



SPRING VALLEY FORMERLY USED DEFENSE SITE PROJECT
Monthly RAB Meeting

April 10, 2012
7:00 – 8:30 p.m.

BASEMENT MEETING ROOM
ST. DAVID'S EPISCOPAL CHURCH
5150 MACOMB ST NW, WASHINGTON, DC

Agenda

- 7:00 p.m. I. Administrative Items**
Co-Chair Updates
▪ Announcements, Introductions
Task Group Updates
- 7:10 p.m. II. USACE Program Updates**
Military Munitions Response Program
▪ Anomaly Investigations - American University/Kreeger Hall area investigation completed
4825 Glenbrook Road
▪ Decision Document – Status report
▪ Draft Remedial Design & Remedial Action Work Plan- Status report
- 7:30 p.m. III. Community Items**
Groundwater Monitoring Program Annual Summary
Presented by Todd Beckwith, USACE

Inaccessible Properties
Presented by Todd Beckwith, USACE
- 8:00 p.m. IV. Open Discussion & Future RAB Agenda Development**
Possible Upcoming Meeting Topics*:
▪ 4825 Glenbrook Road Remedial Design
▪ 4825 Glenbrook Road Health Consultation Update
▪ Risk and Biology of Arsenic (Dr. Lee Monsein)
▪ Evaluation of Remaining Site-Wide Sampling Requirements
▪ Spring Valley Follow-On Health Study Update (Johns Hopkins University)
- 8:15 p.m. V. Public Comments**
- 8:30 p.m. VI. Adjourn**

** RAB meetings are not held in August or December*

Spring Valley

Formerly Used Defense Site

Restoration Advisory Board Meeting

April 10, 2012

“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.”



US Army Corps of Engineers
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Agenda Review

- ❖ **Co-Chair Updates**

- **Introductions, Announcements**

- ❖ **USACE Updates**

- **Military Munitions Response Program**
- **4825 Glenbrook Road**

- ❖ **Community Items**

- **Groundwater Monitoring Program
Annual Summary**
- **Inaccessible Properties**

- ❖ **Open Discussion & Agenda Development**

- ❖ **Public Comments**



Co-Chair Updates

Introductions



Co-Chair Updates

❖ Announcements

➤ Controlled Detonation Chamber left Spring Valley at the end of March as planned

- ✓ Transported to the West Coast via truck for another operation

➤ Website Updates:

- ✓ January 2012 Partnering meeting minutes
- ✓ February 2012 RAB meeting materials (agenda, presentation, minutes)
- ✓ March 2012 Monthly Project Summary
- ✓ 4th Quarter Groundwater Sampling Results Map



Task Group Updates

❖ Membership Committee

- One RAB member position still open



Military Munitions Response Program (MMRP) Anomaly Investigations: American University

March:

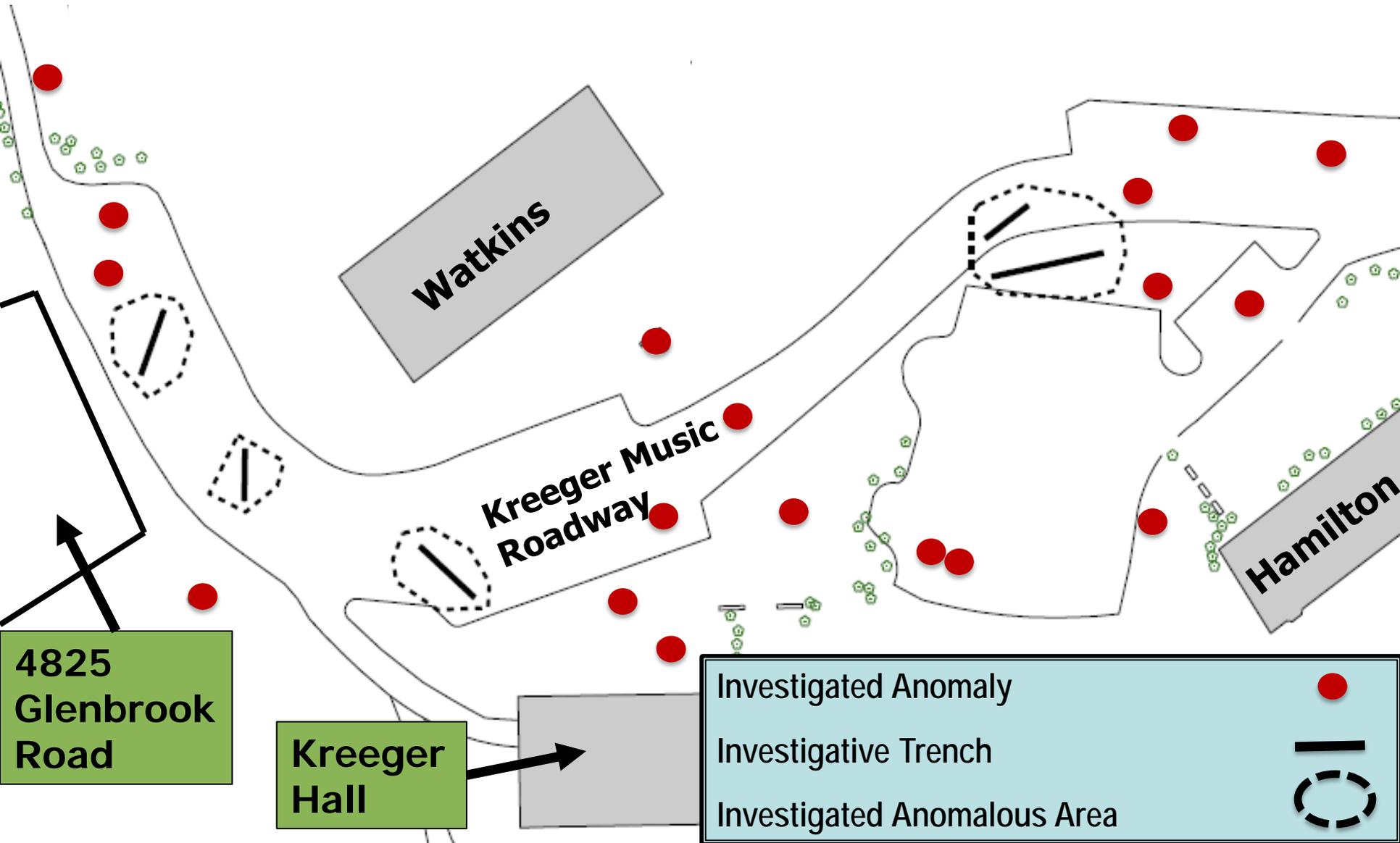
- **Trench digging of 4 anomalous areas in the AU Kreeger Hall parking lot and roadway completed**
- **No World War I-related items recovered**
 - **Only construction and cultural debris, such as rebar and soda bottles**

Last scheduled anomaly investigation effort in the Spring Valley Project area



American University
Anomaly Investigation Locations

CDC



Military Munitions Response Program (MMRP) Anomaly Investigations: American University



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Military Munitions Response Program (MMRP) Anomaly Investigations: American University



