



SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT

RAB Meeting

**May 10, 2016
7:00 – 8:30 p.m.**

**VESTRY MEETING ROOM
METROPOLITAN MEMORIAL UNITED METHODIST CHURCH
3401 NEBRASKA AVE. NW, WASHINGTON, DC**

Agenda

- 7:00 p.m. I. Administrative Items**
Co-Chair Updates
 ▪ Introductions, Announcements
Task Group Updates
- 7:10 p.m. II. USACE Program Updates**
Groundwater Study
Pilot Project
Site-Wide Proposed Plan
Glenbrook Road
- 7:30 p.m. III. Community Items**
4825 Glenbrook Road Health Consultation: Agency for Toxic Substance and
Disease Registry (ATSDR)
- 8:10 p.m. IV. Open Discussion & Future RAB Agenda Development**
Upcoming Meeting Topics:
 ▪ Suggestions?

 *Next meeting: July 12, 2016
- 8:20 p.m. V. Public Comments**
- 8:30 p.m. VI. Adjourn**

****Note: The RAB meets every odd month.***

Spring Valley

Formerly Used Defense Site

Restoration Advisory Board Meeting

May 10, 2016

“The USACE Mission in Spring Valley is to identify, investigate and remove or remediate threats to human health, safety or to the environment resulting from past Department of Defense activities in the area.”



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Agenda Review



❖ Co-Chair Updates

- Introductions, Announcements

❖ USACE Updates

- Groundwater Study
- Pilot Project
- Site-Wide Proposed Plan
- Glenbrook Road

❖ Community Items

- 4825 Glenbrook Road Health Consultation: Agency for Toxic Substance and Disease Registry (ATSDR), CDC under the Department of Health and Human Services

❖ Open Discussion & Future RAB Agenda Development

❖ Public Comments



Co-Chair Updates



Introductions



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Co-Chair Updates

Announcements

➤ Website Updates:

- March and April Monthly Site-Wide Project Updates
- Weekly 4825 Glenbrook Rd Project Updates with photos
- March RAB meeting minutes
- April Corps'pondent
- Link to ATSDR's 4825 Glenbrook Road Health Consultation

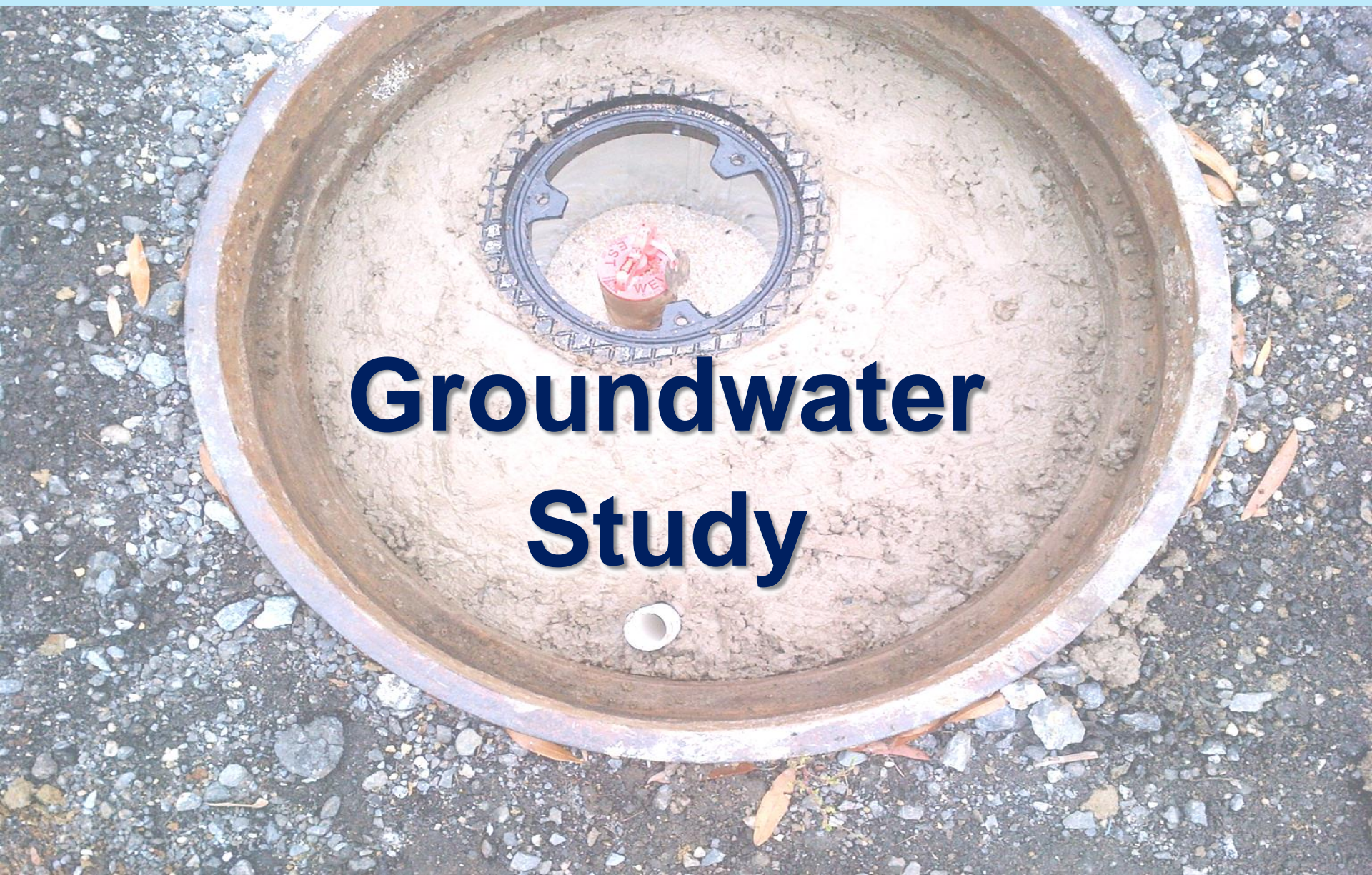


Task Group Updates



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USACE Updates



Groundwater Study

Groundwater

Groundwater Remedial Investigation Report (RI)



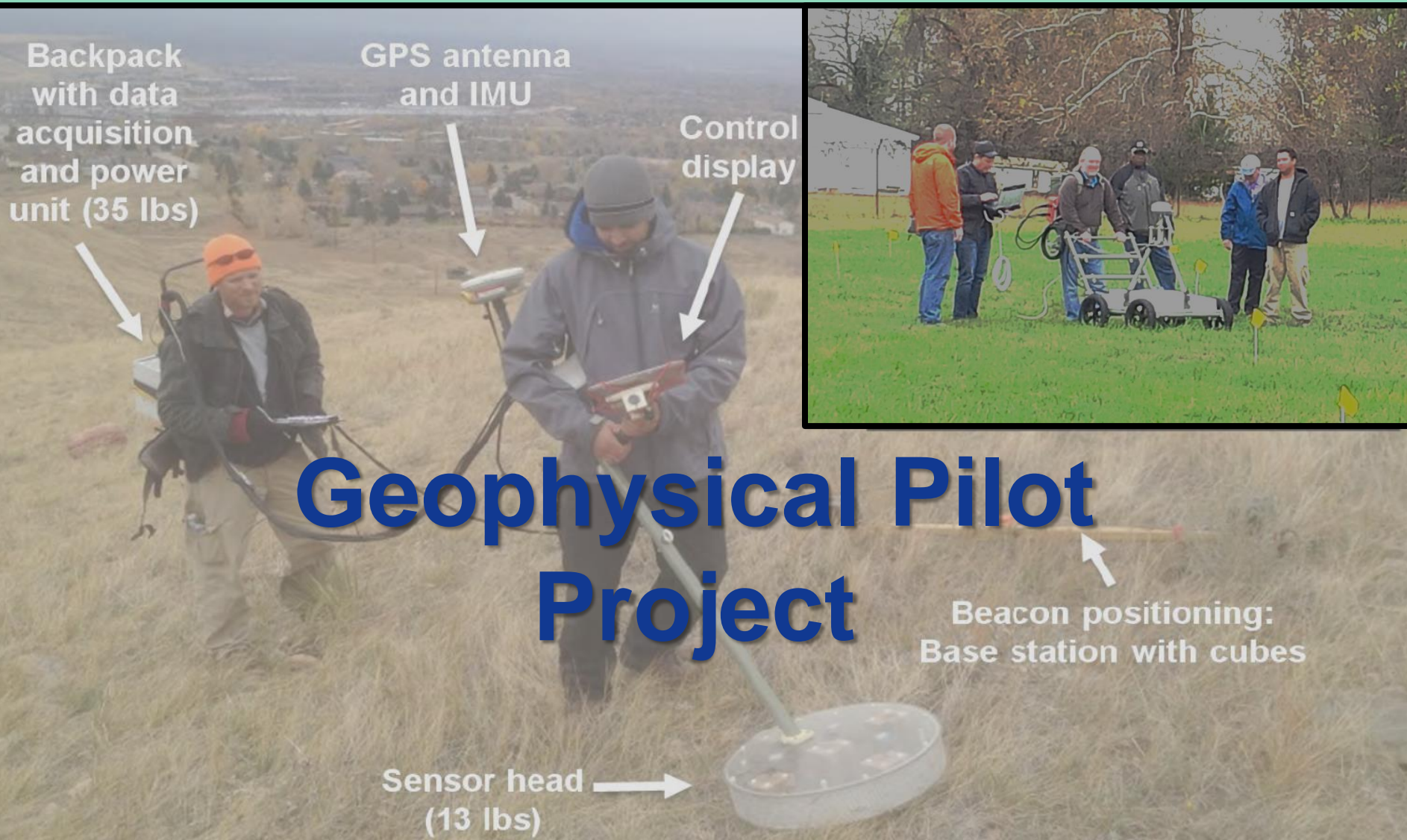
The Army Corps team continues to work to address our regulatory Partners' (US EPA and DOEE) comments, as well as the comments of the project's independent RAB technical consultant (Dr. Peter DeFur) on the Draft Final Groundwater Remedial Investigation (RI) report.

