking for our bona fides. We went in there, we had our expertise, they had theirs, we worked as a team in order to determine what needed to be done.

But it was under the authority of CERCLA. We have the authority to take emergency response actions under Superfund. But we weren't down there to take emergency response actions unless we thought it was necessary as a result of inappropriate activity by the Corps. We did not find any inappropriate activity by the Corps. We were a part of the team and we made decisions as a team in 1995.

After 1995, it was recognized that this site changed its character. It was not just an ordnance disposal site. It was now an ordnance and disposal site that also had arsenic contamination. And we then, as a result of our expertise and authorities under CERCLA to investigate, to take any emergency actions if they were necessary, stepped up and became a much more active partner with regard to advising what the appropriate cleanup processes and procedures should be with regard to the arsenic. The overall responsibility has always been with the Department of Defense, through the Army, through the Corps, for supplying the money and the manpower to do the job. They have the authority, they have the responsibility.

So it is not an easy question to answer, Congresswoman, because it was a team response. If and when we came to a situation that we were dissatisfied, then we could go back and determine what actions EPA could take under CERCLA. As it happened, it was not necessary. It was clear from the legal authority that the Corps had the responsibility and we then played an advisory role, a consulting role, a team role.

Ms. NORTON. Let me caution everybody at the table about teamwork. I'm very pleased to see the teamwork that is going on here. I don't think we can proceed without the cooperative effort that I commend you on having developed.

But I want you to be clear that I don't regard the partners, please use that word very advisedly for purposes of working together on what has to be done together, you must be partners. But I regard the District, the Corps, and the EPA as checks on one another. A team, when one is involved in contaminated substances, can be a dangerous concept indeed. Because when you're a member of the team, then of course you want to be involved in teamwork. And that has to happen most of the time. But the only way that I will have confidence in the team is if every member of the team regards herself as a check on the other members of the team, obligated to speak not only to members of the team but to speak out publicly when they dissent or have reasons to have doubts about what other members of the team are doing. Thank you very much, Mrs. Morella.

Mrs. MORELLA. Thank you, Ms. Norton. I agree with the concept of checks and balances. I want to thank the panel. I would like to allow the subcommittee to present further questions that we did not have a chance to offer to you. I hope that you will give us the benefit of any of the reports that you have alluded to during this year. So thank you very much for being with us, thank you for your patience in going through all of the questioning, your testimony. We look forward to hearing from you again.

And now the second panel will come forward. Actually it's the third panel. Real Admiral Robert C. Williams, Director, Division of Health Assessment and Consultation, the Agency for Toxic Substances and Disease Registry. Dr. Bailus Walker, Jr., who is the Chair of the Mayor's Spring Valley Scientific Advisory Panel. Sarah Shapley, who is the Co-Chair of the Spring Valley Restoration Advisory Board. William Harrop, Spring Valley-Wesley Heights Citizens Association.

Again, before you get seated, may I ask you to stand to swear you in. If you would raise your right hand.

[Witnesses sworn.]

Mrs. MORELLA. Thank you. An affirmative response will be so recorded. Thank you very much for being so patient as we went through the first two panels. Now, Rear Admiral Williams, we're delighted to hear from you, sir, and thank you for being here.

STATEMENTS OF REAR ADMIRAL ROBERT C. WILLIAMS, P.E., ASSISTANT SURGEON GENERAL, U.S. PUBLIC HEALTH SERVICE, DIRECTOR, DIVISION OF HEALTH ASSESSMENT AND CONSULTATION, AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES; BAILUS WALKER, JR., CHAIRMAN, DISTRICT OF COLUMBIA MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL; SARAH SHAPLEY, CO-CHAIR, SPRING VALLEY RESTORATION ADVISORY BOARD; AND WILLIAM C. HARROP, PRESIDENT, SPRING VALLEY-WESLEY HEIGHTS CITIZENS ASSOCIATION

Admiral WILLIAMS. Good morning, Madam Chairwoman and members of the subcommittee.

I am Bob Williams, Assistant Surgeon General, U.S. Public Health Service, and Director of the Division of Health Assessment and Consultation at ATSDR. Thank you for the opportunity to once again provide you and the subcommittee with testimony on the activities of the Agency for Toxic Substances and Disease Registry within the Spring Valley Community.

ATSDR, an agency of the U.S. Department of Health and Public Services, is the lead agency responsible for implementing the health related provisions of the Comprehensive Environmental Response Compensation and Liability Act. ATSDR has been working with the area residents of Spring Valley, the Mayor's Spring Valley Scientific Advisory Panel, the Spring Valley Restoration Advisory Board, the District of Columbia Department of Health, U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers to assess the public health impact of environmental contamination with hazardous substances.

In December 2000, testing conducted by the U.S. Army Corps of Engineers detected elevated concentrations of arsenic in soil samples from the playground of the Child Development Center at American University. The District of Columbia Department of Health asked ATSDR to assess potential exposures to arsenic contaminated soil.

On February 1–2, 2001, ATSDR conducted an exposure investigation for children enrolled at the Center and for teachers and staff. ATSDR staff collected hair samples from 28 children and 4 adults and analyzed the samples for arsenic. Detectable levels of arsenic were measured in hair samples from 8 of the 32 participants at concentrations that ranged from 0.1 to 0.14 parts per million. All the hair arsenic levels detected in the participants were within ranges reported for unexposed populations. In the other 24 hair samples, arsenic was not detected.

ATSDR concluded that none of the participants had hair arsenic levels that indicated unusual exposure to arsenic.

The District of Columbia Department of Health also asked ATSDR to evaluate potential exposure to arsenic in residents of contaminated properties in Spring Valley. In response to this request, ATSDR conducted a second exposure investigation during March 13–15, 2002. Residents who lived at the 20 homes with the highest soil arsenic concentrations were invited to participate. A total of 32 people, 23 adults and 9 children, from 13 homes, volunteered.

ATSDR staff collected urine and hair samples from the participants as well as house dust samples from their homes. The urine samples were analyzed for both inorganic forms of arsenic and for total arsenic. These two separate analyses for arsenic can help to distinguish between dietary sources of arsenic, primarily from fish and shellfish, and environmental sources.

ATSDR provided the participants with their individual test results and presented the findings to the Mayor's Spring Valley Scientific Advisory Panel on May 29, 2002. Urine arsenic levels, which are a good measure of recent arsenic exposure, were generally low. These levels would not be expected to cause any health problems. Only three of the individuals tested had reportable inorganic arsenic in their urine, with levels ranging from 10 parts per billion to 15 parts per billion. Levels below 20 parts per billion of inorganic arsenic usually indicate no significant exposure.

The levels of total arsenic in participants' urine samples ranged from non-detected to 210 parts per billion. Total urinary arsenic reflects exposure to inorganic arsenic, plus organic forms of arsenic from foods such as fish and shellfish. Organic forms of arsenic are relatively non-toxic. It is not unusual to find total urinary arsenic in the general population at these levels.

All individuals tested had hair arsenic levels between non-detected and 0.73 parts per million, the average being 0.1 parts per million. Levels below one part per million usually indicate no significant exposure. In summary, the hair arsenic levels show normal levels of exposure. These levels would not be expected to cause any health problems.

Household dust was tested in 13 homes. Levels of arsenic ranged from non-detected to 63 parts per million. It is evident from the participants' hair and urine tests that these dust levels do not appear to be causing elevated inorganic arsenic levels in the participants. However, the findings do suggest that yard soil contaminated with arsenic may be tracked into homes and could increase the potential for exposures. The report of the exposure investigation will undergo scientific review and ATSDR will release that report of the findings later this year.

ATSDR will continue to work with the other Federal, State, local health and environmental agencies and the residents to resolve questions and issues relating to the public health impact of environmental contamination in Spring Valley. Further ATSDR involvement, including additional biomonitoring to assess exposure to site contaminants, will be decided after discussions with the Mayor's Spring Valley Scientific Advisory Panel, the Spring Valley Restoration Advisory Board, the District of Columbia Department of Health and the local community.

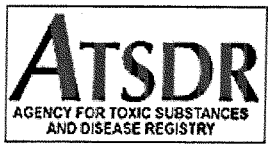
Madam Chairwoman, this concludes my testimony. I would be happy to answer questions you or your fellow subcommittee members may have.

[The prepared statement of Admiral Williams follows:]

Testimony
Before the Subcommittee on the District of Columbia
Committee on Government Reform
United States House of Representatives

ATSDR's Public Health Response Activities in Spring Valley

Statement of
Robert C. Williams, P.E., DEE
Assistant Surgeon General, U.S. Public Health Service
Director, Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry
U.S. Department of Health and Human Services



For Release on Delivery
Expected at 10:00am
on Wednesday, June 26, 2002

Good morning. Madam Chairwoman and members of the Subcommittee. I am Bob Williams, Assistant Surgeon General, U.S. Public Health Service, and Director of the Division of Health Assessment and Consultation at the Agency for Toxic Substances and Disease Registry (ATSDR). Thank you for the opportunity to once again provide you and the Subcommittee with testimony on the activities of ATSDR within the Spring Valley community.

ATSDR, an agency of the U.S. Department of Health and Human Services, is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The mission of ATSDR is to serve the public by using the best science, taking responsive public health actions, and providing trusted health information to prevent harmful exposures and disease related to toxic substances.

ATSDR has been working with the area residents of Spring Valley, the Mayor's Spring Valley Scientific Advisory Panel, the Spring Valley Restoration Advisory Board, the D.C. Department of Health (DC DOH), the U.S. Environmental Protection Agency (EPA), and the U.S. Army Corps of Engineers to assess the public health impact of environmental contamination with hazardous substances.

In December 2000, testing conducted by the U.S. Army Corps of Engineers detected elevated concentrations of arsenic in soil samples collected from the playground of the

Child Development Center at American University. Surface soil samples collected from the playground contained arsenic at an average concentration of 57 parts per million (ppm) and at a maximum concentration of 498 ppm. Parents of children who attended the Child Development Center expressed concern that their children may have been exposed to this contamination. In response to these concerns, the DC DOH asked ATSDR to assess potential exposures to arsenic-contaminated soil by children and staff there.

On February 1-2, 2001, ATSDR conducted an Exposure Investigation for children who were then enrolled at the center and for teachers and staff at the Child Development Center. ATSDR staff collected hair samples from 28 children and four adults and analyzed the samples for arsenic. At the time of this Exposure Investigation, the participants had been relocated from the contaminated playground area for over one month. Because of this interval, measuring hair arsenic levels was the only feasible test to assess whether exposure to arsenic had occurred in the window ending one month prior. Urine testing was not conducted because it is only useful if arsenic exposure has occurred in the previous few days.