Road was
patched
after
trenching

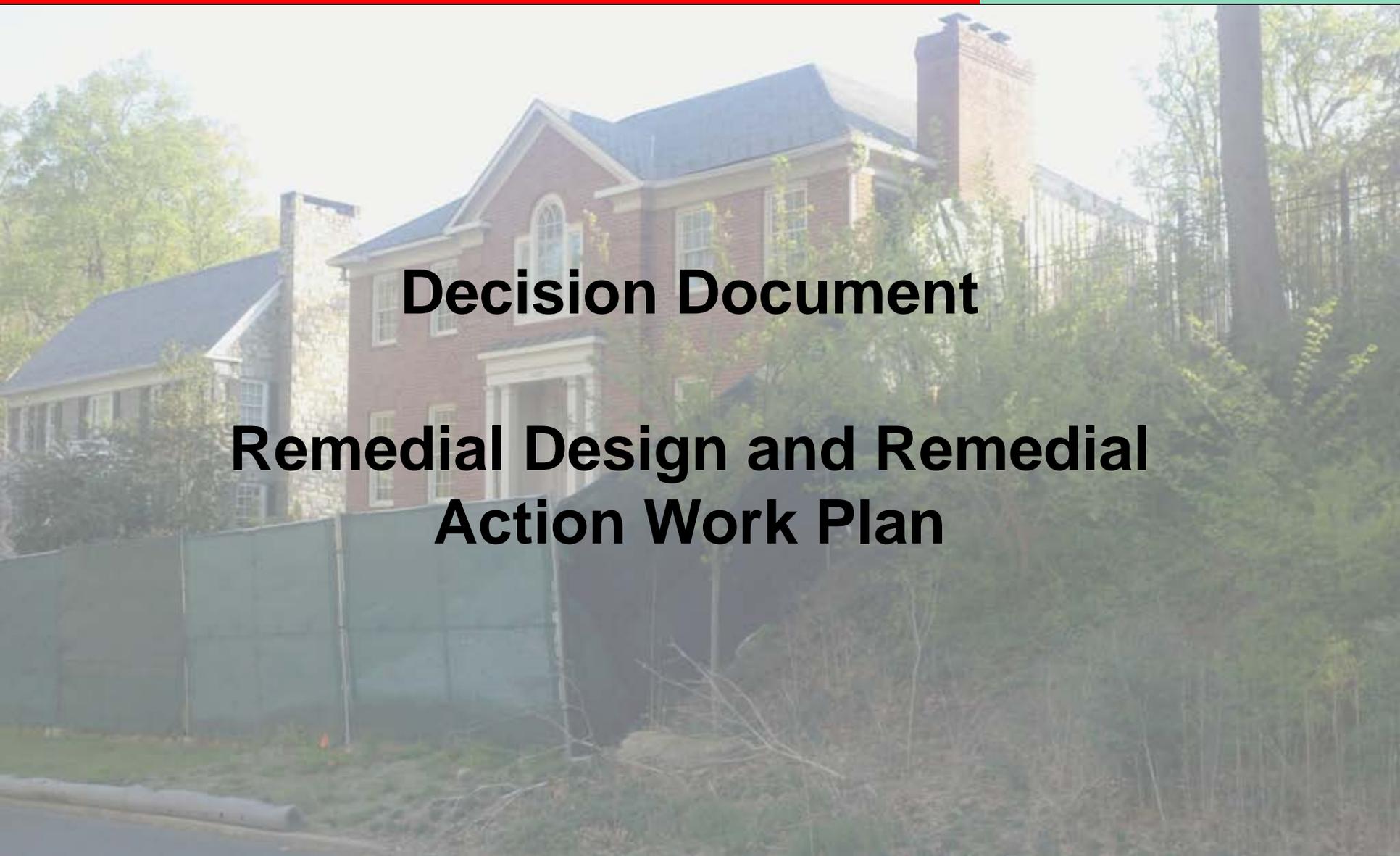


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4825 Glenbrook Road: UPDATE

Decision Document

**Remedial Design and Remedial
Action Work Plan**



4825 Glenbrook Road Update

Decision Document

Decision Document authorized by the Army's Assistant Chief of Staff for Installation Management in early April

- **Final expected by May 2012**
 - **Awaiting final approval and signature:**
From the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health

4825 Glenbrook Road Update Decision Document

Once signed, the documents will be available electronically on the SV website and in hard copy form at the Tenley Friendship Branch Library:

- **Decision Document**
 - **Includes Responsiveness Summary & Proposed Plan public meeting transcript**
- **Decision Document fact sheet**
 - **Summarizes the document and highlights the next steps**
- **Demolition and Disposal Plan**
 - **Describes how the house will be removed and the debris disposed of**

4825 Glenbrook Road Update Work Plan

Reviewing Draft Remedial Design and Remedial Action Work Plan

Tentative schedule:

- **Draft Final: April 2012**
- **RAB Briefing: May 2012**
- **Final: Summer 2012**
- **Community Meeting: Summer 2012**

Spring Valley FUDS Restoration Advisory Board

Community Items

Groundwater Monitoring Program Annual Summary

Presented by: Todd Beckwith, USACE Project Manager



Groundwater Study

Overview of Efforts: May 2011 to Present

May 2011 – February 2012: Quarterly sampling

July 2011: Source Area Borings

October 2011 – March 2012:

Installation and sampling of two new deep wells

March 2012:

Installation and sampling of new monitoring well

March 2012 – Spring 2012:

Sampling and analysis of perchlorate isotopes



Groundwater Study

Quarterly Sampling: May 2011-February 2012

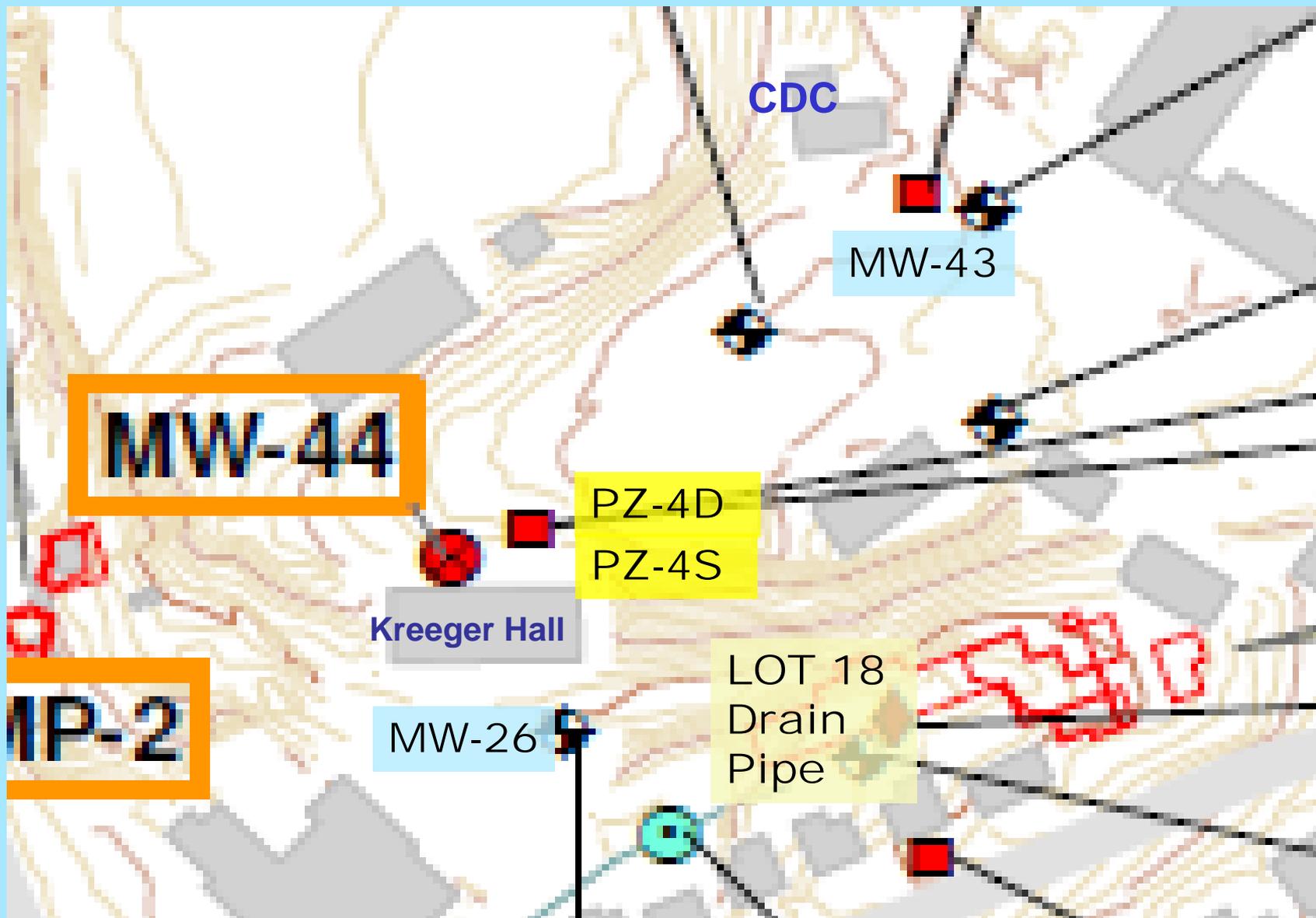
Quarterly sampling effort completed February 2012