Once the Groundwater RI report is finalized, it will be available to the public.



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USACE Updates



Pilot Project Tentative Schedule



May 2016	Contract Acquisition.
Late Spring - Summer 2016	Field Work: Initial Site inspection & landscape surveys; Geophysical Survey (NRL); Anomaly Excavation; Landscape Restoration.
Fall 2016	Data Evaluation.
December 2016	Pilot Test Report.



USACE Updates

Site-Wide Proposed Plan (PP)

Figure 1-2
American University Experiment Station
(AUES) and Camp Leach Boundaries

Spring Valley FUDS
Washington, DC

Legend

-  FUDS Boundary
-  Roads and Parcels
-  AUES and Camp Leach Buildings in 1918
-  AUES Fence Line in 1918
-  AUES Boundary in 1918
-  Camp Leach Boundary in 1918



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0 375 750
Feet

November 2014

Proposed Plan Update

DRAFT-FINAL PROPOSED PLAN

Site-Wide Remedial Investigation/Feasibility Study
Spring Valley Formerly Used Defense Site (SVFUDS)
Washington, D.C.

Contract: W912DR-09-D-0061, Delivery Order 0011
DERP FUDS MMRP/CWM Project No. C03DC091801 and
HTRW Project No. C03DC091802

Prepared for:

U.S. Army Corps of Engineers
Baltimore District



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The regulatory Spring Valley FUDS Partners, US EPA and DOEE, as well as the comments of the project's independent RAB technical consultant (Dr. Peter DeFur) continued their review of the Draft Final Proposed Plan. This plan will select the preferred alternative as a result of the Feasibility Study analysis.

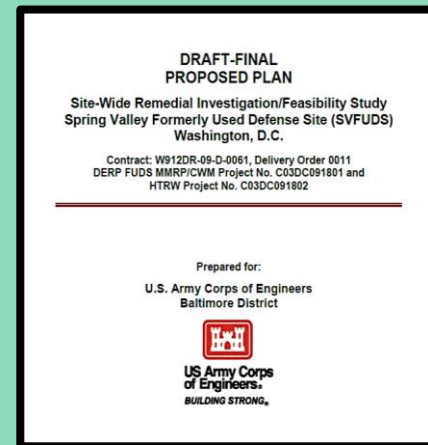
A formal public comment period is anticipated to begin in June to allow the community an opportunity to review and comment on the Proposed Plan before it is finalized.



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Proposed Plan

Preferred Alternatives



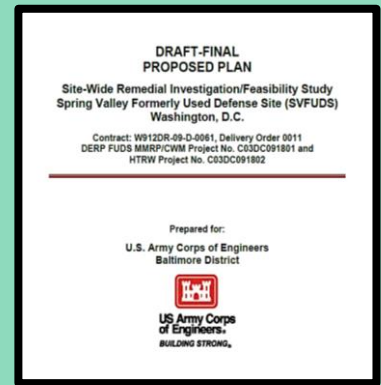
- **Preferred Contaminated *Soil* Remedial Alternative**
 - **Alternative 4: *Excavation and Off-site Disposal of Contaminated Soils***, is the recommended preferred remedial alternative to achieve the Remedial Action Objectives (RAOs).

- **Preferred Explosive *Hazards* Remedial Alternative**
 - **Alternative 6: *Digital Geophysical Mapping (DGM) of Accessible Areas, Remove Selected Anomalies***, is the recommended preferred remedial alternative to achieve the explosive hazards Remedial Action Objectives (RAOs).



Spring Valley FUDS

CERCLA Tentative Schedule



June 2016	Start public comment period on the Proposed Plan.
Summer 2016	Prepare and sign the Decision Document.
Fall/Winter 2016	Contract acquisition. Begin Remedial Design/Remedial Action.
~2017-2020	Plan and conduct Clean-up Action.



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USACE Updates



4825 Glenbrook Road

4825 Glenbrook Road

High Probability

The last remaining section of basement wall and the basement floor were demolished and removed.



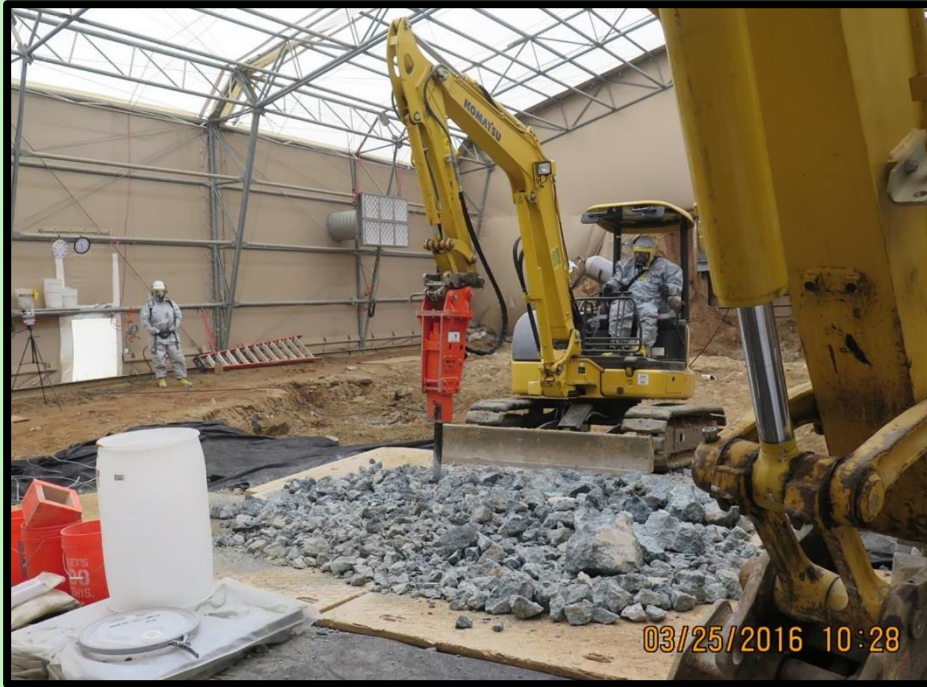
With the floor gone, the team uncovered unusually thick (12-16") cement footers with the soil.



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4825 Glenbrook Road

High Probability



The soil and rubble were sampled before they were packaged and prepared for shipment off site.

The crews completed the lengthy process of jack hammering any potentially contaminated concrete into small 6"x6"x6" pieces of concrete rubble, which was sampled and then transported to the Federal Property site.



4825 Glenbrook Road

High Probability



In mid-April, the crews began the final scraping away of the existing soil, and thereby exposing the saprolite or bedrock in the excavation area where the former basement floor was removed.

This week, an Army Corps geologist will examine the Tent 3 excavation area and determine if we have reached competent saprolite, or bedrock throughout the area.

There have been no detections of chemical agents or industrial compounds in the air monitors under Tent 3, and no munition debris or discolored soil was found to date. A minimal amount of broken glass was found under Tent 3 (~6 pounds).



4825 Glenbrook Road Schedule Update

- ✓ December 2012 through May 2013
Site Preparation/ Initial Low Probability Work
- ✓ May 2013 through September 2013
ECS Set Up, High Probability training, & Pre-Operational Exercises

→ September 2013 through **June 2016**
High Probability Excavation

Summer 2016

- Tent Demobilization & Site Preparation for Final Low Probability Excavation*
- *Shelter-in-Place program ends **May 27***

Fall 2016 through Spring 2017

Final Low Probability Excavation

Spring 2017 through Summer 2017

Site Restoration



Spring Valley FUDS Restoration Advisory Board



Community Items



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An Exposure and Health Effects Evaluation of Former Workers and Residents at 4825 Glenbrook Road

Within the Spring Valley Formerly Used Defense Site (FUDS)

Gregory V. Ulirsch, Environmental Health Scientist

And

Michelle Watters, Medical Officer

Spring Valley Restoration Advisory Board (RAB)

May 10, 2016

PRESENTATION OVERVIEW

- Current Request
- ATSDR Evaluation Process and Limitations
- Summary of Investigations and Sampling Data
- Former Resident Exposure Pathways and Health Evaluation
- Former Worker Exposure Pathways and Health Evaluation
- Recommendations and Public Health Actions
- Submitting and Addressing Public Comments
- Questions

Current Request

- **U.S. Army Corp of Engineers (USACE) Discoveries in 2010**
- **Subsequent USACE Request to ATSDR**
- **Excerpts of Transcripts of Worker Interviews**



ATSDR Evaluation Process and Limitations

- **Data Collection and Exposure Timeframes**
- **Former Residents**
 - Soil Arsenic Exposures
 - No Indoor or Outdoor Air Data
- **Former Workers**
 - Soil Arsenic Exposures
 - No Outdoor Air Data to Evaluate
 - Occupational Medical Officer Evaluation