Detectable levels of arsenic were measured in hair samples from eight of the 32 Exposure Investigation participants at concentrations that ranged from 0.10 to 0.14 ppm. All of the hair arsenic levels detected in the participants were within ranges reported for unexposed populations. In the other 24 hair samples, arsenic was not

detected. ATSDR concluded that none of the participants had hair arsenic levels that indicated unusual exposure to arsenic. ATSDR sent the adult participants and the parents of minor participants their test results. In addition, ATSDR staff held a public availability session to meet with the parents to discuss their children's test results. The report for this Exposure Investigation and other ATSDR reports are available on the ATSDR web site at http://www.atsdr.cdc.gov/ofp/springvalley/index.html.

On November 13, 2001, ATSDR staff met with the Spring Valley Restoration Advisory Board to describe ATSDR activities in the Spring Valley community. The following day, ATSDR conducted a focus group session with some members of the Restoration Advisory Board. The purpose of the session was to gather community concerns and information that would assist ATSDR and the DC DOH to determine health education needs for the Spring Valley community. ATSDR has continued to gather community concerns through needs assessment surveys, electronic mail messages, and telephone contacts.

The U.S. Army Corps of Engineers has continued to characterize soil contamination in residential properties in potentially affected areas of Spring Valley. This testing has documented that arsenic levels in composite soil samples from residential areas range from background levels to a maximum of just over 200 ppm. Residents of Spring Valley have expressed concern over possible health effects from exposure to this contamination. In response to these concerns, the DC DOH asked ATSDR to evaluate

potential exposure to arsenic in residents of contaminated properties.

In response to this request, ATSDR conducted a second Exposure Investigation. On December 7, 2001, ATSDR staff met with the Mayor's Spring Valley Scientific Advisory Panel to describe the proposal. On January 23, 2002, ATSDR held a public meeting and poster session at Sibley Hospital to discuss the Exposure Investigation with the community. ATSDR then conducted this second investigation during March 13-15, 2002.

Residents who lived at the 20 homes with the highest soil arsenic concentrations were invited to participate. A total of 32 people (23 adults and nine children) from 13 homes volunteered. ATSDR staff collected urine and hair samples from the participants, as well as house dust samples from their homes. The urine samples were analyzed for both inorganic forms of arsenic and total arsenic. These two, separate analyses for arsenic can help to distinguish between dietary sources of arsenic (primarily from fish and shellfish) and environmental sources of exposure. ATSDR provided the participants their individual test results and presented a summary of the findings to the Mayor's Spring Valley Scientific Advisory Panel on May 29, 2002.

Urine arsenic levels, which are a good measure of recent arsenic exposure, were generally low in the individuals tested. These levels would not be expected to cause any health problems. Only three of the individuals tested had reportable inorganic

arsenic in their urine, with levels ranging from 10 parts per billion (ppb) to 15 ppb. Levels below 20 ppb of inorganic arsenic usually indicate no significant exposure.

The levels of total arsenic in urine samples from the participants ranged from non-detected to 210 ppb. Total urinary arsenic reflects exposure to inorganic arsenic plus organic forms of arsenic from foods such as fish and shellfish. Organic forms of arsenic are relatively non-toxic. It is not unusual to find total urinary arsenic in the general population at these levels.

Hair arsenic testing is not as accurate as urine testing but allows us to look at arsenic exposure during the past months (depending on the length of the hair). All individuals tested had hair arsenic levels between non-detected and 0.73 ppm. The average was 0.1 ppm. Levels below 1 ppm usually indicate no significant exposure. In summary, the hair arsenic levels show normal levels of exposure. These levels would not be expected to cause any health problems.

Household dust was tested in 13 homes. Levels of arsenic ranged from non-detected to 63 ppm. The household dust samples are used to indicate if arsenic contamination is found within a residence. The health significance of these values is not always clear because it depends on the opportunity for exposure. It is evident from the participants' hair and urine tests that these dust levels do not appear to be causing elevated inorganic arsenic levels in the participants. However, the findings do suggest that yard

soil contaminated with arsenic may be tracked into homes and could increase the potential for exposures.

The report of the Exposure Investigation will undergo an additional scientific review, and ATSDR will release a detailed report of all of these findings later this year.

Ongoing ATSDR Activities Within the Spring Valley Community

In March 2001, ATSDR received a petition to conduct a Public Health Assessment for the Spring Valley site. The petition was submitted by a Pennsylvania law firm that is representing some people who live or work in Spring Valley. ATSDR accepted the petition in September 2001. Among other activities, ATSDR will prepare a Health Consultation in response to the petition request. The consultation will evaluate the health implications of arsenic contamination in soil in residential yards in Spring Valley. In addition, the consultation will discuss the relationship between exposure to site contaminants and health conditions (such as anemias) that are of concern to the residents. The consultation will also make recommendations for follow-up activities that are needed. ATSDR anticipates releasing a draft Health Consultation by the end of this year.

In January 2002, ATSDR mailed a newsletter that described ATSDR activities to over 1,000 Spring Valley residents. ATSDR will continue to send semiannual newsletters to

update the community on ATSDR activities.

ATSDR is preparing a pamphlet to address health and safety issues that have been raised by home gardeners in the area. The pamphlet will be included with ATSDR's next newsletter.

ATSDR is preparing a packet of health education materials for physicians and other health care providers in the area. The packet will contain pertinent background information about Spring Valley and will discuss health issues that may be related to site contaminants.

ATSDR will continue to work with other Federal and local health and environmental agencies and the residents to resolve questions and issues relating to the public health impact of environmental contamination in Spring Valley. Further ATSDR involvement, including additional biomonitoring to assess exposure to site contaminants, will be decided after discussions with the Mayor's Spring Valley Scientific Advisory Panel, the Spring Valley Restoration Advisory Board, and the local community.

Madam Chairwoman, this concludes my testimony. I would be happy to answer any questions you or your fellow subcommittee members may have.

Mrs. MORELLA. Thank you very much, Admiral Williams. I'm now pleased to recognize Dr. Bailus Walker, Jr.

Mr. WALKER. Thank you, Chairwoman Morella, and thank you, Ranking Member Norton. I'm Bailus Walker, Chairman of the Mayor's Scientific Advisory Panel on Spring Valley. I am chairman of the Committee on Toxicology of the National Academy of Sciences.

I appreciate the invitation to appear before you. My comments will focus on the status of the recommendations that the panel has made to the agencies involved.

Let me pause here and commend your staffs. When you were not able to attend the meetings of the Scientific Advisory Panel, your staffs came and sat through the scientific discussions. These are very complex issues, epidemiology, toxicology, very complex. And I can say without contradiction that I think your staff now is probably the most knowledgeable staff on this Hill with respect to environmental toxicology and epidemiology.

Let me ask that my entire statement be included in the record, including the matrix which we have developed that summarizes the recommendations that we have made over the period of our existence and the responses to the respective agencies.

Mrs. MORELLA. Without objection, so ordered.

Mr. WALKER. Thank you. Let me move to what I think are the issues that tend to permeate these discussions. And I think Congresswoman Norton has illuminated these time and time again. I think the first question is, are there environmental contaminants in the Spring Valley environment? The answer is yes. The most prominent one is arsenic. The analysis presented to the panel by the Corps of Engineers would suggest that arsenic is the prominent contaminant, and it is the contaminant upon which most attention should be focused.

The next question is, is there exposure? I want to distinguish between two types of exposure: potential exposure, which is what's in the soil, and real exposure, what actually gets into the human body. And I would add further that for real exposure, probably the most important determinant of real exposure is the activity of the individual, the extent to which he or she plays in the yard, the extent to which he or she works in the yard, etc.

The third question is, what is the evidence with respect to real exposure? And I will not repeat what Rear Admiral Williams has said. I think the evidence he has presented is clear and convincing. Our committee has reviewed that evidence. We do suggest that there be further biomonitoring, meaning further urine samples and hair samples. One of the reasons that we want this additional work to be done is that we want our conclusions to be based on a solid base of information, statistical power, as we call it in the field of environmental epidemiology. And we also wanted evidence from residents during the period of maximum outdoor activity.

The other question that permeates this discussion is, what are the health effects? Dr. Stokes came before our panel at the last meeting and indicated that members of the community had reported to her a whole array of complaints, an array of symptoms that they suspected may be related to the exposure to contaminants. We did not discount this anecdotal information. But it was

our view that to be scientifically and clinically valid, we needed to hear from the clinicians. If people have complaints, by and large, in this community, they would go and see a physician or they would go to a health care facility.

We believe it important to have from that health care facility or that clinician or that physician his or her assessment of that person reporting symptoms. What does the laboratory data show? What does the physical examination show? More than likely, the physician would have a history of that patient. That kind of information would enable us to get a fairly sound scientific handle on what the health effects in that community may be.

We've recommended that in our last report, and it is our understanding that the Department is moving forward to ensure that kind of information is made available. I would indicate that what the panel is trying to do is make sure that we have as much information as we can with respect to exposure, with respect to health effects, before we draw any conclusions.

The other issue has to do with cleanup, and you've heard from the previous panel with regard to the 20 parts per million. We believe that based on the data presented to us, supporting data presented to us, that the 20 parts per million is an appropriate cleanup level. We get into the question of what is safe and unsafe. We're not suggesting that 20 is safe, we're not suggesting that 19 would be safer. We're simply saying that based on the evidence that we've read and presented to us, as well as our own analysis, the respective members of our panel have conducted their own analysis, that 20 parts per million would appear to be a level at which there would be very low risk of disease and dysfunction.

Those are the questions and issues that are within the purview of our panel. We did not deal with cost issues, we did not deal with legal issues. Our mandate from the Mayor, our directive from the Mayor, was to stick solely with the scientific issues.

Madam Chairwoman and Ranking Member Norton, that concludes my comments and I will be delighted to respond to any questions you may have.

[The prepared statement of Mr. Walker follows:]

Testimony of
Bailus Walker Jr., Ph.D., MPH
Chairman, District of Columbia Mayor's
Spring Valley Scientific Advisory Panel

Spring Valley Revisited – The Status of the Clean- up of
Contaminated Sites in Spring Valley
Subcommittee on the District of Columbia
Committee on Government Reform
House of Representatives
June 26, 2002
Washington, D.C.

Chairwoman Morella, Ranking Minority Member Norton, and Distinguished Members of the Subcommittee

I am Bailus Walker Jr., Chairman of the District of Columbia Mayor's Spring Valley Scientific Advisory Panel.

I am a professor of environmental and occupational medicine, Howard University Medical Center .