- 21 groundwater monitoring wells and 14 surface water locations sampled
 - May, August and November 2011 & February 2012
- Purpose to identify any trends in groundwater chemistry and determine if seasonal fluctuations affect contaminant levels in groundwater

Partners to review the validated quarterly sampling results at the Partnering meeting in May 2012

Groundwater Study

Quarterly Sampling Overview: American University



Groundwater Study

Quarterly Sampling Overview: Arsenic

American University				
Well Number	May '11	August '11	November '11	February '12
MW-26	Non-Detect	Non-Detect	Non-Detect	Non-Detect
MW-43	Non-Detect	Non-Detect	Non-Detect	Non-Detect
PZ-4S	2 ppb	Non-Detect	Non-Detect	2.4 ppb
PZ-4D	2.6 ppb	Non-Detect	Non-Detect	2.7 ppb
Lot 18 Drain Pipe	1.8 ppb	1.7 ppb	Non-Detect	1.2 ppb
10 ppb: Maximum Contaminant Level for Arsenic				



Groundwater Study

Quarterly Sampling Overview: Perchlorate

American University				
Well Number	May '11	August '11	November '11	February '12
MW-26	Non-Detect	Non-Detect	Non-Detect	Non-Detect
MW-43	1.8 ppb	2.5 ppb	2.5 ppb	1.5 ppb
PZ-4S	30 ppb	18 ppb / 19 ppb	15 ppb	28 ppb
PZ-4D	39 ppb	9.8 ppb / 39 ppb	45 ppb	39 ppb
Lot 18 Drain Pipe	1.5 ppb	2.5 ppb	1.2 ppb	1.1 ppb
15 ppb: Drinking Water Health Advisory Level for Perchlorate				



Groundwater Study

Quarterly Sampling Overview:

Down gradient from American University



Groundwater Study

Quarterly Sampling Overview: Arsenic

Down gradient from American University				
Well Number	May '11	August '11	November '11	February '12
MW-24	3.7 ppb	4.6 ppb	3.9 ppb	7.9 ppb
MW-25	3.1 ppb	3 ppb	3 ppb	2.2 ppb
MW-37	Non-Detect	Non-Detect	Non-Detect	Non-Detect
MW-39	Non-Detect	Non-Detect	Non-Detect	Non-Detect
SW-11	Non-Detect	Non-Detect	Non-Detect	Non-Detect
SW-21	1.6 ppb	1.4 ppb	Non-Detect	1.1 ppb
MP3 (6 sample ports)	All Ports Non-Detect Except Port 2: 1.2 ppb	All Ports Non-Detect	All Ports Non-Detect	All Ports Non-Detect
10 ppb: Maximum Contaminant Level for Arsenic				

Groundwater Study

Quarterly Sampling Overview: Perchlorate

Down gradient from American University				
Well Number	May '11	August '11	November '11	February '12
MW-24	2.3 ppb	3 ppb	2.4 ppb	1.6 ppb
MW-25	2.9 ppb	2.8 ppb	2.5 ppb	Non-Detect
MW-37	Non-Detect	Non-Detect	Non-Detect	Non-Detect
MW-39	1.5 ppb	1.4 ppb	1.5 ppb	2.1 ppb
SW-11	3.4 ppb	2.7 ppb	3.2 ppb	3.2 ppb
SW-21	2.2 ppb	1.9 ppb	2.7 ppb	2.6 ppb
MP3 (6 sample ports)	Non-Detect Except Port 2 (0.54 ppb) & 3 (0.64 ppb)	All Ports Non-Detect	All Ports Non-Detect	All Ports Non-Detect
15 ppb: Drinking Water Health Advisory Level for Perchlorate				

Groundwater Study

Quarterly Sampling Overview: Sibley



Groundwater Study

Quarterly Sampling Overview: Arsenic

Sibley Hospital Area				
Well Number	May '11	August '11	November '11	February '12
PZ-1S	Non-Detect	Non-Detect	Non-Detect	Non-Detect
PZ-1D	1.5 ppb	Non-Detect	Non-Detect	1.2 ppb
MW-21	Non-Detect	Non-Detect	Non-Detect	Non-Detect
MW-22	Non-Detect	Non-Detect	Non-Detect	Non-Detect
Sibley Sump	Non-Detect	Non-Detect	Non-Detect	5 ppb
10 ppb: Maximum Contaminant Level for Arsenic				



Groundwater Study

Quarterly Sampling Overview: Perchlorate

Sibley Hospital Area				
Well Number	May '11	August '11	November '11	February '12
PZ-1S	Non-Detect	Non-Detect	Non-Detect	Non-Detect
PZ-1D	4.1 ppb	3.9 ppb	2.5 ppb	2.7 ppb
MW-21	8.3 ppb	12 ppb	4.7 ppb	5.2 ppb
MW-22	10 ppb	13 ppb	12 ppb	13 ppb
Sibley Sump	16 ppb	16 ppb	21 ppb	24 ppb
15 ppb: Drinking Water Health Advisory Level for Perchlorate				



Groundwater Study

Source Area Borings

16 Source Area Borings on the AU campus near Kreeger Hall were completed in July

Purpose: to evaluate local soil and groundwater chemistry to determine if a potential source of perchlorate is present in the soils in this area