Summary of Investigations and Sampling

- Focus on Environmental Data from 2000-2010
- No Air Sampling During Property Development
- Chemicals Found in Intact Containers
- Arsenic found in Soils
- No CWAs Found In Surface Soils (Backyard)



Former Resident Exposure Pathways

- **Possible Pathways were:**
 - Surface soil or dust (indoor and outdoor scenarios)
 - Release of chemicals from soil to air
 - Indoor air
- **Eliminated Pathways** (drinking and surface water and food)

Former Residential Arsenic Exposure Public Health Implications

- Assumed 5 years of exposure
- Evaluated for child and adult exposures
- Also evaluated gardening and for a pica child scenario
- Non-cancer harmful effects not expected for adults
- Harmful non-cancer effects only for a 1-2 year old pica child
- Low cancer risk for adults and children

Conclusions for Former Residents

- Health conclusions for arsenic in soil--insufficient past information for other exposures
- No harmful non-cancer effects expected for adults and non-pica children from soil arsenic exposures
- Concern for exposure to soil arsenic for children with pica behavior
- Low increased cancer risk because of soil arsenic exposures

Conclusions for Former Residents (continued)

- Exposure to volatile contaminants or dust in indoor and outdoor air possible--no data are available to evaluate.
- Chemical warfare agents (CWAs) were not detected in soil samples taken from the backyard.

Former Worker Evaluation Exposure Pathways

- Contact with waste released from broken containers
- Contact with and incidental ingestion of soil or dust
- Inhalation or skin/eye absorption of released chemicals



<http://www.nab.usace.army.mil/Home/SpringValley/4825GlenbrookRoad.aspx>

Former Worker Arsenic Exposure Public Health Implications

- Assumed about 1.5 years of exposure
- Evaluated high and low soil contact
- Harmful skin effects possible for high soil contact
- Low cancer risk for soil arsenic exposures

Former Worker Evaluation Approach



<http://www.nab.usace.army.mil/Home/SpringValley/4825GlenbrookRoad.aspx>

Occupational Medical Officer Evaluation

- Site information
USACE, ATSDR, DC Gov
- Interview transcripts
Documentary filmmaker
- Scientific Literature
Chemicals \longleftrightarrow Symptoms

Former Worker Evaluation Exposure Considerations

- Spring 1992 – Fall 1993
- Tradespeople, laborers, management
- Hours per day, number of days
- Phases of construction
- Job duties
- Work practices (Personal Protective
- Equipment or PPE, hygiene)



<http://www.nab.usace.army.mil/Home/SpringValley/4825GlenbrookRoad.aspx>

Former Worker Evaluation Reported Symptoms

- Odor complaints
- Skin--Itchy, scaling rash; rough skin; brown spots; blisters
- Upper airways--Nose, throat, sinus irritation
- Eye irritation

Former Worker Evaluation Conclusions

Some construction workers likely experienced harmful short-term (or acute) health effects while working at the property.

- Exposure to arsenic, arsenicals, irritants, and possibly sulfur mustard
- Higher, repeated exposures more likely to result in harmful health effects.
- Irritation of mucous membranes and skin effects
- Low increased cancer risk from exposure to soil arsenic

Recommendations/Public Health Actions

- ATSDR has attempted to notify former workers and residents
- Former workers or residents health care providers can contact ATSDR's Region 3 Director, Lora Werner, by phone at 215-814-3141 or by email at lkw9@cdc.gov
- Continue routine preventive cancer screenings and health check-ups and any additional screening recommended by private medical professionals
- ATSDR recommends the property not be used until remediated

Submitting and Addressing Public Comments

- Comments on the report must be made in writing
- Addressing comments
- U.S. Freedom of Information Act and names of commenters

Send comments to: ATSDRRecordsCenter@cdc.gov, or mail to:

Agency for Toxic Substances and Disease Registry

Attn: Records Center

Re: 4825 Glenbrook Road within the Spring Valley FUDS Site – Washington,
D.C.

1600 Clifton Road, N.E., MS F-09

Atlanta, Georgia 30333

Questions

For more information please contact Agency for Toxic Substances and Disease Registry

4770 Buford Hwy, NE Chamblee, GA 30341

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.atsdr.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Findings from 2005 ATSDR Public Health Assessment

- **Excluding burial pits/disposal areas, contamination in Spring Valley related to the American University Experimental Station (AUES) activities was below levels associated with harm to children and adults.**
- **The arsenic levels found in hair, urine, and indoor dust during the conduct of the exposure investigations were below those associated with health problems.**
- **The DC DOH studied arsenic-related cancers (urinary bladder, melanoma skin, lung, liver, and kidney) and found that no excesses of incidence and mortality occurred in the Spring Valley neighborhood during the 1987-1998 study period .**

Document Organization

■ Main Body

- Background
- Evaluation Approach and Limitations
- Pathways Evaluation
- Summary of Findings from Investigations and Environmental Data
- Public Health Implications
 - Resident and Worker Arsenic Exposure Health Evaluation
 - Medical Officer Evaluation of Worker Transcripts
- Conclusions, Recommendations, and Public Health Actions

■ Appendices

- ATSDR Evaluation Process, Exposure Dose Calculations, and Pathway Tables
- Detailed Information on Environmental Investigations and Data
- General Public Health Implications

Spring Valley FUDS Restoration Advisory Board

➤ Reminders:

- The next RAB meeting will be Tuesday, July 12th

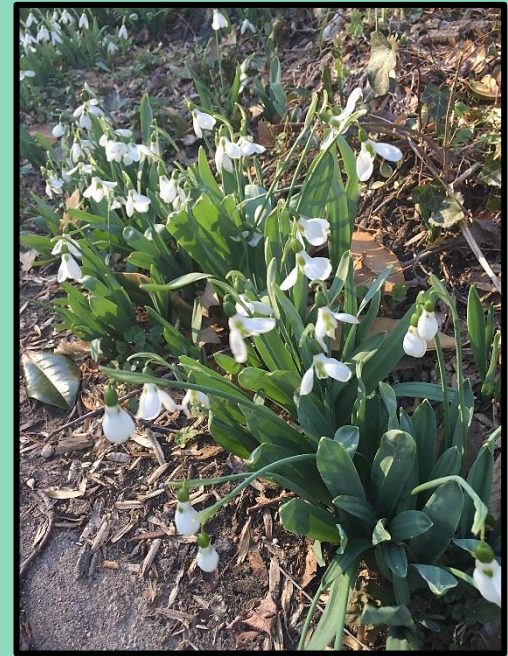
➤ Upcoming Agenda Items

- Suggestions?
-



Spring Valley FUDS Restoration Advisory Board

- **Public Comments**
- **Wrap-Up**



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**U.S. Army Corps of Engineers
Spring Valley Restoration Advisory Board
Metropolitan Memorial United Methodist Church
3401 Nebraska Ave NW, Washington, D.C.
Minutes of the May 2016 RAB Meeting**

RESTORATION ADVISORY BOARD (RAB) MEMBERS PRESENT AT THIS MEETING	
Dan Noble	Military Co-Chair/USACE, Spring Valley MMRP Manager
Kathleen Connell	Community Member
Dr. Peter deFur	Environmental Stewardship Concepts/RAB TAPP Consultant
Mary Douglas	Community Member
Alma Gates	At Large Representative – Horace Mann Elementary School
Steve Hirsh	Agency Representative – US Environmental Protection Agency, Region III
Lawrence Miller	Community Member
Malcolm Pritzker	Community Member
Tom Smith	Community Member
James Sweeney	Agency Representative – Department of Energy & Environment
George Vassiliou	Community Member
John Wheeler	Community Member
RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING	
Linda Argo	At Large Representative – American University
Greg Beumel	Community Co-Chair
Mary Bresnahan	Community Member
Ralph Cantral	Community Member
Paul Dueffert	Community Member
William Krebs	Community Member
Lee Monsein	Community Member
ATTENDING PROJECT PERSONNEL	
Brenda Barber	USACE, Spring Valley Project Manager
Alex Zahl	USACE, Spring Valley Technical Manager
Chris Gardner	USACE, Corporate Communications Office

Carrie Johnston	Spring Valley Community Outreach Program
Holly Hostetler	ERT, Inc.
Rebecca Yahiel	Spring Valley Community Outreach Program
ATTENDING GUEST SPEAKERS	
Greg V. Ulirsch	ATSDR Environmental Health Scientist
Dr. Michelle Watters	ATSDR Medical Officer

HANDOUTS FROM THE MEETING

- | |
|---|
| I. Final Agenda for the May 10, 2016 RAB Meeting
II. Army Corps of Engineers/Agency for Toxic Substances and Disease Registry (ATSDR) Presentation
III. ATSDR Public Comment Version of the Health Consultation for 4825 Glenbrook Road
IV. Introducing ATSDR Fast Facts 2014
V. April 2016 Monthly Project Summary
VI. April 2016 Corps'pondent |
|---|

AGENDA

Starting Time: The May 2016 Restoration Advisory Board (RAB) meeting began at 7:05 P.M.

I. Administrative Items

A. Co-Chair Updates

Lawrence Miller, Community Member, welcomed everyone and opened the meeting. He turned the meeting over to Dan Noble, Spring Valley Project Manager and Military Co-Chair.