I appreciate the invitation to participate in the Subcommittee's continued efforts to characterize the contamination and determine the potential health risks in the Spring Valley Community. My comments will focus on the status of recommendations made by the Spring Valley Scientific Advisory Panel.

The D.C. Mayor, Anthony Williams, appointed the Panel in March 2001 in response to the growing health and environment concerns of the Spring Valley residents.

The panel includes experts in toxicology, epidemiology, environmental and occupational health sciences, and soil sampling and analysis. The Panel also includes a resident of Spring Valley who is thoroughly knowledgeable about community attitudes and concerns, as well as the historical dimensions of the contamination problem.

Mayor Williams has asked that the Panel review the scientific data regarding the identified and measured contaminants in the Spring Valley neighborhood. The Mayor's Order also charged the Panel with assuring that the best available scientific knowledge is applied in seeking answers to the residents' questions.

This testimony will summarize all of the panel's recommendations and the corresponding response from the involved agencies. A matrix of the recommendations is attached, and I ask that it be inserted into the record.

April 2001

Recommendation: The District of Columbia Department of Health develop a comprehensive plan to address concerns about the exposure to and the health effects of contaminants in the Spring Valley Community, including delineating the roles and responsibilities of the multiple agencies involved in the project.

Response: The Department of Health developed a plan that identified relevant data to help it address concerns regarding exposure and health effects of contaminants.

Recommendation: The U.S. Army Corps of Engineers should clearly articulate its strategy with respect to other contaminants – which contaminants are present, and how these chemicals are being investigated.

Response: The Army Corps of Engineers sent a list of the other contaminants that were investigated in Spring Valley. The Army Corps of Engineers has determined that the presence of other contaminants was insignificant, and that Arsenic was the primary contaminant of concern.

Recommendation: The District of Columbia Department of Health should utilize the results of the Army Corps of Engineers soil sampling as an indicator of places (neighborhoods within Spring Valley) where additional biomonitoring should be completed.

Response: The Department of Health requested that the Agency for Toxic Substances and Disease Registry provide technical assistance for the testing of residents in Spring Valley. The Agency for Toxic Substances and Disease Registry has conducted two exposure investigations, the first in February 2001 of the children and the Child Development Center and employees of American University; and the second in March 2002 of

residents of the Spring Valley whose property was tested and has the highest level of arsenic in the soil.

Recommendation: The District of Columbia Department of Health should select a different community or census tract for the purpose of comparing cancer incidence and mortality in the Spring Valley community.

Response: The Department of Health used the Maryland Cancer Registry's data and selected a different control community in Potomac, Maryland.

Recommendation: The District of Columbia Department of Health should, in collaboration with the other agency develop an approach to risk communication.

Response: The Department of Health, in collaboration with the Army Corps of Engineers, the U.S. Environmental Protection Agency, and the Agency for Toxic Substances and Disease Registry held several meetings to inform the community about exposure, risks and risk management. Both the Department of Health and the Army Corps of Engineers have developed a newsletter that is sent to the residents; and both maintain websites where Spring Valley residents can get additional information.

December 2001

Recommendation: The U.S. Environmental Protection Agency should provide the scientific underpinning, or health-risk rationale, for the proposed remediation level of 20 ppm.

Response: The Environmental Protection Agency provided the panel detailed information regarding the scientific rationale of why 20 ppm would be the appropriate clean-up level in Spring Valley.

Recommendation: The District of Columbia should collect information on arsenic and related contaminants in household dust/debris in a selected number of Spring Valley homes.

Response: The Department of Health researched the literature and has data sources for information on arsenic and related contaminants in household dust/debris. The Agency for Toxic Substances and Disease Registry included the testing of dust/debris as part of the exposure investigation conducted in March 2002.

Recommendation: The Agency for Toxic Substances and Disease Registry should revise the protocol for biomonitoring of the potentially exposed population. Biomonitoring should be conducted when the "study cohort" is likely to have maximum exposure such as outdoor activities during the warmer months.

Response: The Agency for Toxic Substances and Disease Registry is planning to conduct a "Phase II" of the second exposure investigation during the summer season.

Recommendation: The Agency for Toxic Substances and Disease Registry should consider selecting individuals for biological monitoring of exposure based on the following schemes: (1) Top 10 homes with children and a high level of arsenic on the property as identified by the Army Corps of Engineers' soil sampling and testing; (2) Top 10 home without children and a high level of arsenic as identified by the Army Corps of Engineers' soil sampling and testing; and (3) A 5-10% random sample of individuals in the remaining homes.

Response: It has not been determined if the Agency for Toxic Substances and Disease Registry will select the next group for testing based on the panel's recommendation.

May 2002

The Spring Valley Scientific Advisory Panel held its third meeting on May 29, 2002. The purpose of the meeting was to provide a status update of activities conducted since December 2001. The report of the meeting

including additional recommendations has been forwarded to Mayor Anthony Williams, and is attached. I ask that it be inserted into the record.

Conclusions

In summary, the Panel concludes that all of the involved agencies have "complied" with the recommendations in an effective manner. However, more data are still needed for a full assessment of health risk of potential exposure to the contaminants in Spring Valley.

I invite any questions you may have concerning the report or work of the panel.

Thanks again for the invitation to participate in this hearing.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MAYOR'S HEALTH POLICY COUNCIL
Spring Valley Scientific Advisory Panel

Anthony A. Williams
Mayor

Bailus Walker, Jr., Ph.D., MPH
Chairman

DISTRICT OF COLUMBIA MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL

CONGRESSIONAL HEARING
June 26, 2002
Attachments

Spring Valley Scientific Advisory Panel's
Recommendations Matrix

Date	Recommendation	Involved Agency's Response			
		DOH*	USACE*	ATSDR*	USEPA*
April 2001	DC DOH should develop a comprehensive plan to address concerns about the exposure to and the health effects of contaminants in the Spring Valley Community. This plan should delineate the roles and responsibilities of the multiple agencies involved in the project. Using the "standard model" for relating environmental contamination with clinical disease (see attached), the DOH should determine how much, and what types of data are available or can be obtained for each entity of the model to address the issues of exposure in Spring Valley.	The DOH identified data that is available for some aspects of the "standard model". DOH provided a matrix illustrating which components of the model where data was available or not available.			
April 2001	USACE should clearly articulate its strategy with respect to other contaminants – which contaminants are present, and how these chemicals are being investigated.		The USACE sent (5/31/02) a list of the other contaminants that they have tested for in Spring Valley.		
April 2001	DC DOH should utilize the results of the USACE soil sampling as an indicator of places (neighborhoods within Spring Valley Area) where additional biomonitoring should be implemented.	DOH and ATSDR collaborated to determine where additional		ATSDR conducted a second exposure investigation of the residents in Spring Valley.	

		biomonitoring was conducted. The second exposure investigation was conducted in March 2002.			
April 2001	DC DOH should select a different community or census tract for the purpose of comparing cancer incidence and mortality in the Spring Valley Community.	DOH used the Maryland Cancer Registry's data and selected a different control community (Potomac, MD)			
April 2001	DC DOH should, in collaboration with the other agencies, develop a well thought out approach to risk communication. Special attention should be paid to what Spring Valley residents want to know about the detected and measured contaminants and their health effects.	DOH collaborated with USACE, USEPA and ATSDR to develop an approach to risk communication, several community meetings were held to impart information and answer the questions of the community. DOH also has a Spring Valley newsletter and information	Several community meetings were held to impart information and answer the questions of the community. USACE also has a website and a newsletter specifically for Spring Valley.	Several community meetings were held to impart information regarding the Exposure Investigations and answer the questions of the community.	USEPA has been a part of several community meetings to give information about the remediation plan and to answer the questions of the community.

		about Spring Valley on the DOH website.			
December 2001	US EPA should provide the scientific underpinning, or health-risk rationale, for the recommended remediation level of 20ppm.				US EPA sent (01/2002) the panel detailed information regarding the scientific rationale of why 20ppm would be the appropriate cleanup level.
December 2001	DC DOH should collect information on arsenic and related contaminants in household dust/debris in a selected number of Spring Valley homes.	DC DOH researched the literature and has data sources for information on arsenic and related contaminants in household dust/debris. DC DOH also asked ATSDR to include as part of their second Exposure Investigation,		ATSDR included as part of their second Exposure Investigation, testing of household dust.	

		testing of household dust.			
December 2001	ATSDR should revise the protocol for biomonitoring of the potentially exposed population. Biomonitoring should be conducted when the "study cohort" is likely to have maximum exposure such as outdoor activities during the warmer months.			ATSDR is planning to conduct a "Phase II" of the second Exposure Investigation after the summer season.	
December 2001	ATSDR should consider selecting individuals for biological monitoring of exposure based on the following schemes: (1) Top 10 homes with children and a high level of arsenic on the property as identified by the USACE's soil sampling and testing; (2) Top 10 home without children and a high level of arsenic as identified by the USACE's soil sampling and testing; and (3) A 5-10% random sample of individuals in the remaining homes.			It has not been determined if ATSDR will select the next group for testing based on the panel's recommendation.	

***Legend:**

DOH – District of Columbia Department of Health
USACE – U.S. Army Corps of Engineers
ATSDR – Agency for Toxic Substances and Disease Registry
USEPA – U.S. Environmental Protection Agency

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MAYOR'S HEALTH POLICY COUNCIL
Spring Valley Scientific Advisory Panel

Anthony A. Williams
Mayor

Bailus Walker, Jr., Ph.D., MPH
Chairman

REPORT OF THE DISTRICT OF COLUMBIA MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL

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INTRODUCTION

Under the authority of the Mayor's Order 2001-32 (March 1, 2001), the Spring Valley Scientific Advisory Panel (Panel) held its third meeting on May 29, 2002 in Washington, DC. The meeting's agenda is attached.

The purpose of the meeting was to update the Panel of the current status of the remediation work being conducted and planned for by the U.S. Army Corps of Engineers (USACE); and the District of Columbia Department of Health's (Department) strategy for continued characterization of the risk of potential adverse health effects in Spring Valley, including a presentation of the results of the most recent Exposure Investigation conducted by the Agency for Toxic Substances and Disease Registry (ATSDR).

The previous two panel meetings resulted in requests for additional information from the involved agencies for clarification of the issues presented, and further investigation of potential exposure to contaminants in Spring Valley. The Panel has recommended that attention be given to risk communication including activities designed to enhance the Spring Valley residents' knowledge of process and procedures for assessing potential health impacts of exposure to chemicals released in the environment. In summary, the agencies have made substantial progress in complying with the Panel's recommendations. The documentation for each meeting is on record and available for public review in the Office of the Executive Director of the Mayor's Spring Valley Scientific Advisory Panel located at 51 N Street, NE, 3rd floor, Washington, DC 20002.