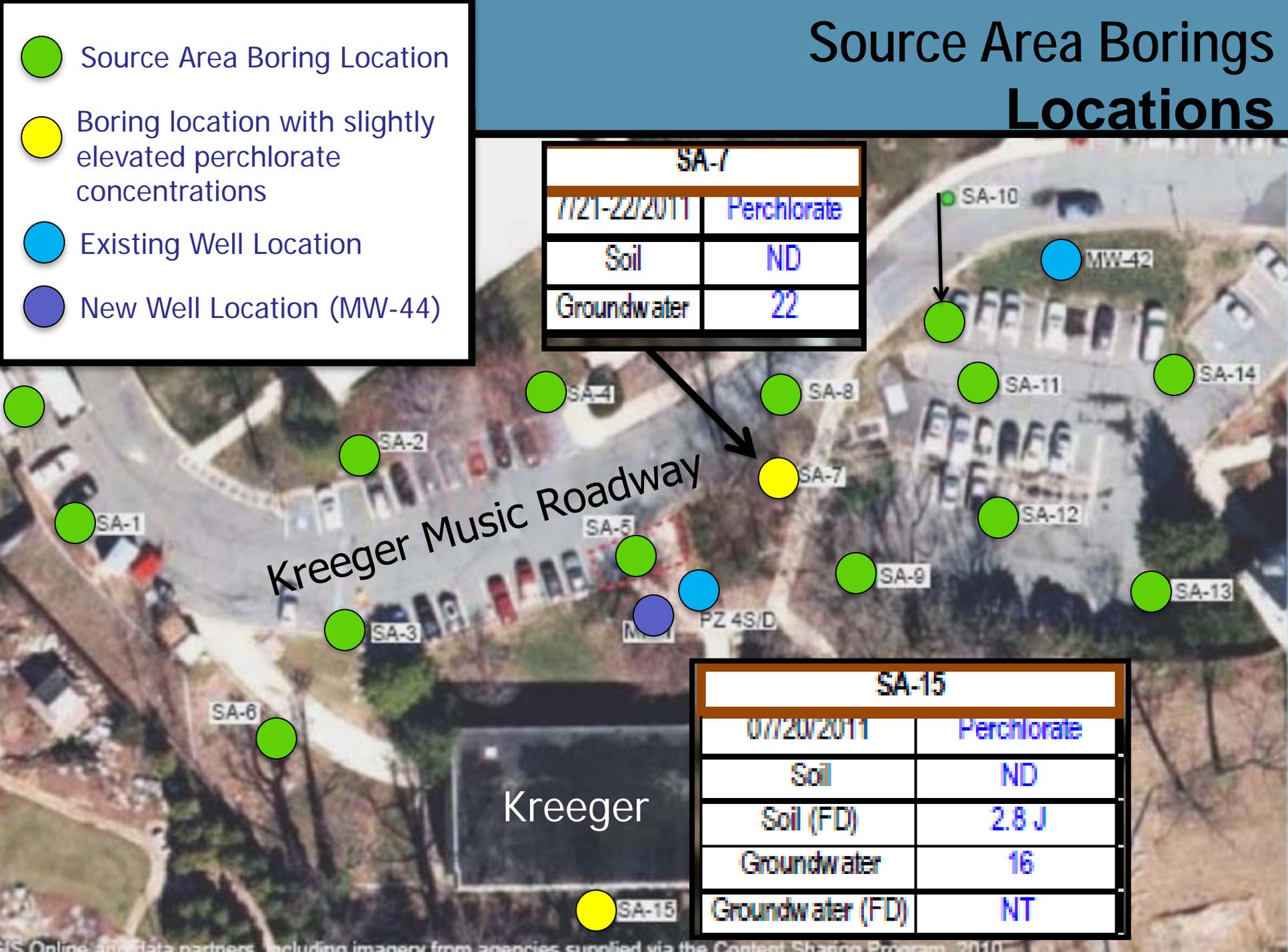
Elevated concentrations of perchlorate have been previously detected in existing groundwater monitoring wells in this area

Source Area Borings Locations

- Source Area Boring Location
- Boring location with slightly elevated perchlorate concentrations
- Existing Well Location
- New Well Location (MW-44)

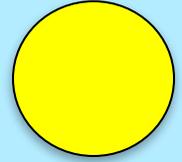
SA-7	
7/21-22/2011	Perchlorate
Soil	ND
Groundwater	22

SA-15	
07/20/2011	Perchlorate
Soil	ND
Soil (FD)	2.8 J
Groundwater	16
Groundwater (FD)	NT



Groundwater Study

Source Area Borings: July 2011



Only 2 sampling locations identified with perchlorate concentrations above the EPA's interim drinking water health advisory level of 15 ppb

- **SA 7: 22 ppb and SA 15: 16 ppb perchlorate**

Area co-located with the completed Kreeger Hall geophysical investigation area



Groundwater Study



Two New Deep Wells:

Drilling and characterization of 2 new deep wells completed October 2011

- 4800 block of Glenbrook Road
- 4900 block of Rockwood Parkway

Installation of custom-made sampling liners completed February 2012

Sampling completed March 2012

- Wells sampled using sample ports corresponding to fracture zones at various depths



Groundwater Study

Deep Well Sampling: Rockwood Parkway



Setup for sampling event

Measuring depth of each sampling port



Groundwater Study

Deep Well Sampling: Rockwood Parkway

Purging water from
sampling ports



Collecting
sample

Groundwater Study

Two New Deep Wells



Samples currently being analyzed and validated

- **Takes several weeks**

**Results to be reviewed by the Partners at the
May 2012 Partnering meeting**

- **Results to be shared with the RAB following
Partner review**



Groundwater Study

New Monitoring Well: March 2012

Groundwater monitoring well drilled and sampled on the AU campus near Kreeger Hall (MW-44)

- **Originally planned as the 4th deep well**
 - **Could not reach planned drill depth of 200 feet**
 - **Incompetent bedrock was encountered**
 - **Well drilled to approximately 95 feet**
- **Sampled at one sample depth**
 - **Sampled at 80-95 feet**
 - **Samples currently being processed & will be reviewed by the Partners at the May 2012 Partnering Meeting**