D. Noble welcomed everyone to the RAB meeting. He reviewed the agenda including Groundwater Remedial Investigation (RI), Groundwater Study, the Pilot Project, the Site-Wide Proposed Plan (PP), 4825 Glenbrook Road; and the 4825 Glenbrook Road Health Consultation: Agency for Toxic Substance and Disease Registry (ATSDR).

1. Introductions

D. Noble did not introduce any individuals specifically, but invited all visiting government representatives to identify themselves by raising their hands.

2. General Announcements

D. Noble reviewed website updates which included the March and April monthly project updates, the weekly 4825 Glenbrook Road updates and photos, March RAB meeting minutes, April 2016 Corps'pondent, and a link to the ATSDR website for the public draft of the Health Consultation on 4825 Glenbrook Road.

B. Task Group Updates

No task group updates were presented.

II. USACE Program Updates

A. Groundwater Remedial Investigation (RI)

D. Noble provided a brief status update on the Groundwater Remedial Investigation (RI). The US Army Corps of Engineers (USACE) continues to work with US Environmental Protection Agency (USEPA), DC Department of Energy and Environment (DOEE), and Dr. Peter deFur, Environmental Stewardship Concepts/RAB Technical Consultant under the Technical Assistance for Public Participation Program (TAPP) on the comments concerning the RI report. The Groundwater RI document is tentatively scheduled to be finalized and available on the project website before the next RAB meeting.

Question from Allen Hengst, Audience Member – During his presentation of the RI findings at the March RAB meeting, Bill Eaton, AECOM, mentioned the presence of a persistently high concentration of perchlorate in the Sibley Memorial Hospital sump. At that time the source of the perchlorate was unknown. Would you comment on the comparative perchlorate isotopic analysis for the groundwater at Sibley and Kreeger Hall at American University (AU)? It is my understanding that the findings concluded the perchlorate for those two locations were from the same source. Why is the source still unknown? How much did USACE pay for the isotopic analysis?

D. Noble explained that a more detailed response may need to be sent to Mr. Hengst, but gave a brief explanation. The isotopic analysis did show that the perchlorate at Sibley and AU came from the same originally derived natural source (the Atacama Desert in Chile). How that perchlorate was released into the groundwater at those two locations is still unknown. Scenarios include a single event or possibly two separate events may have released the perchlorate into the groundwater. D. Noble did not know the exact amount paid for the study, but commented that the amount was less than one million dollars.

In response to A. Hengst's question, D. Noble confirmed that the isotopic analysis will be discussed in the Groundwater RI report.

B. Pilot Project Update

Alex Zahl, Spring Valley Technical Manager, briefly reviewed the Geophysical Pilot Project. USACE is in the process of finalizing the contract. The contractor will be working with Department of Defense (DoD) experts from the Navy Research Laboratory (NRL) on the Unexploded Ordnance (UXO) search using the Advance Classification geophysical equipment. The geophysical work and anomaly removal is tentatively scheduled to begin in July. When the contractor is onboard, USACE will have more precise schedule.

Question from Rob Liberatore, Audience Member – Have the five properties been chosen for the Pilot Project?

A. Zahl explained that no firm decisions have been made yet, but several homeowners have shown interest in participating in the Pilot Project. The five Pilot Project properties will be chosen based on geophysical challenges so the equipment may be tested on all possible variations encountered at the 100 remaining properties.

C. Site-Wide Proposed Plan (PP)

D. Noble briefly reviewed the Site-Wide Proposed Plan.

USACE submitted the Draft PP to their Partners, the USEPA, DOEE and P. deFur, for review. Once the Partners have returned their comments in mid- May, USACE will edit the document as needed. The PP will likely be available for public comment before the next RAB meeting.

When USACE briefed the RAB on the Feasibility Study (FS), two issues were discussed:

- The remaining soil contamination at sites located within the Spring Valley Formerly Used Defense Site (FUDS).
- The approximate 100 properties still to be screened for munition hazards.

The FS contained lists of alternatives that USACE considered for the PP. For the soil contamination, USACE's preferred alternative is Alternative #4; excavation and offsite disposal of remaining contaminated soils. For the potential explosive hazards, USACE's preferred alternative is Alternative #6; digital geophysical mapping of the accessible areas on the properties and removal of selected anomalies that appear to be munition-like in nature.

A 30-day public comment period is required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This public comment period will begin in June 2016. The comment period may be extended to 45 calendar days. After the PP's public comment period, USACE will prepare and sign the Decision Document (DD). Once the DD is signed, USACE will begin the Remedial Design/Remedial Action (RD/RA).

In response to A. Hengst's question, D. Noble confirmed that a community meeting will be held during the public comment period, possibly at the Metropolitan Memorial United Methodist Church location.

Question from R. Liberatore, Audience Member – At the March RAB meeting I asked about an attempt to move people to the front of the line for remediation. At that time you indicated a process might be possible. My property is part of the 100 group, and I have wanted to sell my house for two years. I would like to be at the front of the line. What are the steps in the process for moving to the front of the line for remediation?

D. Noble explained that as the project gets closer to planning and undertaking remedial activities, USACE will certainly discuss a process for deciding the order of properties. Unlike the Spring Valley FUDS, not every environmental project involves multiple landowners for an area of concern, so no specific detailed process exists. D. Noble suggested staying in contact through the website, which will remain current. USACE will consider a request from a landowner to be moved to the front of the line.

Comment from K. Connell, Community Member – May I suggest that USACE be more direct with homeowners within the area of concern. Some homeowners may need to initiate a sale of their property prior to being addressed by the remediation action, whereas other homeowners will not care to be first. I do not want any homeowner deprived of the ability to sell their property if the RAB can expedite that effort. I am hoping that USACE can suggest a system at the next meeting by which the all the homeowners may be notified. I would like to have more than a casual system set up so that everyone can fairly approach the situation. I think if USACE would send out some kind of brochure to those affected homeowners, that effort would be appreciated by the community.

Question from K. Connell, Community Member – I would like to have a better understanding of what people are being told when they try to sell their property. Is it a contingent sale based on

FUDS findings? What is the process happening there?

D. Noble replied that he did not know.

In response to K. Connell's question, R. Liberatore replied that if homeowners in the FUDS sell, the property is selling for a much lower price. The property next to mine sold for a million dollars less than the list price. A friend of mine had 3 full price offers for his property, and the buyers backed out when they heard about the FUDS process.

In response to a question from George Vassiliou, Community Member, D. Noble explained that all of the homeowners in the FUDS have been notified of the status of the remediation process.

Comment from George Vassiliou, Community Member – I would like the record to reflect the name of the homeowner requesting to be at the front of the line, since he is the first one I know of that has stepped forward expressing that request.

L. Miller, Community Member – The issue in these situations is a fair system. Everyone might want to go to the front of the line, but certain people might have a compelling reason to be first. USACE will have to sort out various reasons that justify going to the front of the line, and what declaration or proof will be necessary. I do not know if being the first homeowner to say they want to be first will suffice, but that request would certainly get someone in the pool to be expedited.

Question from K. Connell, Community Member – That is why I ask for a motion, my intent is that the RAB have more than indirect statements. Homeowners in the group of 100 properties will want to know how and when that group will be scheduled for appointments. If a homeowner can be expedited, explanation of how that homeowner would qualify.

In response to the question from G. Vassiliou, D. Noble and L. Miller confirmed that the minutes will note the homeowner's name as a matter of record.

Question from K. Connell, Community Member – Is the RAB comfortable with my suggestion or do I have to make a motion?

Question from L. Miller, Community Member – In the absence of objections could we say that it is the sense of the RAB that USACE address the question in the near future as to how to prioritize the remediation work and how homeowners may apply to be prioritized?

Comment from K. Connell, Community Member – Notification that homeowners are part of the group is very important.

L. Miller explained that the homeowners have notification they are part of the group. Now the question is how to sort out the conventional issue of who gets to the front of the line when there is a line. If it is the sense of the RAB, we will ask USACE to carry it out.

Question from Nan Wells, Audience Member – A member of the 100 homeowners visited me and expressed feelings of unfairness of the remediation process. I ask that USACE keep the Spring Valley Advisory Neighborhood Commission (ANC) notified. How long will this take for this process to be carried out?

D. Noble explained that USACE plans to begin the Remedial Action (RA) by 2017, and will take about three years, tentatively ending in 2020.

In response to a question from Tom Smith, Community Member, D. Noble explained that the

process for prioritization of properties is not included in the Draft PP.

Question from Alma Gates, At Large Representative – Horace Mann Elementary School – Do the homeowners know what the levels of priority are at their property?

D. Noble explained that USACE plans to inspect all of the 100 properties.

Question from A. Gates, At Large Representative – Horace Mann Elementary School – There must be certain things that identify why those properties are part of the 100. Do the homeowners know what those things are?

D. Noble explained that yes, the information is available and has been in the briefings USACE has given in past meetings. USACE will explain the identification of the properties again at the public meeting for the PP.

Question from A. Gates, At Large Representative – Horace Mann Elementary School – To put my question another way; if properties are identified because there is A, B, and C present, and a certain property only has A and C, does that property owner know what A and C are?

Comment from Steve Hirsh, US Environmental Protection Agency, Region III – These properties were not selected because of a point of interest on a particular property, this is an area where the munitions may have landed. There is no A, B, and C.