PANEL COMMENTS AND RECOMMENDATIONS

The Panel commends each agency for its efforts to address some of the scientific and health-related questions raised by the arsenic contamination in Spring Valley. The Panel has reviewed the materials provided by the DC Department of Health, U.S. Army Corps of Engineers, Agency for Toxic Substances and Disease Registry and the U.S. Environmental Protection Agency, and heard the following presentations.

Status Report of Department of Health Activities

The primary purpose of the Department of Health's (Department) presentation was to update the Panel of the events and activities performed to address the resident's concerns regarding exposure to arsenic and other contaminants in Spring Valley neighborhoods. The Department, represented by Lynette Stokes, PhD, MPH, Chief, Bureau of Hazardous Material and Toxic Substances, reported that it hosted and participated in several community meetings to enhance the resident's knowledge of arsenic and the risks associated with exposure to the contaminant. The Department

distributed a newsletter to keep Spring Valley residents informed during the soil sampling being conducted by the U.S. Army Corps of Engineers. The U.S. Army Corps of Engineers also publishes a newsletter for the residents in Spring Valley. The Department also maintained a website as another source of information.

Dr. Stokes also discussed anecdotal information concerning symptoms of diseases in the community that some residents suspect are related to the environmental contaminants in the area. Following the review of this information, Dr. Stokes requested that the Panel advise the Department on how it should respond to concerned Spring Valley community members.

Update on the Soil Sampling and Overview of the Remedial Work

Major Michael Peloquin, Deputy District Engineer of the U.S. Army Corps of Engineers (USACE) updated the Panel on the soil sampling plan and the results of the ongoing soil sampling program.

The USACE reported that it had completed an initial soil screening of 95% of the residential properties (of 1158 total properties) and 74% of non-residential lots (of 325 total lots), which included taking 525 subsurface borings (generally 6-10 feet deep) and testing for arsenic, and in some cases testing for other contaminants. Of the properties sampled, eight samples were greater than 20 ppm (7 are in the top 12"), and 12% (approximately 144 properties) required a follow-up grid sampling. The grid sampling results included 43 properties with one grid $\geq$ 43 ppm and 30 properties with one grid $\geq$ 100 ppm. The highest single grid was 613 mg/kg.

Based on the sampling results, the USACE planned a phased approach to removing the arsenic contaminated soil. A time critical removal of soil on seven properties has been scheduled to begin in June 2002. The USACE is moving forward with plans for arsenic removal and subsequent removal activities will be prioritized based on the arsenic levels in the soil, use of property, input from the community and from other agency partners. Removal activities will likely continue well into the future.

Agency for Toxic Substances and Disease Registry's Exposure Investigation

The Agency for Toxic Substances and Disease Registry (ATSDR) conducted an exposure investigation in March 2002, in cooperation with the District of Columbia Department of Health. The exposure investigation included an analysis of urine and hair samples of people whose homes had the highest arsenic levels in composite soil samples taken from their yard. In this exposure investigation, 32 individuals (23 adults and 9 children) and 13 homes were evaluated. Robert Johnson, MD, Medical Officer of the Agency for Toxic Substances and Disease Registry presented the following results.

Individuals had their urine tested for total arsenic (which could come from all sources—food, water, air, soil and dust) and for inorganic arsenic (which could come from contaminated soil and dust). ATSDR measured arsenic in urine in parts per billion

(ppb). All persons tested had total urinary arsenic of less than 100 ppb, except 1 individual who had a level of 210 ppb. All of the individuals tested had no detectable inorganic arsenic except 4 individuals with levels ranging from 10 ppb to 15 ppb. Levels below 20 ppb of inorganic usually indicate no significant exposure. In summary, the urine arsenic levels show very low levels of exposure.

Hair arsenic testing is not as accurate as urine testing, but it gives some indication of the exposure during the past months or years (depending on the length of the hair). ATSDR measured arsenic in hair in parts per million (ppm). All of the people tested had hair arsenic levels between 0 ppm and 0.73 ppm. The average was 0.1 ppm. Levels below 1 ppm usually indicate no significant exposure. In summary, the hair arsenic levels also show that there are low levels of exposure.

In addition to the biomonitoring, ATSDR tested the household dust in the 13 homes. Levels of arsenic ranged from 0 ppm to 63 ppm. The average was 9.9 ppm of arsenic in the dust. It is difficult to interpret the significance of household dust levels. However, it is apparent from the hair and urine tests that these levels are not causing elevated arsenic levels, or any increased health risks, to individuals in these homes.

ATSDR has committed to continue its involvement with the activities in Spring Valley. It is considering repeating some testing during the summer months when people are working in their yards and gardens, and exposure to arsenic is increased. Another key time for retesting might be during soil clean-up activities, which are also scheduled to occur this summer.

Remediation Levels in Spring Valley

Dr. Paul Kostecki, a specialist in soil science and a member of the Spring Valley Scientific Advisory Panel, described and interpreted the scientific data that supported the remediation levels in Spring Valley. Dr. Kostecki reported that the recommended remediation levels were based on credible scientific data. He also stated that there appeared to be regulatory acceptability of the characterization of contamination among the agency partners, and that there was an agreement of the proposed remediation levels. However, Dr. Kostecki highlighted that there remained concerns in the community regarding the balancing of quickly removing the soil, while limiting the risks and disruption to the community.

RECOMMENDATIONS

Based on the presentations cited in the preceding paragraphs, the panel's discussion, its knowledge and experience, and desire for a comprehensive database on which to base conclusions, the following recommendations are made:

Recommendation One

The Panel recommends that the District of Columbia Department of Health (the Department) establish a surveillance system to characterize diseases (arsenic-related disorders) by time, place and person. A primary objective should be to obtain a rapid "suspected case" count. The target population is persons who live in the Spring Valley neighborhoods of Northwest Washington D.C., and the emphasis is on "arsenic-related" diseases because the soil analysis conducted thus far indicates that arsenic is the primary contaminant of concern.

The Panel is aware that Spring Valley residents may be concerned about environmental exposures or environmentally induced illness. Persons with symptoms of illness will likely present first to physicians' offices, clinics or hospital's emergency rooms, where the characteristics of the illness may be defined, not the symptoms but also the functional and biochemical alterations that characterize the illness.

The Panel urges the Department to give thorough consideration to the case definition – which is fundamental to any surveillance system – since it is the formal answer to the question of what manifestations of a disease or condition are under surveillance. The case definition should be sufficiently inclusive (sensitive) to identify persons who require the Department's attention but sufficiently exclusive (specific) to avoid unnecessary diversion of that attention. The Panel is aware that there is no ideal case definition for any particular disease or condition.

Recognizing that "reporters" are critical to an effective surveillance system, the Panel recommends that the Department clearly identify persons responsible for reporting "cases" such as health care providers that serve the Spring Valley neighborhoods or persons at specific institutions (clinics, hospitals).

In addition to communicating case reports, the health care professional ("the reporter") may be responsible for providing laboratory and related data of the case. The Panel is aware that Spring Valley residents may seek care from clinicians and other health care providers outside the Spring Valley neighborhoods. The Department will want to consider this issue in planning the surveillance system. Here, the Department may wish to facilitate the establishment of a network of health care providers to report "cases" to the surveillance system.

The Panel further recommends that the Department examine geographical or spatial differences in incidence. Plotting the cases on a District of Columbia/Spring Valley map is one approach. Since the Department already has "hazard surveillance data" – the occurrence of and distribution of environmental contaminants in the soil – developed by the U.S. Army Corps of Engineers soil testing program, efforts should be made to determine relationships between that data set – disease surveillance data and hazard surveillance data. To effectively accomplish these tasks, the Department will want to draw on the expertise of environmental epidemiologists, specialists in human exposure assessment and specialists in clinical environmental medicine.

Recommendation Two

The Panel recommends that the Department in collaboration with the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency develop specific plans to ensure that the remediation process does not increase potential and real exposure of Spring Valley residents to environmental contaminants. In other words, the remediation process should not increase individual or residential contamination or otherwise increase the pollutant burden on Spring Valley residents. The Panel is well aware that there may be transient increases in pollution during removal or remediation procedures. Effective planning by the agencies should keep such increases to a minimum.

In this connection, written and oral advisories to the residents regarding their "behavior" or activities during the remediation process should be practical and based on the best available scientific knowledge about exposure, risk, and personal risk management procedures. Information for the community (advisories, etc.) should be in a clear and concise format. If supplied electronically, it should be user-friendly and readily interpretable.

As the emphasized in its earlier reports, the bioavailability of the contaminant influences the likelihood that a material will inter the circulatory system (blood) once contact is established. The ease with which the contaminant can be extracted from the soil and gain access to the blood is termed bioavailability, which depends on the unique properties of each chemical and varies with its chemical and physical state, and the properties of the soil, including its inorganic and water content. Much of the arsenic occurring as contaminants in soils are in a relatively insoluble form with low bioavailability.

In further considerations of risk, the Panel notes that some foods, especially those of marine origin, have high concentrations of arsenic, and consumption results in a surge of concentration in the urine. Depending on the nature and amount of arsenic species in the food, recent consumption of certain foods might not represent a toxicological concern.

Recommendation Three

The Panel recommends the adoption of the 20 ppm remediation level by the District of Columbia government as proposed by the U.S. Environmental Protection Agency (EPA). This "target goal" for clean up of the Spring Valley community is based on data assembled by the EPA, and made available for the Panel's review. The Panel also reviewed other relevant databases. The Panel notes that state governments have promulgated varying soil clean up levels after considering a number of approaches. For example, one approach is to require that a responsible party clean up "to background". Thus for metals that occur naturally in the soil, there is some average background level, below which clean up would not be feasible. However, there are separate backgrounds for urban versus rural areas, and it is not feasible to expect urban soils to reach rural levels. Another consideration is projected use of the site. It is not necessary to clean up an industrial site to the same level as a residential site. Spring Valley is a residential site.

The remediation level of 20 ppm in Spring Valley is below the organ specific, non-cancer toxicity of 23 ppm for arsenic and is very close to the background concentration that has been determined to be as high as 18 ppm. The Panel believes that the 20 ppm remediation level should not pose a health hazard to the community and should not threaten the natural ecological systems of northwest, Washington, D.C.