Groundwater Study

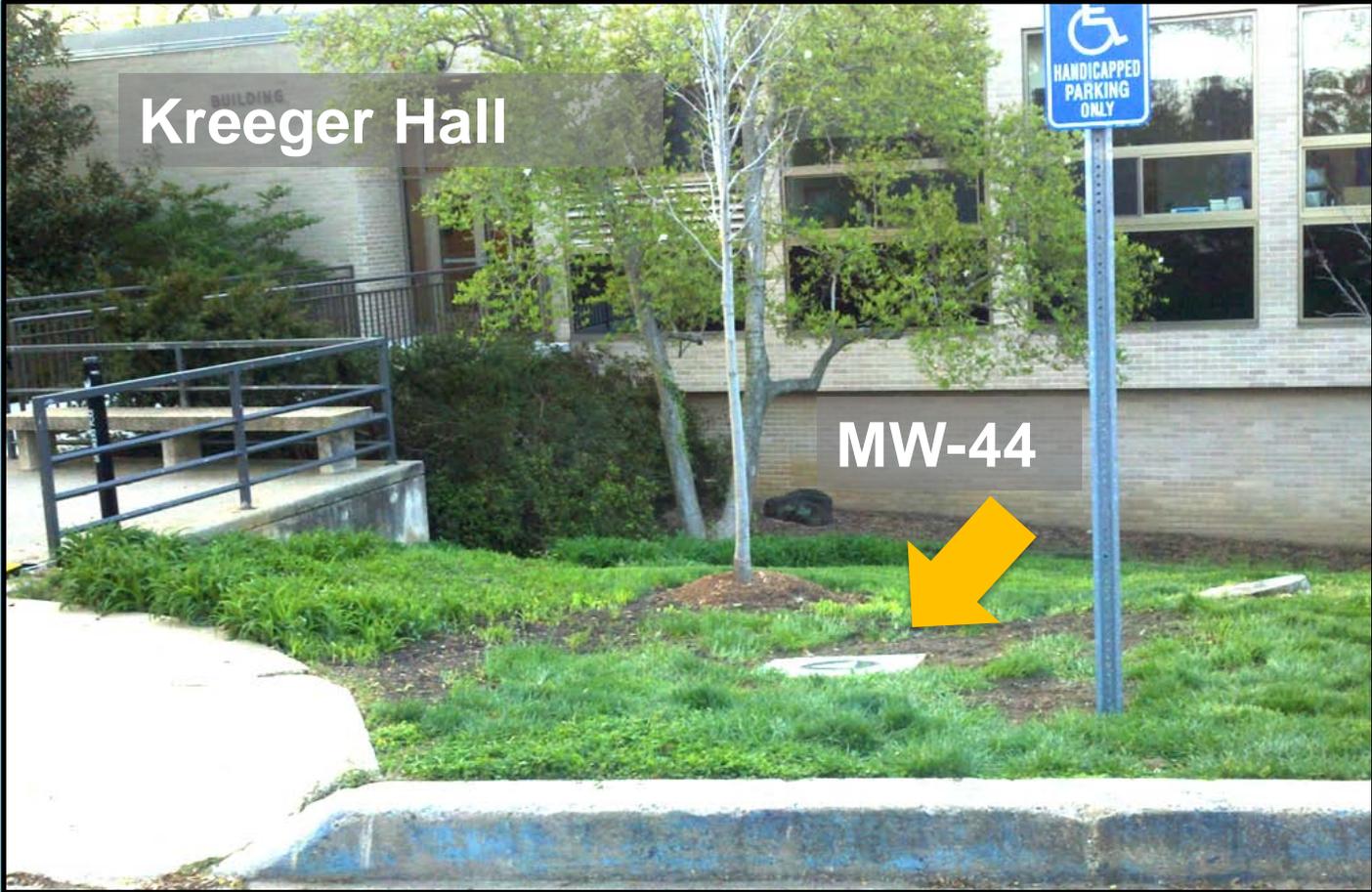
New Monitoring Well on AU



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Groundwater Study

New Monitoring Well on AU



Groundwater Study

Isotopic Analysis of Perchlorate

Purpose to determine if the source of perchlorate at AU is the same as the source near Sibley

- **Elevated levels of perchlorate have previously been detected at both locations**

March 2012:

Collected a sample for isotopic analysis of perchlorate at PZ-4D

April 2012:

Planning to collect a second perchlorate sample near Sibley Hospital



Groundwater Study

Isotopic Analysis of Perchlorate



PZ-4S/4D

Tubing connecting the well and the pumping and filtration system



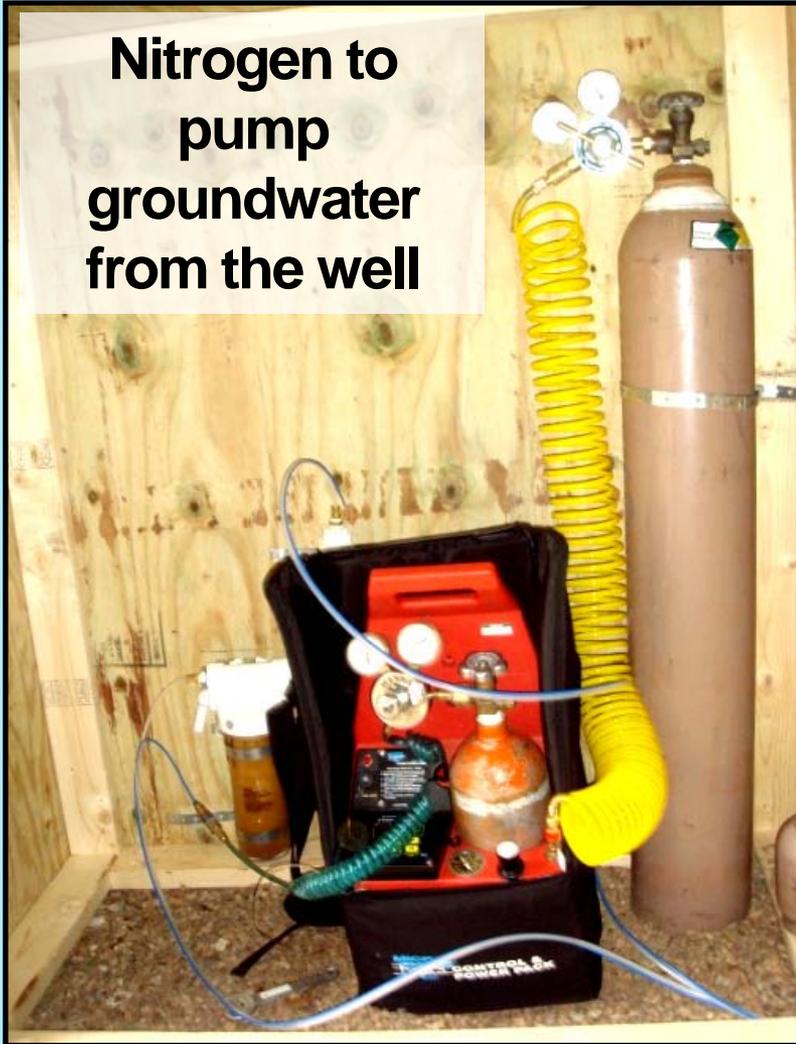
Groundwater collection, pumping, and filtration station



Groundwater Study

Isotopic Analysis of Perchlorate

Nitrogen to pump groundwater from the well



Filtration system



Filter that collects the perchlorate



Groundwater Study

Next Steps :

May 2012 Partners Mtg - review sampling results for

- Quarterly sampling event
 - Two new deep wells
 - New well on AU (MW-44)
 - Perchlorate samples from AU and near Sibley
-
- Partners to discuss any additional data needs/collections needs
 - USACE groundwater contractor to prepare groundwater Remedial Investigation report



Spring Valley FUDS Restoration Advisory Board



Community Items

Inaccessible Properties

Presented by: Todd Beckwith, USACE Project Manager

Inaccessible Properties



Purpose:

Review properties in the Spring Valley project area where USACE has not obtained access

- This is in response to a RAB request received at the March 2012 RAB meeting



Inaccessible Properties



Arsenic Soil Sampling

- **Residential:** 9 properties
- **Federal Lots:** 9 lots
- **Commercial:** 1 property

Current Status:

Residential and commercial property owners, EPA & DDOE were notified that USACE will no longer request Right of Entry access



Inaccessible Properties

Arsenic Soil Sampling



❖ **Nine residential properties**

- **Access was formally requested at least twice and informally in multiple ways during at least two focused campaigns to reach property owners**
- **Efforts were made to contact property owners in person to explain the right of entry (ROE) request, as well as by mail, telephone, door tags, outreach to neighbors (for alternate contact information), tax data and other research.**
- **Reasons for lack of access vary by property**
- **None of these properties are adjacent to arsenic soil removal properties**