Comment from John Wheeler, Community Member – The list is generated by where the property is; what is on the property is unknown.

Question from T. Smith, Community Member – In terms of prioritizing the properties, will there be a list of criteria that will be followed?

D. Noble explained that there is no list of priorities from a technical standpoint once the RA gets underway. USACE will address properties in the order available. He understood there may be priorities among the homeowners. Those are the only types of prioritizations that will have to be considered. No technical reason exists to remediate one property before another.

In response to a question from Malcolm Pritzker, Community Member, D. Noble confirmed that the list of 100 properties is in the RI report, available to the RAB.

Question from M. Pritzker, Community Member – Has that list been distributed at any public meetings?

D. Noble explained that USACE included the list in the RI report, notified the homeowners affected at the time of the RI release, and every time USACE has shown a map of where the areas of concern are located.

Question from M. Pritzker, Community Member – Who will make the determination as to which of the homeowners will go to the top of the list?

D. Noble explained that the determination of priorities is venturing out into unfamiliar territory, in that USACE does not have a technical reason to prioritize the properties.

Question from M. Pritzker, Community Member – Of the 100 addresses on the list, some homeowners would like to go to the top of the list. Who makes the judgement, how is that done?

D. Noble replied that in the very basic sense, USACE will hire a contractor and instruct them as to which property to remediate first. USACE is open to suggestions of what those instructions might be.

Question from Larry Miller, Community Member – Would it be helpful if the RAB made some general recommendations, not at this meeting, with respect to prioritization? It may be that some homeowners may have a health reason, a property listed for sale, or an imminent need to list.

D. Noble confirmed this.

Comment from K. Connell, Community Member – I am against the RAB coming up with a plethora of reasons that should be weighted in some way. It is the role of USACE to bring a list of criteria to the next meeting that the RAB may ratify and move forward to the homeowners. I think the series of questions indicates there has not been adequate thinking prior to this meeting as to how to approach prioritization. I am surprised there is this vacuum in explaining to homeowners how the prioritization is going to occur. When the properties are going to be inspected and what the process consists of is a natural concern to homeowners in the area of concern. Whether the process is a lottery or declared emergency that can be validated should be stated. I think what USACE intends to do should be clarified by the next meeting and communicated to the homeowners.

Comment from G. Vassiliou, Community Member – USACE should notify the homeowners and ask them if they have a reason to be at the front of the list. There is a possibility that two homeowners, perhaps more will ask to be prioritized. The solution may be simpler than we realize. I do not think the RAB can ratify a priority list; the RAB can only listen and discuss.

L. Miller explained that the RAB can make recommendations. This prioritization was not on the agenda so I certainly would not fault USACE for not having a prioritization plan tonight.

In response to a question from N. Wells, D. Noble confirmed that contractors may remediate multiple properties at the same time.

Question from T. Smith, Community Member – I agree with K. Connell's comments. It seems to me USACE should come forward with the set of criteria that they will use to prioritize one homeowner over another. There should be some kind of objective criteria, even if not technical, used to evaluate each situation. Forming those criteria soon will be helpful. Does the RAB have to make a motion for that, or can it just happen?

D. Noble responded that the RAB is certainly welcome to make a motion.

Comment from K. Connell, Community Member – I moved that USACE return to the RAB at the July 12 meeting with a detailed description of how properties need to be prioritized for remediation and a proper communication system with the homeowners.

M. Pritzker, Community Member seconded the motion.

L. Miller called for any discussion of the motion.

Comment from J. Wheeler, Community Member – I am skeptical that USACE will have a priority list that is not based on technical reasons and that is objective. I am also skeptical that there are homeowners who do not plan to sell, but would not want to be a priority.

Question from T. Smith, Community Member – Would you agree there is value in USACE creating a list of criteria and presenting that list to the RAB? Then the RAB can make a judgement as to whether those criteria make sense.

Comment from J. Wheeler, Community Member – USACE may say they really do not see a way to prioritize the properties. That response would be nice to know sooner rather than later.

Question from M. Pritzker, Community Member – Is the Spring Valley FUDS the only place in the US where such a list of priorities exists? Could a list of priorities exist that may have been used in prior cases?

D. Noble explained that there could be a criteria list from prior cases. There are other FUDS around the country that involved multiple property owners. I could look into that. Does the RAB want to vote on their motion?

L. Miller called for all in favor of the motion; several Community Members answered “Aye.” No Community Members opposed the motion or abstained.

L. Miller noted that the motion carried.

Comment from Audience Member 1 – In reference to prioritization, I suggest hiring multiple contractors to complete the project at the same time. No one individual should be prioritized over another.

D. Noble thanked Audience Member 1 for his comments.

D. 4825 Glenbrook Road

Brenda Barber provided a brief review of 4825 Glenbrook Road.

Since the March RAB meeting, USACE has finished removing the last sections of the basement wall and basement floor. A large subsurface footer has also been removed.

Since the concrete footers came into contact with contaminated soil, that concrete had to be rubbleized into 6x6x6 inch pieces. All the concrete rubble is then packaged in drums and transported to federal property.

By mid-April, USACE was completing the final scrape of existing soil. Excavation under the third tent is very near competent saprolite at this time. An USACE geologist will visit the site to ensure excavation has reached competent saprolite, which will mark the end of high probability under the third tent. To date there have been no detections of chemical agent or industrial compounds in the air monitoring, and no munitions debris or discolored soils have been encountered under the third tent. A small amount of broken glass was encountered.

4825 Glenbrook Road Schedule Update:

- Remediation efforts are 6 months ahead of schedule.
- High Probability will officially end in June.
- Shelter-in-Place (SIP) will end May 27th, because there will be no intrusive activities at that point.
- Throughout the month of June decontamination efforts and demobilization of all engineering controls at the site will be completed.
- Resume Low Probability operations in the fall of 2016.
- Spring of 2017 site restoration will begin.

In response to a question from P. deFur, Environmental Stewardship Concepts/RAB TAPP Consultant, S. Hirsh explained that EPA or DOEE will not send someone out to the site when the USACE geologist visits.

B. Barber added that there will be two geologists: A geologist from Parsons will provide an initial confirmation the day before the USACE geologist visits. The USACE geologist will then provide an additional confirmation. At that time, High Probability activities will be complete.

Question from Audience Member 1 –The house next door to 4825 Glenbrook Road was built at the same time by the same contractor. What is the outlook on that property?

B. Barber explained that at 4835 Glenbrook Road extensive test pitting and robust arsenic removal was conducted. USACE did not encounter the same kind of materials found at 4825 Glenbrook Road. Out of over 100 test pits on the property, USACE removed approximately 24 items from 4835 Glenbrook Road.

In response to a question from Audience Member 1, B. Barber explained that USACE did not drill under the house at 4835 Glenbrook Road.

III. Presentation by ATSDR

Greg V. Ulirsch, ATSDR Environmental Health Scientist and Dr. Michelle Watters, ATSDR Medical Officer, presented An Exposure and Health Effects Evaluation of Former Workers and Residents at 4825 Glenbrook Road Within the Spring Valley FUDS. Christine Lloyd of the ATSDR Region 3 Office, Philadelphia was also present. G. Ulirsch also represented Evaluation co-author Laura Frazier.

G. Ulirsch reviewed the presentation overview, including: the Current Request, ATSDR Evaluation Process and Limitations, Summary of Investigations and Sampling Data, Former Resident Exposure Pathways and Health Evaluation, Former Worker Exposure Pathways and Health Evaluation, Recommendations and Public Health Actions, Submitting and Addressing Public Comments, and Questions.

A. Current Request

In 2010, USACE requested that ATSDR make evaluations after the discovery of WWI chemical munitions, glassware debris, and contaminated soils at 4825 Glenbrook Road. The two groups of people involved were residents during 1994-1999 and workers during 1992-1993. USACE provided data, primarily transcripts of videos of worker interviews.

In response to a question from K. Connell, Community Member, G. Ulirsch explained that USACE provided some names of the workers involved and ATSDR has sent out information to those individuals.

B. ATSDR Evaluation Process and Limitations

The evaluation was somewhat limited because the available data was insufficient for public health assessment purposes. That limitation was primarily because most of the environmental sampling was conducted several years after the exposures occurred. For the residents, that difference was 8 to 11 years, and for the workers 14 to 18 years. The time between exposures and sampling conducted was not necessarily representative of what exposures might have been. Because of these data gaps and except for arsenic in soil, which is a persistent contaminant and breakdown product of chemical warfare agents, ATSDR was not able to evaluate the public health implications using ATSDR's standard public health assessment process.

In a separate analysis, ATSDR attempted to look at all of the chemical warfare agents in relation to known health comparison values, and also researched public health implications of what exposures might be, but were not able to draw specific conclusions in relation to the workers and the residents, specifically in relation to the ATSDR health assessment process. That analysis is included in the Health Consultation document in Appendices D and F. Because of the transcripts and information about what exposures might have been, Dr. Watters was able to draw conclusions

about what some of the public health implications might be for the workers. There were some other limitations of the evaluation: reports of truckloads of soil that were removed from the residence during construction, which could have changed concentrations, especially for the workers; and there was no indoor or outdoor sampling that was conducted during the exposures when they occurred.