Recommendation Four

The Panel recommends that "the agency partners" – District of Columbia Department of Health, the U.S. Army Corps of Engineers and the U.S. Environmental Protection Agency – continue efforts to involve community members to ensure they are aware of and understand the procedures underway to identify, evaluate and effectively manage potential or real environmental health risk in Spring Valley. It bears repeating, that the expectations and desires of members of the Spring Valley neighborhoods are as important to successful cleanups as are regulatory levels of contaminants.

In this regard, the Department should enhance community members understanding of the limitations of protective clothing. Protective clothing and gloves provide barriers between skin and potentially airborne hazardous material but no clothing is truly impervious, few materials are available that provide relatively impermeable barriers for extended periods. Long-sleeve shirts or coveralls may not completely prevent skin contact with toxic dust because small dust particles can sift through openings between threads in woven cloth. Some reduction in exposure can be obtained by limiting the amount of time spent in areas with potential exposure to the contaminant. Showers also facilitate this effort after working (disturbing soil, etc.) in areas.

Recommendation Five

The Panel recommends that the Department, with the assistance of the Agency for Toxic Substances and Disease Registry (ATSDR), pursue "phase two" of the exposure investigation as suggested in the Panel's second report (January 2002). The Panel is aware of the results of earlier biomonitoring, but recommends additional data on exposure (or lack of) to ensure there is a comprehensive (e.g., statistical power) database on which to draw conclusions.

GOVERNMENT OF THE DISTRICT OF COLUMBIA
MAYOR'S HEALTH POLICY COUNCIL
Spring Valley Scientific Advisory Panel

Anthony A. Williams
Mayor

Bailus Walker, Jr., Ph.D., MPH
Chairman

REPORT OF THE DISTRICT OF COLUMBIA MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL

Attachment

DISTRICT OF COLUMBIA
MAYOR'S SPRING VALLEY SCIENTIFIC ADVISORY PANEL
825 North Capitol Street, NE, Washington, DC
Conference Room 4131
Wednesday, May 29, 2002
9:00 a.m. – 2:00 p.m.

* *AGENDA* *

I. Welcome and Call to Order

Bailus Walker, Jr., PhD, MPH, Chairman, Spring Valley Scientific Advisory Panel

II. Presentations

Moderator: *Bailus Walker, Jr., PhD, MPH,* Chairman, Spring Valley Scientific Advisory Panel

Status Report of Department of Health Activities
Lynette Stokes, PhD, MPH, Chief, Bureau of Hazardous Material and Toxic Substances
Department of Health

Update on the Soil Sampling and Overview of Remedial Work
Major Michael Peloquin, Deputy District Engineer for Spring Valley
U.S. Army Corps of Engineers, Baltimore

Agency for Toxic Substances and Disease Registry's Exposure Investigation
Robert Johnson, MD, Medical Officer, Exposure Investigation Section
Agency for Toxic Substances and Disease Registry

Remediation Levels in Spring Valley
Paul Kostecki, PhD, Panel Member
Spring Valley Scientific Advisory Panel

III. Questions and Answers (Panel Members and Presenters Only)

IV. Executive Session

V. Adjournment

Mrs. MORELLA. Thank you, Dr. Walker. And thank you for also in advance, a bit ago, maybe several weeks ago, sending us your report. We appreciated receiving that. Sarah Shapley, thank you for being with us.

Ms. SHAPLEY. Thank you, Madam Chairwoman and Ranking Member Norton.

I am Sarah Stowell Shapley, elected Community Co-Chair of the Spring Valley Restoration Advisory Board for the Army Corps of Engineers' cleanup of contamination related to World War I testing of chemical warfare material in our neighborhood. This Board is a mechanism authorized by statute for the Department of Defense's formerly used defense sites, known as FUDS, and has a membership comprised of the various institutional stakeholders int eh cleanup project, as well as 14 residents of Spring Valley.

The basic purpose of this advisory board mechanism for the Corps is to provide it with a means of community review and comment on its proposed actions and plans, and for the community representatives, it means a direct interaction with the Government on these plans in a regular, continuing forum. I am pleased to be invited to testify again on behalf of the residents, as I did in July 2001, before the D.C. Subcommittee, as it revisits our neighborhood and to consider progress and problems 1 year later.

To reset the stage, we of the Spring Valley FUDS have the dubious distinction of being a double danger FUDS. That's one of my cute phrases. Double danger FUDS, as we have both chemical and ordnance contaminations. I shall address the four points of interest you called this hearing to consider. I must note that we have not seen the GAO report until today, so we will comment on that in the followup period.

Our motto remains focus forward, but now, in 2002, what that focus means is finish in 4 years. So today my theme and slogan is, finish in 4 years. We have a focus for this committee itself, support, please, our appropriations request for earmarked funds to enable us to finish in 4 years. The time is now, the year at issue is the fiscal year 2003 appropriation and the further need is to incorporate an additional mandate for the years fiscal year 2004 through fiscal year 2006. This request is the heart of our report today on the status of remediation efforts. We believe the Government, all three partners, are ready to finish in 4 years. But they need the mandate.

You asked about the performance of the Government agencies involved in the Spring Valley FUDS project. We can report major progress in the level of cooperation, the openness and consensus achieved among the three Government partners, the Army Corps of Engineers, the U.S. Environmental Protection Agency Region III, and the D.C. Department of Health. For instance, the partners' meetings have been open to residential members of the board, although they are internal, deliberative sessions. The partners report their developing plans as they evolve to one of our monthly board meetings. Staff from all three partners respond to e-mail inquiries and requests in the periods between board meetings.

I will highlight that the partners have been considering adding or augmenting what are called points of interest. These are points where testing of remedial action will occur based on updated, inte-

grated data mapping reviews. They are also considering the criteria for expanding the boundary of this FUDS based on recent soil test results.

This flexible response to reality is reassuring. What matters most to residents is that the plans have the unanimous endorsement of the three partners. The mechanism and the participants seem to be working well toward that outcome.

The other Government mechanism is the Mayor's Science Advisory Panel. Their meetings are open to the public. I am pleased to be able to say that we have a good, close liaison with this panel through its chairman and staff, before and after panel meetings.

You asked about the review of health risks as defined for the Spring Valley FUDS. Here, we now have most of the results from the suite of standard screening reviews, what I call indicator studies. And this has good news to report. These indicator studies have been performed by the D.C. Department of Health and the CDC's Agency for Toxic Substances and Disease Registry. These indicator studies in turn have now been reviewed by the Mayor's Science Advisory Panels and officials from these agencies have reported the details in their conclusions.

What matters most is that there appears to be no indicator of a significant level of health risk that would justify full blown studies and public health assessments. What has been and continues to be of concern to me is the difficulty of communicating the results in the process of study in this area of environmental health assessment. I know the chairman of the Mayor's Panel, Mr. Bailus Walker, shares this concern. Frankly, the job has just not gotten done. Partly it is a problem of the inherent difficult in translating environmental medical science into lay terms. This means not only the what but also the how of such environmental health assessments. Partly it is a problem of each agency having its own responsibility, function and procedure, so that the public is left with pieces rather than a narrative whole. We are constantly having to return to the need for a primer on the most basic terms and study process for exposure media and epidemiology, for instance.

You asked about the status of remediation efforts. Before I elaborate on our major need on this subject, I just want to register three related issues of concern to the community. As the project moves into the remedial phase and yet more time passes by, people in the remedial group are concerned about real estate values and about timely help with containment measures while awaiting remediation. Everyone is concerned about the Government's final clearance notice certifying the safety of a property that would meet a realtor's standard and would convey with the deed of the land. On this last issue, we await a legal memorandum from the Army. And I have asked the Army to provide a statement of their responsibility under the FUDS program to return to remediate and restore any property in the event of future problems. This obligation to return needs to be clearly defined for the community.

On the first two issues of particular concern to the remedial group of about 150 properties, time is the key. The more time is taken the more exacerbated are the concerns about adverse real estate impact and the more difficult are any containment measures

necessary to protect homeowners in the normal use of their contaminated property while awaiting remediation.

Now our main concern. With the status of remediation is the prospect of seemingly endless prolongation of uncertainty about its fulfillment. After a decade of dereliction, delay and uncertainty, we have appealed to congressional appropriations committee members to earmark sufficient funds in the FUDS budget, which falls under the purview of the Defense Subcommittees of the Appropriations Committee sufficient for us to finish in 4 years. The 4-year period, and I'll be happy to take more questions on this, which is fiscal year 2003 to fiscal year 2006, is the best feasible time limit achievable on both engineering and logistical grounds in the residential community.

We ask your support as D.C.'s representative in Congress for this request, and for it to be fulfilled in the fiscal year 2003 Appropriations Act.

Let me lay out the position, and I'm pleased to say that some of these criteria and arguments have entered the discourse of the committee and some of my fellow panelists. We believe the Spring Valley FUDS merits the special congressional support of an earmarked, mandated level of funding for several reasons besides that of an excessively prolonged time line. Spring Valley is the first FUDS to have all these special characteristics, which means that this project is a test and model for the Government's ability to address any other comparable site in the future. And you've heard testimony to this point, I think, from the other representatives of the Government.

First, it is a closely settled residential neighborhood with extensive and mature landscaping in a major American city. Second, it is a large site for an urban environment, and one which has been drastically topographically changed in its establishment as a residential neighborhood. Third, it is a site with both chemical contamination of an environmental medium, soil, and also chemical warfare munitions and ordnance explosives contamination. Fourth, it is a site organized for survey and remediation by homeowner property with all properties, each and every one, subject to testing, another first in the FUDS program.

Fifth, the field testing for ordnance will use the most recently developed methods of geophysical detection and containment for removal, another test and model for the Government. Sixth, it is ranked level one in terms of the Defense Department's relative risk evaluation scheme. This last criterion addresses the question asked by the committee about other D.C., Baltimore District or Maryland FUDS. There are very few level one sites. Most sites are at the bottom end of DOD's ranking scheme. And I have provided to the staff and I know the staff has the previous GAO reports that itemize these rankings for the country.

In sum, we believe the Government will benefit on both technical and managerial grounds if it meets this challenge in a positive, citizen-friendly way. We were pleased that our own Delegate Norton was successful in urging the Army to reprogram some fiscal year 2002 funds to cover unanticipated costs in the cleanup of one major munitions burial pit. This means the project is not entering fiscal year 2003 in a deficit position with respect to its plans for inves-

tigation and remediation. It means that with congressional help, fiscal year 2003 to fiscal year 2006 could see the end of this decade old problem, and the restoration of Spring Valley to its deserved environmental health in our Nation's capital.

Living hand to mouth, or year to year, in our case, with uncertainty as to designated funding, is definitely not citizen friendly. I'm going to abbreviate the details on the finance, which will be in the submission to you.