Inaccessible Properties

Arsenic Soil Sampling



- **4200 block of 48th Place**
 - Long time resident, does not want to be disturbed by soil sampling
- **4400 block of 50th Street**
 - Does not want to be disturbed by soil sampling and possible soil removal
- **4200 block of 49th Street**
 - Extensively re-landscaped with new soil, thus not concerned about possible WWI contamination
- **4900 block of Tilden Street**
 - Reviewed historical information and believes soil sampling is not necessary for property



Inaccessible Properties

Arsenic Soil Sampling

❖ No response (1 property at each)

4400 block of Windom Place

5100 block of Yuma Place

4300 block of 44th Street

4300 block of 50th Street

4800 block of Van Ness Street



Inaccessible Properties

Arsenic Soil Sampling



❖ Federal Lots in

Glover Archbold Park

- Access not granted due to ongoing legal constraint between USACE Headquarters and National Park Service Headquarters

❖ Commercial Property

- ROE issues
- Property is a public utility substation with numerous buried underground lines



Spring Valley FUDS Restoration Advisory Board

- **Open Discussion**

- **Upcoming Agenda Items**

- **4825 Glenbrook Road Remedial Design (Work Plan)**
- **Evaluation of Remaining Site-Wide Sampling Requirements**
- **Risk and Biology of Arsenic (Dr. Lee Monsein)**
- **4825 Glenbrook Road ATSDR Health Consultation Update**
- **Spring Valley JHU Follow-On Health Study Update**
- **??**



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 Meeting
St. David's Episcopal Church
Minutes of the April 10, 2012 RAB Meeting**

RESTORATION ADVISORY BOARD MEMBERS PRESENT AT THIS MEETING	
Greg Beumel	Community Co-Chair
Mary Bresnahan	Community Member
Kathleen Connell	Community Member
Dr. Peter deFur (represented by Laura Williams)	Environmental Stewardship Concepts/RAB TAPP Consultant
Paul Dueffert	Community Member
Mary Douglas	Community Member
Steve Hirsh	Agency Representative- US Environmental Protection Agency Region III
Lawrence Miller	Community Member
Lee Monsein	Community Member
Penny Pagano	At Large Representative – American University
Malcolm Pritzker	Community Member
James Sweeney	Agency Representative – District Department of the Environment
George Vassiliou	Community Member
John Wheeler	Community Member
RESTORATION ADVISORY BOARD MEMBERS NOT PRESENT AT THIS MEETING	
Dan Noble	Military Co-Chair/USACE, Spring Valley MMRP Manager
Mario Aguilar	Community Member
Alma Gates	At Large Representative – Horace Mann Elementary School
William Krebs	Community Member
ATTENDING PROJECT PERSONNEL	
Todd Beckwith	USACE, Spring Valley Project Manager
Brenda Barber	USACE, Spring Valley Project Manager
Clem Gaines	USACE, Public Affairs
Andrea Takash	USACE, Public Affairs
Carrie Johnston	Spring Valley Community Outreach Program Manager

Betsey Hutton	Spring Valley Community Outreach Program
Jessica Bruland	ERT
HANDOUTS FROM THE MEETING	
I. Final Agenda for the April 10, 2012 RAB Meeting II. Army Corps of Engineers Presentation; Groundwater Monitoring Program Annual Summary; Summary of Inaccessible Arsenic Sampling and Removal Properties III. Groundwater Monitoring Program Sampling Results Maps	

AGENDA

Starting Time: The April 10, 2012 RAB meeting began at 7:07 PM

I. Administrative Items

A. Co-Chair Updates

Greg Beumel, Community Co-Chair, opened the meeting.

Todd Beckwith, Spring Valley Project Manager, welcomed the group and reviewed the evening's agenda. He mentioned that Dan Noble, Spring Valley Project Manager and Military Co-Chair, was unable to attend the RAB meeting due to a schedule conflict and will be present at the May 2012 RAB meeting.

B. Introduce Guests

Officer McElwee of the District of Columbia Metropolitan Police Department 2nd District briefly attended the meeting. No questions were asked regarding the 2nd District's role in Spring Valley operations. Laura Williams of Environmental Stewardship Concepts represented Dr. Peter deFur, RAB TAPP Consultant, at the meeting.

C. General Announcements

T. Beckwith announced that recent website updates include the January 2012 Partnering minutes, the February 2012 RAB minutes, and associated materials, along with the March 2012 monthly project summary. Additional website updates include a groundwater sampling summary map that contains all sampling locations within the Spring Valley FUDS, along with all arsenic and perchlorate sampling results collected to date (including the sampling results from the quarterly sampling events from May 2011 to February 2012).

T. Beckwith mentioned that the Controlled Detonation Chamber (CDC) was transferred at the end of March 2012 from the Spring Valley Federal Property site to the West Coast for another munitions disposal operation. Upon completion of the West Coast operation, the CDC will be transferred to Aberdeen Proving Ground (APG) in Maryland. The CDC is not currently scheduled to return to the Spring Valley project area. (Details of the recently completed disposal operation, including safety plans and community outreach efforts, were presented at the February and March 2012 RAB meetings.)

D. Task Group Updates

Malcolm Pritzker and Lee Monsein, RAB Members, provided a brief update on the Membership Task Group. One open RAB membership position is still available for interested members of the Spring Valley community. No recent RAB membership applications have been received.

Question from Paul Dueffert, RAB Member – Should RAB members share this vacancy information with our neighbors?

M. Pritzker confirmed that this is a good idea. Open RAB membership positions were previously advertised in the monthly Corps' pondent newsletter.,

II. USACE Updates

T. Beckwith, Spring Valley Project Manager, provided a brief update on completed geophysical anomaly removals.

Brenda Barber, Spring Valley Project Manager, provided a brief status update on the Decision Document for 4825 Glenbrook Road and the associated Remedial Design and Remedial Action Work Plan.

A. Military Munitions Response Program

Completed Anomaly Investigations at the AU Campus

Anomaly investigations on approximately 2.5 acres of the AU campus in the vicinity of Kreeger Hall were completed in March 2012. This effort marks the completion of all planned anomaly investigations in the Spring Valley FUDS, and is a significant milestone for the Spring Valley project.

A total of 18 single-point anomalies and 4 anomalous areas were investigated in this area in January and March 2012 respectively. No AUES-related items were recovered, only cultural and construction debris. Items recovered during the trench investigations include steel-reinforced rebar within a buried concrete pad, a road sign, a metal pipe, hardware items, and bottles unrelated to military activities. Each trench was excavated to a depth of 12 feet below ground surface or until saprolite or bedrock was encountered.

As described at the March 2012 RAB meeting, these single-point anomalies and anomalous areas were selected for investigation during interagency partner review of data from the geophysical survey (completed in May 2011), as well as the co-located perchlorate source area boring sampling results (completed in July 2011). The four anomalous areas identified and selected for investigation were characterized by large geophysical responses and were resolved by digging trenches in these areas, which were located at the Kreeger Hall parking lot and the Kreeger Music Roadway. This effort required removal and restoration of small portions of the asphalt parking lot and roadway.

Question from P. Dueffert, RAB Member – Is this the last anomaly removal effort based on everything you've found to date?

T. Beckwith confirmed that the completed AU campus effort is the last planned anomaly investigation in the Spring Valley project area. Any potential need for future anomaly investigations will be determined during the site-wide Remedial Investigation /Feasibility Study process.