C. Summary of Investigations and Sampling

ATSDR focused on environmental data from 2000-2010, specifically pathways such as soil, where actual exposures may have occurred. During property development, bottles and other containers were broken, and chemicals were released into the soil and air. No sampling occurred at that time. ATSDR summarized the contents of the intact containers, and used those findings as an indication of what exposures might have been to the contaminants in the air and soil. Many of the chemicals detected are volatile, easily released into the air, which would have also exposed the workers. Several different chemical warfare agents such as Sulphur mustard, lewisite, and other breakdown products were detected in the intact containers, the test pits in the yard, and subsurface soil. Several recovered intact containers had enough content to warrant a potential concern for spills and releases, more than just residue. Arsenic was found above the action level for the site and ATSDR's health screening value for soil in many samples on this property. Thus, arsenic was considered a contaminant of concern, which is the first step in ATSDR's evaluation process. ATSDR is able to evaluate public health implications because arsenic is a persistent chemical in the environment and a breakdown product of many chemical warfare agents.

D. Former Resident Exposure Pathways

ATSDR defines Exposure Pathways as completed, potential, or eliminated. Pathways are evaluated by five elements, from source to the receptor population (people who were exposed). A completed pathway means all of the elements were present and a person was exposed. A potential pathway means one of the elements is missing and exposure is possible. An eliminated pathway means one of the elements did not exist in the past, present, or future, and ATSDR believes an exposure did not occur. Identified Exposure Pathways do not necessarily mean an exposure occurred.

Possible Pathways for residents at 4825 Glenbrook Road:

- Contaminates through direct contact; residents were exposed by touching and/or accidentally eating contaminated surface soil and dust in indoor and outdoor scenarios.
- Breathed and had skin contact with gases and vapors. Residents would have had exposure to different levels of contaminants from workers, probably a low to medium contact with the soil, depending on their outdoor activities.
- Vapor intrusion, where vapors from soil gas can go through cracks within the foundation of a building. Since the residence was built within a depression; and debris, containers of chemical warfare agents, and contaminated soil were found in and around the foundation; ATSDR believes vapor intrusion could have occurred in the home.

Eliminated Pathways include:

- Ground water – the residence used public water.
- Surface water – surface water was not present at that time.
- Food pathway – there were no known gardens on the property.

E. Former Residential Arsenic Exposure Public Health Implications

ATSDR assumed 5 years exposure, 1994-1999. Both short and longterm exposures were evaluated

for possible health effects. Evaluations included doses for gardeners and a pica child scenario, although there is no data of either scenario occurring. Most of the higher levels of arsenic were found at deeper soils and probably limited the residents' contact. Pica behavior describes a child that consumes high amounts of soil or non-food products, usually more than a teaspoon a day, depending on the behavior. This behavior occurs usually in 1 to 2 year olds. Varying studies estimate between 4% to 20% of children have this behavior. Once a contaminate of concern was determined, ATSDR calculated a dose. That dose was compared to a minimum risk level, which is the level below which non-cancer health effects are likely. If a dose is above minimum risk level, ATSDR scientists consult actual effects studies in the literature to determine whether or not those doses are likely to cause a harmful effect. In this case, the evaluation for adult residents or gardeners determined that both short and longterm exposures were below the minimum risk level. The former child resident evaluation was above the minimum risk level, but those doses did not approach the effect levels found in the literature, so ATSDR believes that a former non-pica child may have been harmed by non-cancer effects.

For a scenario of a 1 to 2 year old pica child residing or visiting at the residence, the evaluation showed a dose could have been high enough to cause both chronic non-cancer effects such as skin conditions, and also potentially acute effects, including diarrhea and nausea. High levels of pica behavior could have caused acute poisoning. There are no reports of a pica child, and no reports of any kind of acute poisoning at the residence. ATSDR determined there was a low cancer risk, defined at 2 to 4 in 100,000 exposed people.

F. Conclusions for Former Residents

ATSDR was able to make health conclusions for arsenic and soil, but there was insufficient past information for other exposures. No harmful non-cancer effects for adults and non-pica children are expected from soil arsenic exposures. There is a concern of arsenic exposure for any child that might have exhibited pica behavior. There is a low risk of cancer.

There was not sufficient information to make conclusions about what the residents might have been exposed to in the indoor or outdoor air. From the data provided by USACE, there were samples of chemical warfare agents in the backyard, but not detected in surface soil sampling.

G. Former Worker Evaluation Exposure Pathways

During the development of the property at 4825 Glenbrook Road, activities that disturbed the soil such as excavation and regrading increased the chances of chemical warfare agent exposures to workers. Those workers who had intensive soil contact were more likely to have experienced harmful effects. As with the findings for residents; except for arsenic, the information available was not suitable for the standard ATSDR public health assessment process. ATSDR was not able to quantify arsenic exposures to workers, but there was an additional evaluation from Dr. Watters. Possible Pathways for workers at 4825 Glenbrook Road:

- Direct contact with waste from broken containers. No mention of direct contact exists in the transcripts, so the pathway was potential but not completed.
- Contact with and incidental ingesting of surface and subsurface soils or dust.
- Inhalation or skin/eye contact with gases or vapors that were released during excavations and soil moving activities. Probable exposures would have been from breakage of containers that would release volatile contaminants into the air or from soils that released contaminants into the air.

H. Former Worker Arsenic Exposure Public Health Implications

ATSDR assumed 1 ½ years maximum time of exposure, although workers may have had varying exposure times in relation to activities at the site. ATSDR considered 2 scenarios; high and low soil contact. These scenarios covered a variety of jobs that may have occurred at the property. Site workers that had intensive soil contact for a year or longer would have had doses above the minimum risk level, meaning that a level above where non-cancer effects were possible. Those doses, in relation to actual effect levels, could have resulted in potentially harmful skin effects. For acute exposures, the doses were above the minimum risk level, but did not approach effect levels. For those workers who had less intensive soil contact, the levels were below minimum risk level for short term but not for long term.

Question from Audience Member 1 – How did you come up with the numbers for the workers?

G. Ulirsch explained that the first step was to establish the environmental levels, using sampling information provided by USACE. Then the levels of soil were evaluated. If those levels were below the minimum risk level, then ATSDR concluded there were probably no harmful effects. If the levels were above the minimum risk level, then ATSDR automatically moved to the next step, which was to determine what the dose may have been. In this case both a high and low contact scenario was considered. Both scenarios were based on how much the workers may have ingested on any given day. Some workers may have been excavating and had a higher dose, while other workers may have only done framing or other things, and had a lower dose.

Question from Audience Member 1 – Was there a scenario involving workers at the site from start to finish of the project?

G. Ulirsch explained that ATSDR assumed a maximum 1 ½ year exposure.

Question from Audience Member 1 – How would you rate the potential longterm cancer effects for the workers?

G. Ulirsch explained that ATSDR believes that because of the chronic exposures that occurred, skin effects were likely. Whether or not those effects lasted for a long period of time since the exposures may be addressed by Dr. Watters in a few minutes. As far as the cancer risk you mentioned, ATSDR believes there was a low cancer risk; however that cancer risk might be underestimated because ATSDR does not have all the information about exposure to other possible carcinogens. Dr. Watters will discuss that as well.

The cancer risk may have been underestimated for a couple reasons. One was that the soil was removed from the property, so the arsenic levels that the workers might have been exposed to could have been higher. Also, the workers may have been exposed to other carcinogens that ATSDR was not able to quantify, so the cancer risk might be higher than calculated for arsenic. The non-cancer risk for the workers might be underestimated as well, given that the soil was removed from the property.

I. Former Worker Evaluation Approach

Dr. Michelle Watters introduced herself as a physician with ATSDR, specializing in occupational and environmental medicine. The health consultation approach needed for 4825 Glenbrook Road was different than other sites for a few reasons. One reason was addressing the former worker. Generally, residents and community members are the focus of ATSDR documents. Workers are often at a facility and have their own regulations under the Occupational Safety and Health

Administration (OSHA). At an active facility, workers can often ask for health evaluations from a sister agency, National Institute for Occupational Safety and Health (NIOSH). In this case, the data was historic and the site was complete. Therefore, the assistance of NIOSH was not open to anyone in terms of evaluating the kinds of experiences the workers may have had.

Dr. Watters reviewed transcripts of interviews with several workers based in WV. The interviews included 3 workers and other people involved in the construction site. There are many people involved in building a home; different workers at the site at different times. The interviews were not directed as a medical interview. No medical or epidemiological records were available to review. Dr. Watters contacted the District of Columbia Department of Health (DoH) for possible health records.

In the 1990s, DoH asked physicians for information about patients living in the Spring Valley area with health issues that maybe related to the FUDS. This was not a mandatory reporting system, and there may have been privacy or doctor/patient confidentiality issues preventing doctors from reporting any occurrences, but there were no medical records available for ATSDR to review. Dr. Watters noted that the evaluation is her perspective as a specialist in occupational and environmental medicine reviewing non-medical information. ATSDR considers what chemicals at the site might be associated with certain health effects one would see at various doses, and also various symptoms that might be reported.

J. Former Worker Evaluation Exposure Considerations

For the exposure considerations, ATSDR included the entire reporting period of spring of 1992 to fall of 1993. The first reports available were in early May of 1992, when during the course of an excavation, workers exposed a broken bottle. A few workers went to the emergency room because of fumes or vapors, and were released from the hospital. The interviews were conducted in November 1993.