Mrs. MORELLA. We have it in what you have given to us here, $53,765,000.

Ms. SHAPLEY. Yes. The total estimate of cost to complete as of now, for Spring Valley, is $53.7 million, and thus the level of effort for each of the 4-years is $13.4 million. Then I've provided some detail as to how those estimates are derived. I will just call your attention, Madam Chairwoman, you asked about contingencies with respect to scope. The allowance in the Army's plan is for munitions and ordnance removal efforts of up to 200 properties or points of interest. So that is the scope that their present budget estimate allows for, which seems pretty sensible to me.

Before closing, I would just ask that certain documents be included in the record, namely, our letter of appeal to Congress for earmarked funding, our followup points from 2001, and an op-ed piece on the Defense Departments' cleanup by former Deputy Under Secretary of Defense, Sherri Goodman. These have been provided to the committee.

I would just call your attention to the page on national context, which has some detail about the scope of the Army's decisions and the prioritizations of FUDS. It is a very confusing issue to understand, and I think those few facts will supplement your interpretation of the GAO report.

Mrs. MORELLA. Hearing no objection, they will all be included in the record.

Ms. SHAPLEY. Thank you, Madam Chairwoman.

Finally, we have done our part in meeting month in and month out and delivering our letter of appeal to over 60 Members of Congress and local D.C. political leaders. Now we must ask you to help. The Hill is your territory, Spring Valley is ours. I hope we can pursue the same course of action so that we do indeed finish in 4 years. Thank you, Madam Chairwoman, for this opportunity.

[The prepared statement of Ms. Shapley follows:]

House Hearing: June 26, 2002 - Spring Valley Revisited

Good morning. I am Sarah Stowell Shapley, elected Community Co-Chair of the Spring Valley Restoration Advisory Board for the Army Corps of Engineers' clean-up of contamination related to World War I testing of chemical warfare material in our neighborhood. This board is a mechanism authorized by statute for the Defense Department's "Formerly Used Defense Sites" (FUDS) and has a membership comprising the various institutional "stake-holders" in the clean-up project as well as fourteen residents of Spring Valley. The basic purpose of this advisory board mechanism for the Corps is to provide it with a means of community review and comment on its proposed actions and plans and for the community representatives a means of direct interaction with the government on these plans in a regular, continuing forum. I am pleased to be invited to testify again on behalf of the residents, as I did in July 2001, before the DC Subcommittee of the House's Government Reform Committee, as it revisits our neighborhood of almost 1200 homes in the nation's capital to consider progress and problems one year later. To re-set the stage: we of the Spring Valley FUDS have the dubious distinction of being a "double danger" FUDS, as we have both chemical and ordnance contamination.

I shall address the four points of interest you called this hearing to consider. But beforehand I must note that we cannot address the findings of the report by the General Accounting Office as we have not received it in advance of this hearing. I hope your normal procedure for follow-up to testimony will enable us to do so .

Our motto remains: "Focus Forward". But now what that focus means is "Finish in Four Years". So today my theme and slogan is: "Finish in Four Years!" And we have a focus for this committee: support our appropriations request for earmarked funds to enable us to "finish in four years". The time is now, the year at issue is the FY03 appropriation, and the further need is to incorporate an additional mandate for the years FY04 - FY06. This request is the heart of our report to you today on the status of remediation efforts. We believe the government, all three "partners", are ready to finish in four years. But they need the mandate.

You asked about the performance of the government agencies involved in the Spring Valley FUDS project. We can report major progress in the level of cooperation, the openness and the consensus achieved among the three government "partners", the Army Corps of Engineers, the US Environmental Protection Agency Region III, and the DC Department of Health. The partners meetings have been open to residential members of the board, although they are internal deliberative sessions. The partners report their developing plans as they evolve to one of our monthly board meetings. Staff from all the partners respond to e-mail inquiries and requests in the period between board meetings. I will highlight that the partners have been considering adding or augmenting what are called "Points of Interest", points where testing or remedial action will occur, based on updated integrated data mapping reviews, and they are also considering the criteria for expanding the boundary of this FUDS based on recent soil test results. This flexible response to reality is reassuring. What matters most to residents is that plans have the unanimous endorsement of the three partners. The mechanism and the participants seem to be working well toward that outcome. The other government mechanism is the Mayor's Science Advisory Panel. Their meetings are open to the public. I am pleased to be able to say that we have good, close liaison with this panel, through its chairman and staff, before and after panel meetings.

You asked about our view of the status of health risks as defined for Spring Valley FUDS. Here we now have most of the results from the suite of standard screening reviews,

what I call "indicator" studies, and the news is good. These indicator studies have been performed by DC's Department of Health (cancer and mortality statistics for Spring Valley and another comparable area in the region) and the CDC's Agency for Toxic Substances and Disease Registry (bio-monitoring of high-exposure households). These indicator studies, in turn, have now been reviewed by the Mayor's Science Advisory Panel. Officials from these agencies will report the details and their conclusions. What matters most is that there appears to be no indicator of a significant level of health risk that would justify full-blown studies and public health assessments. What has been and continues to be of concern to me is the difficulty of communicating the results and the process in this area of environmental health assessment. I know the Chairman of the Mayor's Science Advisory Panel, Dr. Bailus Walker, shares this concern. Frankly, the job has not gotten done. Partly it is a problem of the inherent difficulty of translating environmental medical science into lay terms. This means not only the What but also the How of such environmental health assessments. Partly it is a problem of each agency's having its own responsibility, its own function and procedure, so that the public is left with pieces rather than a narrative whole. We are constantly having to return to the need for a "primer" on the most basic terms and study process for exposure media and epidemiology, for instance.

You asked about the status of remediation efforts. Before I elaborate on our major need on this subject, I want to register three related issues of concern to the community. As the project moves into the remedial phase, and yet more time passes by, people in the remedial group are concerned about real estate values and about timely help with containment measures while awaiting remediation. Everyone is concerned about the government's final clearance notice certifying the safety of a property that would meet a realtor's standard and would convey with the deed to the land. On this last issue, we await a legal memorandum from the Army, and I have asked the Army to provide a statement of their responsibility under the FUDS program to return to remediate and restore any property in the event of future problems. This obligation to return needs to be clearly defined for the community. On the first two issues, of particular concern to the remedial group of about 150 properties, time is the key. The more time is taken, the more exacerbated are the concerns about adverse real estate impact and the more difficult are any containment measures necessary to protect homeowners in the normal use of their contaminated property while awaiting remediation.

Our main concern with the status of remediation is the prospect of seemingly endless prolongation and uncertainty about its fulfilment. After a decade of dereliction, delay and uncertainty, we have appealed to congressional appropriations committee members to earmark sufficient funds in the FUDS budget, which falls under the purview of the Defense Subcommittees of the Appropriation Committees, for us to "finish in four years". The four-year period, FY03 - FY06, is the best feasible time-limit achievable on engineering and logistical grounds in this residential community. We ask your support, as DC's representative in Congress, for this request and for it to be fulfilled in the FY03 appropriations act.

Let me lay out the position. We believe the Spring Valley FUDS merits the special congressional support of an earmarked, mandated level-of-effort funding for several reasons -- besides that of the excessively prolonged time-line. Spring Valley is the first FUDS to have all these special characteristics which means that this project is a test and model for the government's ability to address any other comparable site in future. *First*, it is a closely settled residential neighborhood with extensive and mature landscaping in a major American city. *Second*, it is large site for an urban environment and one which has been drastically

topographically changed in its establishment as a residential neighborhood. *Third*, it is a site with both chemical contamination of an environmental medium (soil) and also chemical warfare munitions and ordnance explosives contamination. *Fourth*, it is a site organized for survey and remediation by homeowner property, with all properties, each and every one, subjected to testing, another first in the FUDS program. *Fifth*, the field testing for ordnance will use the most recently developed methods of geophysical detection and containment-cum-removal, another test and model for the government. *Sixth*, it is ranked Level One in terms of DOD's Relative Risk Evaluation scheme. This last criterion addresses the question asked by the committee on other DC (and Baltimore District or MD) FUDS. There are very few Level One sites; most are at the bottom end of DOD's ranking scheme.

In sum, we believe the government will benefit on both technical and managerial grounds if it meets this challenge in a positive, citizen-friendly way. We were pleased that our own Delegate Norton was successful in urging the Army to re-program some FY02 funds to cover unanticipated costs in the clean-up of one major munitions burial pit. This means the project is not entering FY03 in a deficit position with respect to its plans for investigation and remediation. It means that, with Congressional help, FY03 - FY06 could see the end of this decade-old problem and the restoration of Spring Valley to its deserved environmental health in our nation's capital. Living "hand-to-mouth", or year to year in our case, with uncertainty as to designated funding is definitely not citizen-friendly!

Let me offer some specifics on our request for an earmarked level-of-effort funding sufficient to finish in four years. It is based on the Army estimate of costs as of this spring. The total cost-to-complete is $53,765M. Thus, the level-of-effort required for FY03 - FY06 is $13,441.25M annually. Details of this estimate, important for accountability, are given below.

The total cost-to-complete is $53,765M, of which $36,460M is for unit-costed remediation and restoration (R&R) plus unit-costed munitions detection and restoration, and $17,305M is for associated, regular in-house support. The ratio of these components is, thus, 68% to 32%. Pro-rated for four years, the annual level needed is $13,441.25M. The Arsenic soil R&R estimate ($19,460M) is derived as follows. A property with Arsenic levels above 20ppm in the soil as has been determined by the follow-up grid sampling will be remediated. Each grid, a 20x20ft. square, will cost $20K for both remediation and restoration. At the time of this Army estimate there were expected to be 161 properties with such levels comprising 973 grids which makes a total R&R cost of $19,460M. The munitions estimate ($17,000M) is based on a multi-point review and prioritization scheme and allows for coverage of 200 properties (geophysical survey, intrusive investigation of anomalies, and restoration).

Before closing, I would ask that certain documents be included in the record, namely, our letter of appeal to congress for earmarked funding, our follow-up points from 2001, and an op-ed piece on Defense Department munitions clean-up by former Deputy Undersecretary of Defense, Sherri Goodman. These have been already provided to the committee.

Finally, we have done our part - in meeting month in and month out, in delivering our letter of appeal to over sixty members of congress and local DC political leaders. Now we must ask you to help. The Hill is your territory, Spring Valley is ours. I hope we can pursue the same course of action so that we do, indeed, "finish in four years". Thank you for this opportunity.