T. Beckwith added that the project team remains interested in conducting anomaly investigations at a residential property on the 3700 block of Fordham Road. This property was geophysically surveyed but the homeowner did not grant permission to conduct anomaly investigations (Details surrounding right-of-entry issues at this property were discussed at the April 2012 RAB meeting),

Question from P. Dueffert, RAB Member – What is saprolite?

T. Beckwith explained that saprolite is defined as weathered bedrock. Generally, saprolite cannot be excavated by hand because it is competent bedrock material.

Question from K. Slowinski, Audience Member – During or after the trench investigations, did you use a metal detector to confirm that the metallic object was removed after the trench was dug?

T. Beckwith confirmed that each anomalous area was excavated and cleared until the source of the geophysical signal, which had indicated the presence of buried metal, was resolved. Following each trench investigation, geophysical instruments were used to verify reduction of at least 90 percent of the geophysical signal.

B. 4825 Glenbrook Road (Decision Document; Remedial Design and Remedial Action Work Plan)

Tentative Document Schedule: Final 4825 Glenbrook Road CERCLA-related documents are posted on the Spring Valley Project website and are also available at the Information Repository at the Tenley-Friendship Branch Library. (Details of finalized documents were provided at the October 2011 and previous RAB meetings).

Decision Document (DD) authorization is underway. Concurrence on the selected remedial alternative was obtained from the DDOE and the EPA Region III in January 2012. Concurrence was also obtained from the USACE Baltimore District Commander, who signed the document in February 2012. Due to the cost of the selected remedy, final approvals and signatures are pending from higher within the Army chain of command, and this process was slightly delayed due to temporary assignments of staff members within the chain of command. Concurrence was obtained by the Army's Assistant Chief of Staff for Installation Management, who signed the document in March 2012. The DD is currently under review by the Deputy Assistant Secretary of the Army for Environment, Safety, and Occupational Health, whose final approval and signature are anticipated in early May 2012.

Upon final signature, the DD will be made available on the Spring Valley project website and at the Tenley-Friendship Branch Library. The DD formally selects Alternative 5 (removal of the house and cleanup to residential standards providing for unrestricted future use of the property) as the cleanup alternative for the 4825 Glenbrook Road site and includes the transcript of the November 2011 Proposed Plan public meeting and the Responsiveness Summary containing USACE's responses to all comments received during the public comment period. A fact sheet will also be provided electronically on the Spring Valley website and at the local library, to explain the key elements (purpose, organization, and contents) of the DD as well as the next steps prior to cleaning up the property. Similar fact sheets were prepared previously for other finalized 4825 Glenbrook Road CERCLA-related documents.

The Demolition and Disposal Plan (for removing and disposing of the 4825 Glenbrook Road house) was finalized in February 2012. This document was prepared separately from the Remedial Design and Remedial Action Work Plan to allow site preparations to continue while the Work Plan is drafted, reviewed, and finalized. The details of this plan were presented at the March 2012 RAB meeting. This document will be made available on the Spring Valley project website and at the Tenley-Friendship Branch Library.

Preparation of the draft final Remedial Design and Remedial Action Work Plan (which details how the selected cleanup alternative will be implemented) is underway. The work plan will be supported by Site Safety and Public Protection Plans. The draft work plan was reviewed by USACE, and the contractor is currently addressing all comments and preparing the draft final work plan. Regulatory partner review of the draft final work plan is anticipated in late April 2012, followed by work plan finalization in May 2012. Details of this work plan are tentatively planned to be discussed at the May 2012 RAB meeting and at an informational community meeting in Summer 2012, prior to beginning cleanup activities at the site.

As described at the January 2012 RAB meeting, remedial action will tentatively begin in Summer 2012 and continue through late 2013. The length of the cleanup process depends on the remediation

methodologies outlined in the Remedial Design and Remedial Action Work Plan. Site access logistics and right-of-entry negotiations are in progress.

Question from P. Dueffert, RAB Member – When will the 4825 Glenbrook Road house be demolished?

B. Barber replied that house demolition is tentatively anticipated to begin in June 2012.

Question from P. Dueffert, RAB Member – Why is there a one-month delay between work plan finalization and removal of the house?

B. Barber explained that completion of property negotiations with AU will be followed by completion of the demolition permit process during this time period.

Question from K. Slowinski, Audience Member – Will the community have an opportunity to provide comments on the Remedial Design and Remedial Action Work Plan during the May RAB meeting or the community meeting being held this summer?

B. Barber replied that community comments are always welcome, but a formal public comment period will not be held.

Question from K. Slowinski, Audience Member – Would we provide comments on the draft final or the final version of the work plan?

B. Barber explained that the work plan will still be in the draft final phase when details are presented at the RAB meeting. We expect that the work plan could be finalized and posted on the Spring Valley project website by the time the community meeting is held in Summer 2012.

K. Slowinski asked whether community comments will be addressed in the work plan.

B. Barber clarified that community member comments and concerns can be shared any time and potentially incorporated into edits to the draft final work plan, as appropriate.

III. Community Items

A. Groundwater Monitoring Program Annual Summary

T. Beckwith, Spring Valley Project Manager, provided a summary of completed groundwater study efforts accomplished during the past year (May 2011 through April 2012).

[Previous groundwater study efforts were described at the November 2010 RAB meeting as well as various earlier RAB meetings. Additional planned and completed groundwater study efforts were described at the May 2011 RAB meeting and various subsequent RAB meetings.]

Overview: Several groundwater study efforts were conducted since May 2011. These include quarterly groundwater and surface water sampling, source area borings, deep monitoring well installations and sampling, and sampling and analysis of perchlorate isotopes in groundwater.

Quarterly Sampling: The purpose of this effort was to identify any trends in groundwater chemistry, including potential impacts of seasonal fluctuations on groundwater contaminant levels. A total of 21 groundwater monitoring wells and 14 surface water locations were sampled during four quarterly sampling efforts (May, August, and November 2011 followed by February 2012). Validated quarterly sampling results will be reviewed by the Spring Valley partners at the May 2012 Groundwater Partnering meeting.

Perchlorate and arsenic results from each quarterly sampling location were compared to two groundwater screening criteria: EPA's perchlorate drinking water health advisory level of 15 ppb and EPA's arsenic

maximum contaminant level (MCL) of 10 ppb. Non-detect results indicate that the measured concentration was below the measurement instrument's detection limit.