Exposure Considerations Included:

- Varying exposure by job: Exposure for management would be far different from laborers.
- Different phases of construction: A person constructing the foundation would have different exposure than a person doing the trim on the inside of the house.
- Job duties: A worker may have excavated with a bulldozer while another worker may have used a shovel.
- Work practices: In general workers wear good boots, but not necessarily Personal Protective Equipment (PPE). The transcripts from the interviews noted that during the summer months some of the workers did not wear a shirt.
- Hygiene related issues: Facilities available onsite for washing hands, smokers may have more incidental contact with soil, workers eating onsite.

ATSDR was not able to quantify effects due to lack of information relating to specific exposures.

K. Former Worker Evaluation Reported Symptoms

All workers interviewed consistently reported the following symptoms:

- Odors on site: Described as Vicks vapor rub or other pungent smell.
- Skin: Itchy, scaly rash, red spots, rough skin, brown spots, a few talked about blisters.
- Upper airway irritation: Acute events described in the interviews; workers reported 7 or 8 times when during the course of excavation a bottle was broken and black gas was emitted. Workers described that gas as very irritating to nose, throat, and sinuses. During the course

of employment at the site, workers reported runny noses and sinus problems.

- Eye irritant: acutely related to broken bottles.

Dr. Watters noted that from the transcript, the filmmaker seemed to have a very good rapport with the workers. This does not necessarily mean the workers reported everything. One would expect that no one would be embarrassed to report an irritation in the armpit, whereas a person may be less likely to report an irritation in the scrotal region.

The ATSDR evaluation had to balance between looking at the reported symptoms and trying to fill in the gap of possible withheld information because sharing that information simply was not part of the conversation.

L. Former Worker Evaluation Conclusions

Some construction workers likely experienced harmful short-term (or acute) health effects while working at the property.

- Exposure to arsenic products including arsenic trioxide, which when combined with moisture creates hydrochloric acid that can be irritating. Irritating compounds can potentially be related to the odor and skin conditions reported. Arsenic containing compounds can also be related to brown spots and other pigment issues. One discussion in the interviews mentioned manifestation of blisters that could have been caused by liquid contact with a chemical warfare agent.
- Higher, repeated exposures more likely to result in harmful health effects. Day laborers, clean up people might have had more exposure and developed some of the symptoms.
- Irritation of mucous membranes and the skin effects indicate a low exposure to arsenic.
- Low increased cancer risk from exposure to soil arsenic.

M. Recommendations/ Public Health Actions

- ATSDR reached out to workers and residents that can be identified.
- Former workers or residents health care providers can contact ATSDR's Region 3 Director, Lora Werner, by phone at 215-814-3141 or by email at lkw9@cdc.gov. Most physicians do not know about chemical exposures, so ATSDR works in conjunction with physicians, and makes available occupational environmental medicine clinics for evaluation. The evaluation contact is through Christine Lloyd of the ATSDR Region 3 Office.
- Continue preventive care, cancer screenings, health checkups, and any additional screening recommended by private medical professionals.
- ATSDR recommends the property at 4825 Glenbrook Road not be used until it is remediated.

O. Submitting and Addressing Public Comments

- Comments on the report must be made in writing. Comments may be sent by email or regular mail.
- The Health Consultation is a public release document. ATSDR will address each of the comments that are submitted in writing or by email in the next version of the Health Consultation.
- ATSDR's comments in the document will be anonymous. Under the U.S. Freedom of Information Act, ATSDR will release names of commenters if requested.

Question from Jeff Kraskin, Audience Member – In your discussions and investigations with the

workers and residents, did arsine gas exposure come up in your thoughts?

Dr. Watters explained that arsine gas did not come up. Most findings were arsenic containing products, or degradation products either from lewisite or some of the precursors. The FUDS facility did produce arsenic trioxide.

In response to a question from G. Ulirsch, ATSDR, D. Noble explained that arsine gas was found at the site.

Comment from G. Ulirsch, ATSDR – The mention of arsine gas will be in the analysis included in the Health Consultation document in appendices D and F.

Question from J. Kraskin, Audience Member – Did you look at the resident's exposure to arsine gas through seepage into the house from surrounding soil?

G. Ulirsch explained there is no data for indoor air at 4825 Glenbrook Road.

Comment from J. Kraskin, Audience Member – There is a lot of data you do not have.

Dr. Watters and G. Ulirsch agreed there are many data gaps, and that information would have been useful.

Dr. Watters commented that one of the notable features of an acute exposure to arsine gas would be hemolytic anemia.

Comment from J. Kraskin, Audience Member – Acute, yes, but there are other exposures that result in some peripheral neuropathies.

Dr. Watters agreed that would be true for all arsenic compounds. In the interviews with the workers there was no mention of any kind of peripheral neuropathy.

Question from N. Wells, Audience Member – Have you asked any of the people to follow up with their medical histories? Have you determined if any of them have had cancers that might be expected? What level are you encouraging people to provide a continuous stream of information?

Dr. Watters explained that the Health Consultation document was intended to reach out to former residents and whatever workers could be identified, and provide them with the document and potential support through medical services. There have been previous studies of cancer registry information in the general area, and no excess incidents were found. Arsenic is related to skin, lung, and bladder cancers. Recall that cancer is an extremely common illness and refers to over 100 different diseases. The lifetime risk of cancer for any man in this room is 1 out of 2; and the lifetime risk of any woman in this room is 1 out of 3. As G. Ulirsch mentioned, the increased risk for 4825 Glenbrook Road is to 2 to 4 in 100,000.

Comment from N. Wells, Audience Member – As an anecdotal account, I spoke to a resident that described a house in the area where 3 different kinds of cancer occurred.

Dr. Watters responded that no one wants to see cancer, but your point that it was three different kinds of cancer works away from some of the chemical relationships of those cancers. Surprisingly, those occurrences are the opposite of what one might think. At any given time, 5% of people in a room are fighting a cancer now or in their recent history. Unfortunately, cancer is a very common event. I cannot speak to the family history; sometimes cancer runs in families.

Question from T. Smith, Community Member – Did you evaluate the health history of the residents?

G. Ulirsch explained that ATSDR was aware of several reports about some of the health history.

Question from T. Smith, Community Member – To what extent do you factor in what the actual instance of health issues were at the house when you make your determination? While cancer may be common, it is not so common to have 3 cancers at the same house in that amount of time.

G. Ulirsch explained that the 3 cancers mentioned occurred at a different house, not at 4825 Glenbrook Road. What ATSDR understands about the health history at 4825 Glenbrook Road includes the illnesses that are described in the Health Consultation document. However, ATSDR does not have full information about the exposures or medical history of what actually occurred. The only information ATSDR has concerns the arsenic exposures from the soil. Without the missing data, a health history would not help the evaluation.

Question from T. Smith, Community Member – How do you then make a conclusion that cancer is unlikely to be a health issue to the residents of the house? Are you saying the absence of data means low risk?

Dr. Watters explained that the calculation was based on cancer risk. The other numbers for acute effects were based on ATSDR's minimum risk levels in terms of effect. During the course of the time that residents were in the house, particularly the pica child behavior scenario, those residents probably had doses of arsenic that would have caused a health effect. ATSDR does not know if a pica child lived at the house. There were no medical records from the site. There were newspaper accounts of events from people that had no references to the children, only adults in the household. G. Ulirsch's evaluation looks at the environmental data and projects what would be expected if a scenario took place.

Question from A. Hengst, Audience Member – In the section entitled 'Background' in the Health Consultation, ATSDR mentions 4835 Glenbrook Road. I understand in the interview the same workers were at 4825 and 4835 Glenbrook Road. Why did the study just focus on the contamination at 4825 Glenbrook Road?

There are repeated references to the interview transcripts from workers. The public must comment by June 20. How can we make an informed comment if we have not seen the transcripts? I understand they are supposed to be confidential, but why not redact the names and give us the transcripts?

Dr. Watters explained that USACE provided the transcripts to ATSDR. USACE had the contact information and agreement with the filmmaker. It is up to those entities what information is released. I appreciate what you are saying in terms of your level of trust concerning the data. ATSDR used summarized data in the document. For more detailed information I would direct you to USACE for the complete data set if that were available.

In the interview discussions both 4825 and 4835 Glenbrook Road were being developed at the same time. ATSDR was asked to address 4825 Glenbrook Road because of the sample testing findings that B. Barber described earlier. However, our discussions for the workers do not change at all whether or not the evaluation was extended to the second property. If anything, the second property might dilute the effect because there was no contamination on the site. What ATSDR looked at from the transcripts were the actual symptoms people reported, rather than reports of a specific property. One exception was an incident where one of the bottles broke and one worker reported being on the rooftop on 4835 Glenbrook Road and smelled the odor. The conclusions and evaluation would be similar whether both properties were included or not.

Comment from A. Hengst, Audience Member – You mentioned there were other workers. In the reference section in the back of the Health Consultation, ATSDR mentions a 10 page health supplement that appeared in the Northwest Current in 2004. There is a big article about landscapers that were exposed to gas after the house was built.

Dr. Watters explained that she believed there was an incident in 1996. There was a landscaper in the 4825 and 4835 Glenbrook Road section. ATSDR does mention that incident in the Health Consultation as well. That person went to the hospital for irritating fumes, but there are no medical records.

Comment from A. Hengst, Audience Member – The person was not a worker, but a man whose dog went into the hole.

Dr. Watters explained that there was an incident mentioned in the transcript of a man that said his dog had been sniffing around on the property and ended up having swelling from mucous membrane irritation.