Mrs. MORELLA. Thank you very much for all the work that you've done in addition to your testimony today, Ms. Shapley. I know your slogan is "finish in 4 years and get the appropriate funding of $53.765 million." And I note that you have also prorated it for 4 years.

So now I'm pleased to hear from Mr. Harrop. But we now have been called for four votes. Then this committee room is going to be used at 1 o'clock for another subcommittee on which I also serve, dealing with homeland security. So if we hear your testimony, we'll see if I have a chance to ask a question then submit other questions from the subcommittee to you. Thank you.

Mr. HARROP. Thank you, Madam Chairwoman. I am William Harrop, President of the Spring Valley-Wesley Heights Citizens Association. Our homes surround American University on three sides, which makes us the people who are most acutely affected by the chemicals and ordnance that the hearing is discussing. We very much appreciate the committee's continuing interest in our predicament. We appreciate, Congresswoman Morella, your own personal concern in the midst of a difficult electoral campaign, to take time on Spring Valley and the District.

Since the Spring Valley Restoration Advisory Board, the RAP, was set up in May 2001, it has really taken the lead in speaking for the concerns of families in our area on this very long drawn-out campaign of evaluation and remediation. My statement will therefore be brief and will essentially support and reinforce the testimony of Sarah Shapley on my right, the community co-chair of the RAB, to whom I might say, our neighborhood is deeply grateful for all the time and effort she has devoted to this cause.

My focus, like hers, will be on the heartfelt desire of our community that the remediation be completed expeditiously. We want to put this nagging, disruptive problem behind us. We earnestly ask your help in seeing that the required funds are appropriated and earmarked clearly.

I will touch quickly upon the points of your agenda relating to Spring Valley. I also have not seen the GAO report yet and cannot really comment upon it. Second, in regard to the role, authority and responsibility of the various agencies involved, there were very profound problems and frictions and difficulties among these groups up until last year. I am encouraged by Sarah Shapley's rather positive comments about improvements in their responsiveness and coordination, that is EPA, Corps of Engineers, D.C. Department of Health and the Mayor's Science Advisory Panel, in their relations with the RAB in the last year. I agree very much with Congresswoman Norton that it would be a good idea for these organizations not to focus entirely on good teamwork, but also on looking at each other and being sure that each represents its own concerns and gets the job done effectively.

In regard to the assessment of health risks posed by the contamination, I frankly am not aware of any evidence that there is now a significant health risk to our community, nor of evidence that during the last 80 plus years since the Army's warfare station closed down that the health of residents in the area has been really adversely impacted. I think it's interesting that all the evidence we

hear and all the discussions do not seem to point to a severe danger.

In regard to the status of efforts to remediate the contamination, Ms. Shapley's statement properly articulates homeowners' concerns about real estate values, about the need for a final certification from the Army of the safety of each property, and for an assurance of the Army's responsibility to return to remediate any property in the event of problems arising in the future.

But the neighborhood's greatest worry is that the entire process seems to be going on without end. This is in part a question of adequate appropriations in the formerly used Defense sites, FUDS, budget. It is also the result, many of us feel, of the establishment of unrealistic and radially low cleanup thresholds of only 20 parts per million of arsenic. Setting this threshold at what seems to many an exaggeratedly conservative level, barely above, as we've heard in testimony today, the normal background incidence of arsenic in the soil, has triggered a much expanded effort to replace soil at very great taxpayer expense, and stretches out the remediation period and the disruption to our community.

The decision to set such a low threshold seems particularly striking in the absence of evidence of significant risk to health. The Army originally worked on the basis of a 43 parts per million threshold. Why this level was so radically reduced in the absence of evidence of health risks is very puzzling to us. In fact, we are puzzled that the President of the Spring Valley Scientific Advisory Board went along with what we took to be an effort by the EPA to bring this threshold way down. With a threshold still at, say, 43 parts per million, I would imagine this would very much reduce the time required for remediation and would reduce this difficult budget that we are engaged in trying to get funds for.

Assuming that we have no choice but to undergo the elaborate and costly earth removal activity, which this low threshold necessitates, I fully endorse and support the arguments presented by Ms. Shapley in behalf of earmarking sufficient funds over the next four fiscal years in appropriations for the FUDS and making clear that they are specifically assigned to this job in Spring Valley.

Again, I wish to thank the subcommittee for its attention to this subject, which is of really very acute importance to families living in the area of American University, contaminated by the actions of the U.S. Army. Thank you very much, Madam Chairwoman.

[The prepared statement of Mr. Harrop follows:]

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TESTIMONY BEFORE THE SUBCOMMITTEE ON THE DISTRICT OF COLUMBIA, HOUSE COMMITTEE ON GOVERNMENT REFORM
"SPRING VALLEY REVISITED"— JUNE 26, 2002

I am William C. Harrop, president of the Spring Valley-Wesley Heights Citizens Association, which represents over 1300 households living in this residential quarter of Northwest Washington. Our homes surround American University on three sides; we are the people most affected by the toxic chemicals and ordinance left over by the U.S. Army from World War I. We deeply appreciate the subcommittee's continuing interest in our predicament.

Since its inception in May 2001, the Spring Valley Restoration Advisory Board (RAB) has taken the lead in speaking for our families in the long-drawn-out campaign of evaluation and remediation. Therefore, my statement will be brief, and will essentially support and reinforce the testimony of Ms. Sarah Stowell Shapley, Community Co-Chair of the RAB. My focus, like Ms. Shapely's, is upon the heartfelt desire of our community that remediation be completed expeditiously. We wish to put this nagging, disruptive problem behind us. We earnestly ask your help in seeing that the required funds be appropriated and earmarked clearly.

I will touch upon the points on your agenda relating to Spring Valley.

First, I have not yet seen the GAO report requested by Chairwoman Morella and Ranking Member Norton after the hearing on 27 July 2001, and so am unable to comment upon it.

Second, in regard to the role, authority and responsibility of the various agencies involved, there were certainly problems and frictions in their working relationships up until 2001. I am encouraged by Ms. Shapley's rather positive comments about improvement in responsiveness and in coordination among EPA, the Corps of Engineers, the DC Department of Health and the Mayor's Science Advisory Panel in the experience of the RAB over the past year.

Third, in regard to the assessment of health risks posed by the contamination: I am not aware of evidence that there is now a significant health risk to our community, nor of evidence that during the 80+ years which have passed since the army's chemical warfare station closed down that the health of residents of this area has been adversely impacted.

Fourth, on the status of efforts to remediate the contamination, Ms. Shapley's statement properly articulates homeowners' concerns about real estate values, about the need for a final certification from the Army of the safety of each property and for an assurance of the

Army's responsibility to return to remediate any property in the event of future problems. But the neighborhood's greatest worry is that the entire process of remediation has begun to seem without end.

This is in part a question of adequate appropriations in the Formerly Used Defense Sites (FUDS) budget. But it is also the result, many of us feel, of the establishment of an unrealistic and radically low clean-up threshold of only 20 parts per million of arsenic. Setting this threshold at an exaggeratedly conservative level, barely above the normal background incidence of arsenic in the soil, triggers much expanded replacement of soil at great taxpayer expense, and stretches out the remediation period. The decision to set such a low threshold seems particularly striking in the absence of evidence of significant risk to health. I attach my letter of February 17, 2002, on this issue to the Spring Valley Scientific Advisory Panel. This letter was not acknowledged.

Assuming that we have no choice but to undergo the elaborate and costly earth removal activity, which this low threshold necessitates, I endorse and support the arguments presented by Ms. Shapley in behalf of the earmarking of sufficient funds in the FUDS appropriations for the next four fiscal years.

Again I wish to thank the Subcommittee for its attention to this subject, which is of such acute importance to the families living in the area of American University contaminated by the action of the United States Army.

Attachment: Letter of February 17, 2002 to the Spring Valley Scientific Advisory Panel

Mrs. MORELLA. Thank you very much, Mr. Harrop. I am going to adjourn the hearing in 15 minutes, but I am going to leave now and give my ranking member 15 minutes to be able to ask any questions she may have. I know that one of the questions she will ask will be one I also wanted to ask, and that is, has there been an adequate level of communication, this would go to, I guess, Ms. Shapley, between the agencies involved in the cleanup and the Spring Valley residents, especially related to health concerns.

But before I adjourn the meeting, since I have four votes ahead of me and 5 minutes to get over there, I do want to also thank the staff for the work that they've done, in putting this hearing together. On the Democrat side, Jon Bouker, and Jean Gosa. On the majority side, Russell Smith, Matthew Batt, Robert White, Shalley Kim, Heea Vazirani-Fales. It's all yours, Ms. Norton.

Ms. NORTON. Thank you very much, Madam Chair. I want to apologize that the matter involving guns in the cockpit came up just as Ms. Shapley was beginning to testify, so I had to run over there very quickly.

I'd like to begin with a question to Ms. Shapley, in fact. I noticed a discrepancy between the amount that the Corps indicates would be necessary over a 5-year period, $11 million, and your testimony, which estimates $13 million. What is the basis for your estimation?

Ms. SHAPLEY. I think what you're referring to as a discrepancy, Delegate Norton, is that you're referring to the $11 million?

Ms. NORTON. Yes, the $11 million versus the $13 million.

Ms. SHAPLEY. That's because the Army had done a plan that was looking at 5 years. And what I did was collapse the categories of expenditure into 4 years.

Ms. NORTON. Has the Army indicated they could do it in 4 years with $13 million?

Ms. SHAPLEY. That was what they indicated to me was the shortest timeframe that would still be feasible. Five years happened to be their planning horizon, and I asked, in effect, is 4 years feasible. My rationale for doing that, frankly, was of course to honor the citizens' concern that this has been dragging on for so long, and 4 years still leads us out to fiscal year 2003. And frankly, to allow for the contingencies.

So it seemed to me to do the mainstream planning effort and designation for 4 years and everybody knows you're going to have to live with contingencies if they happen. That was the rationale. So it's the same units, the same estimates.

Ms. NORTON. I want to particularly commend you, Ms. Shapley and you, Mr. Harrop, on the very analytical and level headed and balanced way you have approached this entire exercise. I mean, either we can act like wild people, scaring a beautiful community, in an effort to try to get this done, or we can, as representatives of the community, inform the community and at the same time, be careful as to how that information is relayed. When the words arsenic and munitions in the ground and contamination are floated around, it is very easy, I've seen this kind of thing in ANCs, for example, not in yours in particular, where any word of that kind is used and abused beyond the evidence. Whatever the experts here believe or themselves communicate, as far as the community is con-

cerned, you are likely to be the most credible sources of information, because you stand in their shoes exactly.