Comment from L. Miller, Community Member – There are others waiting, let us move on to the next question.

In response to A. Hengst's question about making the interview transcripts available, B. Barber explained that USACE does not have permission to release the transcripts. D. Noble added that A. Hengst may submit a request.

Question from Audience Member 2 – When you did your comparison study and determined that there was no increase in incidents of cancer, was that done on the zip code level?

G. Ulirsch explained that DC DoH performed the comparison study.

Question from Audience Member 2 – Zip codes 20015 and 20016 were compared. I believe a couple things should be taken into consideration. Historically there was a lot of movement of people from 20015 to 20016 as the area expanded. Why was there not more detailed analysis done on the census tract, block group, or block level? Is that something that would be considered? I think that it was kind of a gross oversight that it was done on such a broad scale.

L. Miller, Community Member explained that there were several different reports created. You may be referring to the one by Johns Hopkins more recently where they looked at the two zip codes and compared to Chevy Chase. There was one from 2005 from Johns Hopkins that contained zip code analysis, and the report we are addressing now. Each had different methodologies.

Comment from Audience Member 2 – I still think that it is valid to do an analysis on a higher level. Especially either at the block group or block level. One thing I will point out is that there is something that will skew the effect. The census block shows that American University (AU) encompasses many of these properties and it is a transient population. All of the blocks in that neighborhood have a number somewhere between 70 and 90. AU's block which includes many of those properties has a number of about 3,500. You are looking at a dilute effect.

Question from G. Ulirsch – Do you know if you are referring to the study that L. Miller mentioned in relation to Johns Hopkins or are you referring to this study by DC DoH?

Comment from Audience Member 2 – I cannot recall which one. I do know that the Johns Hopkins

study was kind of a regurgitation of other data that was collected; they did not do independent data collections.

Question from G. Ulirsch – Can you provide us with an official public comment on your concern?

Comment from Audience Member 2 – I certainly will.

Dr. Watters explained that Audience Member 2's points are well taken. Often ATSDR is asked to look at cancer registry data for an area, and there are many challenges associated with that request. Challenges include obtaining a geographic unit that is appropriate and fits, because sometimes the census tracts and the census blocks do not match. Another challenge is migration; a lot of cancers have a latency period and take 20 years to develop.

Comment from L. Miller – Could we move on to one other person please.

Question from Audience Member 1 – Would you describe what some of the health issues in the area are?

G. Ulirsch explained that area health information was previous work conducted and summarized by ATSDR on a previous document. This report only focuses on the health issues related to the residents and workers at 4825 Glenbrook Road.

Question from Audience Member 1 – How do you find out if any of those workers interviewed have any health effects since that time?

G. Ulirsch explained that ATSDR invites those workers to come forward.

Dr. Watters added that the public notification of the document release is partially for that purpose. ATSDR's extrapolation was from sampling data, environmental sampling data, and interview transcripts provided by USACE.

Question from Audience Member 1 – What were the health issues of the people that bought the house?

G. Ulirsch explained that ATSDR could only evaluate the arsenic exposures in surface soil. ATSDR documented in the Health Consultation an incident of a nanny that reported a skin condition, keratosis. Another individual reported a benign tumor. There were no reports of health effects in children. Those reports came from court records or the Northwest Current newspaper.

Question from L. Miller, Community Member – If people can identify additional workers, would ATSDR want to know that information?

G. Ulirsch replied yes, then ATSDR could provide them with the document and hook them up.

Question from Audience Member 2 – Hook them up how?

Dr. Watters replied that the contact person is Lara Werner at the ATSDR Regional 3 Office. Through that office ATSDR has established relationships with occupational medicine clinics. There is one in West Virginia and there are others in Region 3 that can perform clinical occupation health assessment of those individuals.

Comment from L. Miller, Community Member – We have gone substantially over time. If there are people that have not asked a question at all, please ask now.

Question from Audience Member 3 – Three years ago I asked a question of how USACE will react to information that there is a significant amount of chemicals underneath the building at 4835

Glenbrook Road. USACE responded at that point that USACE would consider doing some excavation work under the back porch. I do not think that ever happened. USACE presented today that 4825 Glenbrook Road seems to be coming to a conclusion. The health records of the workers at 4825 Glenbrook Road indicate similar problems at both sites. Where are we in starting to do evaluation about what could be underneath 4835 Glenbrook Road in order to truly come to closure?

D. Noble explained USACE has conducted investigations at both properties and reported those activities. Based on those findings, USACE reached conclusions of appropriate actions and have taken those actions.

Question from Audience Member 3 – I ask a very specific question. In the transcripts there is information that there is a significant amount of chemicals buried under 4835 Glenbrook Road. Workers on both sides had significant health problems from both sides of a completely artificial line in between the two properties. USACE said 3 years ago that you did consider doing some work on 4835 Glenbrook Road to see what is under the porch. I do not think anything has happened.

B. Barber explained that it is important to note that USACE did look at those transcripts very closely. As the project progressed at 4825 Glenbrook Road, USACE was seeing discrepancies between what was found in the field versus what was being said in the transcripts. There were accuracies in several areas, but also inaccuracies in several areas. B. Barber cautioned that what was said in the transcripts was 14 to 18 years ago. USACE did not perform the interviews, and cannot rush to conclusions. USACE fully investigated 4835 Glenbrook Road and have written documents that reflect what was found.

Question from Ginny Durrin, Audience Member and producer, Durrin Productions, Inc. – I conducted the interviews and I know what they said. I know that the more recent interviews refer to stuff being under 4835 Glenbrook Road. They were aghast that 4835 Glenbrook Road stood there untouched when they found out 4825 Glenbrook Road had been demolished.

B. Barber explained that the recent transcripts indicated that there was extensive debris under both properties. USACE found no debris under the crawlspace at 4825 Glenbrook Road.

B. Barber explained that the recent transcripts also indicated that we would find extensive debris under both properties.

G. Durrin said that they never used the words extensive debris under both properties.

B. Barber explained that USACE found no debris under the crawlspace at 4825 Glenbrook Road.

Question from G. Durrin, Audience Member and producer, Durrin Productions, Inc. – There was no specific mention of debris under the crawlspace at 4825 Glenbrook Road in the transcripts. I read the transcripts. What the workers have done in the last two interviews that I've had with them is say in horror, "What's going on here that one house is demolished and the other stands standing." You say that there is nothing wrong at the second house, and that is because you have not investigated underneath the footprint of the house, except for one boring hole.

Comment from L. Miller, Community Member – Let us have two more questions, then formally adjourn the RAB. The Corps will stay to answer questions.

Audience Member 1 – The back porch area at 4835 Glenbrook Road is enclosed with a concrete crawl space under it. So how far did you bore under that, and how far did you bore into the 12

inch concrete in the floor of the garage?

D. Noble explained that as you heard earlier from the previous comment was only a single boring hole taken from under 4835 Glenbrook Road in the garage area. No direct sampling was taken from underneath the back porch.

Question from Ken Shuster, Audience Member – Apparently ATSDR has not talked to any of the workers, any of the Loughlin family or the nanny? Do you plan to do so?

G. Ulirsch replied that if they come forward, absolutely.

Question from Ken Shuster, Audience Member – So you are a passive reviewer, not a pro-active reviewer?

G. Ulirsch explained that ATSDR sent a letter of Health Consult to all of the contacts for the workers and residents, and asked them to contact ATSDR.

Question from Ken Shuster, Audience Member – To the family and they did not respond?

G. Ulirsch explained that ATSDR sent a letter of Health Consult to their lawyer.

Question from K. Shuster, Audience Member – Many years ago USACE agreed to do indoor air sampling at my request at 4825 Glenbrook Road. Before the house was demolished, I called and asked again for that sampling, and EPA said no. That is unfortunate. Since 4835 Glenbrook Road still exists, is there any plan to do indoor air sampling at that location?

D. Noble replied not at this time.

Question from Ken Shuster, Audience Member – Why not?

D. Noble explained that USACE does not see a need and there is no plan to perform indoor air sampling at 4835 Glenbrook Road.

Comment from Ken Shuster, Audience Member – And you saw no need to do indoor air sampling at 4825 Glenbrook Road?

D. Noble explained that sampling was not done because of the way the events unfolded at the property over the years. The house came down and there was no need to sample the indoor air since no one was going to go back in to the house.

Comment from Ken Shuster, Audience Member – That information would have been very useful. In fact, when USACE first said no to indoor air sampling, I said let me rephrase my question. I, and the citizens of Spring Valley will not allow you to walk away from Spring Valley without doing at least one, and I would suggest 3 indoor air houses. At that suggestion, USACE said yes, what would you suggest? I said 4825 Glenbrook Road. I said I would also do at least one house on Sedgwick Trench. USACE did go out to Sedgwick Trench; they did not expect to find anything there. USACE found high arsenic, and went back again thinking there was a sampling error. After that, USACE still did not go back to 4825 Glenbrook Road.

L. Miller commented that K. Shuster's point was well made on the record. Thanks to all of you. In the absence of objection from the RAB, we will adjourn the formal part of the meeting. USACE will be stay to be available to answer questions.

IV. Community Items

No community items were presented.

B. Next RAB Meeting:

Tuesday, July 12, 2016

V. Public Comments

No public comments were presented.

VI. Adjourn

The meeting was adjourned at 9:00 PM.