I was, for that reason, concerned to hear that while Ms. Shapley believes that full-blown studies of the kind that might be necessary if there was evidence of contamination of the soil or health effects that we don't have here that might be called for, the problem you see is in the difficulty of relaying information in part because of the several agencies that are involved and we are dealing with scientific terminology and the rest. I don't know what you would recommend in that regard, but I would be very interested in anything you and Mr. Harrop would recommend considering these people have to get on and do the job.

But that part of doing the job is making sure that people have the necessary information so they don't feel they should move, or don't feel the community is unsafe. What would you suggest therefore might be done to improve communication from the agencies involved to the community?

Ms. SHAPLEY. Madam Delegate, I know that Dr. Walker and I have had conversations about this problem of communicating. Let me just give you an example. I've interacted extensively with the D.C. Health folks. I've asked them, well, now, you've done a briefing on the study, could you do a narrative report about it. And that becomes an extra job suddenly for them to translate that into a narrative report. And with all due respect, and I was very grateful for their prompt response, but the narrative report still did not explain what I referred to in my testimony as a primer, in other words, how do epidemiology studies get done? Where do you start? What is the chain? How do you move from what I've characterized here as an indicator study to what is a full-blown study?

So in a sense, answering that question, which actually puts context and allows one, as you say, to stay within the evidence, is just not on anybody's table to do. When the Agency for Toxic Substances and Disease Registry came to brief us, they talked a great deal about their exposure investigation. But somehow, what never got communicated was, well, what is the difference in the level of study between that initial investigation, what I'm calling indicator studies, and when you actually go to a full-blown health assessment?

I actually pleaded with them, tell us, maybe the Rear Admiral will today, how many of these screening level studies do they do nationally, and how few instances are actually justified doing the full-blown public health assessment. My own suspicion is that it's probably 1,000 to 1 ratio. It's a big ratio, I suspect. That's what I meant by not, and that's part of alleviating people's worries, in some sense. You do indicator studies to indicate if there's a justification for doing in-depth studies. That's one of the missing links.

On the budget end, my specific recommendation, as has become clear talking with D.C. Health folks, they get money in this project, as I understand it, to perform various review functions. It's clear that they don't have enough money as their share to actually do some of this extras by way of communication and reporting. So I think this is one of those instances of the fall between the cracks, the administrative running costs that don't maybe make it to the top layer in budgeting between the partners. But I know it's an

added burden beyond what they are already charged to do to ask D.C. Health, for instance, to do a unified document that brings all these things together and tries to articulate some of this kind of context.

Ms. NORTON. In the Congress, when we have this kind of problem, and we have it often because of the nature of legislation, we often prepare what we call questions and answers for real people, rather than to talk in the jargon of legislation. I'm wondering if Admiral Williams, I'll think of the deepest pockets here, the oldest experience, I wonder if common sense questions and answers, which usually take the form of a question with a couple or three sentences as the answer, because we're not trying to give an encyclopedic response. Frankly, a rather surface response, primer I think is the right word for it, Ms. Shapley. I wonder if that could be done here?

Admiral WILLIAMS. Congresswoman Norton, that certainly can be done. I think Ms. Shapley's comments are very well placed and we can followup on those to address those issues. One of the things that we are doing is we're putting out a newsletter every 6 months that provides information to the community on ATSDR's activities. For this next issue, we will certainly put a Q&A portion in there, working with Ms. Shapley and other members of the community to address those concerns.

Ms. NORTON. Well, I hope this means we've accomplished something at this hearing rather concrete. Yes, Dr. Walker.

Mr. WALKER. Let me add, Congresswoman Norton, I think there has been some efforts underway to address that. And I think as Ms. Shapley pointed out, it's not an easy task. Getting the community to understand the difference between exposure dose, biologically effective dose, is not an easy task, even for those who have passed a course in toxicology.

But the Corps, to its credit, did engage a consultant that spent, I believe, considerable time with the community laying out almost in an ABC fashion the whole issue of the health effects of arsenic.

Ms. NORTON. That was orally?

Ms. SHAPLEY. Yes.

Ms. NORTON. That was orally, apparently.

Ms. SHAPLEY. Well, no, it was then circulated not to the entire community, but it was up on the Web site.

Ms. NORTON. Did it take the form of testimony?

Mr. WALKER. No, Congresswoman Norton, it was almost an ABC of how one moves from exposure to arsenic to the health effects, what we know about the health effects, etc. And while our panel was appreciative of that and certainly commended the presentation, there were some gaps in the information. Nevertheless, I think my point is that was an effort to address community concerns about some of the scientific aspects of this problem.

And ATSDR had an all day session at EPA facilities discussing how health effects studies are done. But obviously we can do more. I think those efforts should be recognized.

Ms. NORTON. Should be recognized, and I think especially in light of the testimony we've heard here, that I think has been very balanced, that there is a problem in getting people to understand

that what Rear Admiral Williams has indicated he will do would be very helpful.

Mr. Harrop did have something to say in this regard.

Mr. HARROP. Thank you, Delegate Norton. I just wanted to say that I agree completely with your concern about excessive worry and anxiety and rumor spreading through the community. It's a big problem. It seems to me that what we really should focus on is the fact that as I understand it, the tests that have all been done to date, whether it was the tests of all the children at the Child Development Center at American University, whether it was the test that was just mentioned a few moments ago of the number of people living in areas most sharply affected, have really not come up with any evidence of great health risk.

I think that the behavior of authorities has been on that basis. In other words, the District regulatory authorities went ahead to authorize American University to proceed with major land movement, major excavation and development, before those areas of the campus had been explored. The District has done nothing about slowing down what I would imagine must be one of the most active excavation and home building and home remodeling areas in the city right around American University, within block or two. That's gone on apace as though there were no problem. In fact, we began to wonder how great a problem there really is if that kind of work would continue.

The Army has just asked the six families on whose property it's going to be doing some major earth movement, these are the six families in Fort Gaines who had extremely high, everyone was concerned by it, very high levels or arsenic, they're going to have major soil replacement. The Army asked those people to move out for 2 to 4 weeks while the work was done and then said explicitly, this is not because we believe there is any health danger. It is because we think there might be some work site safety problems and that sort of thing and it would be better for you not to be there.

So the Army itself does not see, even in these highly contaminated areas, a direct immediate health problem. So I just think that we have to be cautious not to allow the obvious interest to the press in building things up, excitement, to get us too worried about it. It's against this background that I personally very much regret setting the threshold at such a very low level that we're going to have at least, as Ms. Shapley said, maybe four to five more years of activity, which it will be very hard to finance in getting fully actually behind it.

Ms. NORTON. I think that really comes out of the delay caused by the failure of the Federal agencies to come forward early on, after 1986, tell the truth and get this thing started. Once you have that kind of problem, it seems to me you have to err on the side of caution. That's what I think the community is requiring. Perhaps it overdoes it. But I don't think there's any choice now. Because of all the controversy, the only way to put it to rest, it seems to me, is to convince people that you've done all that you could possibly do. Because even then, we know as a matter of science we will not erase all doubt. There is a line that we must walk between the kind of stupid panic that drives people out of a beautiful community and drives down their own property values and absolutely nec-

essary vigilance which is necessary to keep the Federal Government's feet to the fire. Finding that balance is of course going to be very, very important.

Now, one of the ways you find that balance is you look at the testing that has been done. The residents, for example, have, at least some residents, have complained that there have been too small a number and too narrow a scope of testing to get an accurate idea of exposure. So I'd like to ask Admiral Williams whether or not he believes that the ATSDR study is comprehensive enough to draw conclusions about arsenic exposure, based on numbers and on scope of what testing has already been done.

Admiral WILLIAMS. Thank you, Congresswoman Norton.

As was suggested by Ms. Shapley, these are indicator investigations. They are narrow in scope, they are a small number of population. They are intended to see if people are currently being exposed, as Dr. Walker said, is there a body burden of arsenic in the people that we're testing. So it's not an extensive study.

But in this last study, we looked at the homes where the highest level of soil arsenic were found. We took the composite samples provided to us by the Army and said, if we look at the greatest potential for exposure, it should come from those yards that have the highest composite arsenic levels. Those are the folks who we invited to participate in the study.

Now, that doesn't assure us that no one else within the community has been exposed. But we would expect to see exposures greater in the folks that have the greater potential for it.

Ms. NORTON. But there has been a complaint, and I'd like to hear your response to a concern that the study was done in the winter months, I'd like to know why it was done in the winter months, you think that doesn't matter. Of course, the winter months are when people are inside, they're traipsing in and out where you might bring arsenic inside, the mere fact that it's less likely that the arsenic itself, if it is in the soil, would be stirred up. Why was it done in the winter months and can you do it again in the more temperate months of the year?

Admiral WILLIAMS. That was one of the recommendations in terms of looking at periods of time when activity would be greater by the participants, in the summer months. That was one of the recommendations by the Scientific Advisory Panel. We concur with their recommendation. We did this one at the time we did because we were understanding that some remediation, cleanup of properties, was going to be occurring. And we didn't want those folks to later say, "well, of course you didn't find anything, our yards have been cleaned." So we wanted to give them an opportunity for testing early on. So if cleanup progressed faster, if it had occurred before the summer, they would have been tested.

We do plan to go into the community again during the summer months and do additional exposure investigations.

Ms. NORTON. Which summer months? When, what year?

Admiral WILLIAMS. This year, ma'am.

Ms. NORTON. You're going to undertake a study this summer?

Admiral WILLIAMS. Another exposure investigation in July, August, September timeframe.

Ms. NORTON. That is very reassuring.

My 15 minutes have long gone by. I know I speak for the Chair of our committee, Mrs. Morella, when I not only thank and commend all of you who have testified, but the prior witnesses as well. This has been very informative for us. It has performed the function we expected today, which was simply to bring us up to date.

As I indicated in my own opening statement, and I'm sure that the Chair agrees here, some of the questions have been cleared up. The GAO report did not address as many questions as we had hoped, in part because of ongoing investigations and because some of the data still is not in. What that does is to put an obligation on this subcommittee to have regular hearings on this matter until the sign-off has told us that this work is done. I can assure you that will happen.

We may call upon each and every one of you again. I thank you very much for the work you're doing. My staff and Mrs. Morella's staff will continue to be in close contact with you, and I hope you will bring to our attention in between hearings and meetings any matters that require our attention.

Again, I thank you, each and every one of you for your very helpful testimony and for encouraging us to believe that the community, working with the Federal agencies, are in fact going to get this job done. Thank you, and the hearing is adjourned.

[Whereupon, at 12:18 p.m., the subcommittee was adjourned, to reconvene at the call of the Chair.]

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