- On AU's campus, elevated perchlorate concentrations have decreased over time at PZ-4S, where the highest groundwater perchlorate concentration to date (146 ppb) was detected in 2007. Elevated perchlorate at PZ-4D has remained consistent over multiple sampling events. During recent quarterly sampling events, elevated perchlorate at PZ-4S, PZ-4D, and nearby wells have remained consistent. Fourth quarter sampling results for wells on AU's campus include PZ-4S (28 ppb perchlorate), PZ-4D (39 ppb), the Lot 18 drain pipe (1.1 ppb), MW-26 (non-detect), and MW-43 (1.5 ppb). Similarly, arsenic concentrations were consistent with previous sampling efforts (ranging from very low to non-detect). All five locations were well below the 10 ppb MCL for arsenic. (All recently completed sampling and anomaly investigation efforts on AU's campus in the vicinity of Kreeger Hall suggest that no significant perchlorate sources are buried in this area.)
- Down gradient of the AU campus on and around Glenbrook Road, low perchlorate and arsenic concentrations were consistent with recent sampling rounds. Previously elevated concentrations at MW-24 and MW-25 have decreased significantly since the 2005-2009 timeframe, and many of the disposal cleanup efforts may have positively impacted groundwater chemistry in this area. Fourth quarter sampling results show that perchlorate concentrations were non-detect at MW-25, MW-37, and all MP-3 sampling ports, and very low at MW-24 (1.6 ppb), MW-39 (2.1 ppb), SW-11 (3.2 ppb), and SW-21 (2.6 ppb). Similarly, arsenic was non-detect at MW-37, MW-39, SW-11, and all MP-3 sampling ports, and low at MW-24 (7.9 ppb) and MW-25 (2.2 ppb).
- In the vicinity of Sibley Hospital, perchlorate concentrations have generally decreased over time and arsenic levels have consistently remained non-detect except for a couple of low detections recently. During the fourth quarterly sampling effort, PZ-1S was non-detect for perchlorate and a low detection of 2.7 ppb was observed at PZ-1D. Perchlorate concentrations at MW-21 (with historically elevated concentrations) and MW-22 were 5.2 ppb and 13 ppb, respectively. At the Sibley Sump, where groundwater infiltrates and collects in the bottom of an elevator shaft, a slightly elevated perchlorate concentration of 24 ppb is fairly consistent with, but slightly higher than, recent sampling events. This concentration matches the initial concentration measured in 2005. Arsenic concentrations were consistent with previous sampling efforts (ranging from very low to non-detect), with one atypical detection of 5 ppb arsenic at the Sibley Sump, where arsenic was not previously detected. This arsenic concentration is still below the 10 ppb MCL but will be monitored to determine if this detection was an anomaly or indicative of a contamination issue.

Question from K. Connell, RAB Member – Is it possible that the February 2012 Sibley sump sample was analyzed incorrectly?

T. Beckwith explained that the outlier of 5 ppb perchlorate cannot be explained by the laboratory validation data, which appears to be fine. The 5 ppb perchlorate detection appears to be an accurate result.

Question from P. Dueffert, RAB Member – Three of the sampling locations down gradient of AU's campus (MP-3, MW-37, and SW-21) are all located very close together. Why are these wells clustered in one location, and is this indicative of a contamination issue (past or present) in this area?

T. Beckwith explained that all three sampling locations provide useful groundwater chemistry data at different water levels (surface, shallow, and deep). Surface water is sampled at SW-21, while MW-37 is a shallow well sampled at approximately 20 to 30 feet deep to provide some correlation between the surface water and nearby shallow groundwater concentrations. MP-3 is a deep well that extends to a depth of 200 feet and contains multiple sampling ports at different depths. Most sampling results from these three locations have consistently been non-detect for both arsenic and perchlorate.

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Question from M. Pritzker, RAB Member – What conditions would cause groundwater contaminant levels to fluctuate?

T. Beckwith explained that numerous factors can influence contaminant levels in groundwater. These include the environmental conditions at the time of sampling including seasonal effects, sampling methodology, and the laboratory analytical process. Similar fluctuations can be observed when sampling the same location on two consecutive days. Slight concentration variations are normal during environmental sampling efforts. The groundwater monitoring program, including the quarterly sampling effort, was designed to examine overall trends in groundwater contaminant concentrations over time.

Question from L. Monsein, RAB Member – Do you separate each groundwater sample into two different parts prior to sampling and laboratory analysis, so that laboratory results for both samples can be compared?

T. Beckwith confirmed that duplicate samples are collected for a percentage of the sampling locations.

Question from L. Monsein, RAB Member – Do you obtain consistent laboratory results for split samples that were collected on the same day?

Steve Hirsh, U.S. EPA Region III, replied that consistent results are usually obtained for split groundwater samples that are analyzed by the same laboratory. If they are analyzed by different laboratories, then two different results within a reasonable concentration range and with the same fault bar are obtained. Split soil samples are more variable.

Question from Kathleen Connell, RAB Member – Are there any areas where arsenic in groundwater is trending upward instead of downward?

T. Beckwith replied that upward arsenic concentration trends have not been observed for any of the areas sampled within the Spring Valley FUDS.

Question from Allen Hengst, Audience Member – Is it significant that the groundwater sampling results differ between PZ-4S and PZ-4D? Have you evaluated the different results obtained from the shallow and deep intervals that are sampled at the same time? Are there any other monitoring wells where shallow and deep groundwater are sampled within the same location?

S. Hirsh reminded the group that PZ-4D is not a deep well. The existing deep monitoring wells extend to a depth of approximately 200 feet. In contrast, PZ-4D is situated only 10 feet deeper than PZ-4S. Piezometers such as PZ-4S/4D were designed to monitor groundwater levels and determine the groundwater flow direction, and they are constructed differently than drinking water wells and groundwater monitoring wells.

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A. Hengst emphasized that the difference in perchlorate concentrations between PZ-4S and PZ-4D is even stranger considering that these sampling depths are located only 10 feet apart.

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T. Beckwith explained that PZ-4D is approximately 10 feet deeper than PZ-4S, where shallow groundwater was first encountered. Perchlorate concentrations in PZ-4D have been relatively consistent since 2006. It is possible that higher perchlorate concentrations and fluctuations in PZ-4S may have been influenced by the shallow groundwater surface ('first water') flowing over the top of bedrock.

Question from A. Hengst, Audience Member – Do these groundwater sampling results indicate that a buried perchlorate source is not present in the vicinity of Kreger Hall?

T. Beckwith confirmed this, and noted that the AU Kreeger Hall anomaly investigations and perchlorate source area investigation were also part of the effort to answer this question.

Question from A. Hengst, Audience Member – Elevated perchlorate concentrations have been detected around Kreeger Hall over the past several years. Why do you conclude that the groundwater sampling results indicate that a buried perchlorate source is not present? It seems that the perchlorate in groundwater must be originating from somewhere, and the source does not appear to be Lot 18 as was previously suggested. Where is the perchlorate in the groundwater in this area coming from?

T. Beckwith replied that extensive sampling and geophysical efforts were completed to identify any potential buried perchlorate sources in the soils in the vicinity of Kreeger Hall, and nothing was found. One possible scenario is that the AU campus perchlorate plume may have resulted from a historical perchlorate release, with the residual perchlorate slowly flushing out of the aquifer over time.

Question from K. Slowinski, Audience Member – The drinking water health advisory level for perchlorate in the state of Maryland is 1 ppb, compared to the 15ppb standard in the Spring Valley area. How many of these groundwater samples exceed 1 ppb perchlorate?

G. Beumel replied that any perchlorate concentration with a value other than non-detect would exceed the 1 ppb standard.

G. Vassiliou noted that some drinking water in Maryland is obtained from groundwater.

Comment from L. Monsein, RAB Member – Perchlorate in groundwater does not currently pose any danger to Spring Valley residents as groundwater is not used as a drinking water source in Spring Valley; there are no residential drinking water wells. All Spring Valley drinking water comes from the Potomac River and is filtered and purified. Even so, if the local groundwater was used for drinking water it would take many years before any adverse effect is evident. I can understand why the difference in perchlorate advisory levels might appear misleading.

S. Hirsh noted that Spring Valley residential health risks are assessed based on the assumption that the future uses of groundwater include drinking water, as required by EPA. This scenario is not misleading; instead, it represents a future scenario that does not currently exist.

Question from Larry Miller, RAB Member – Under what scenario would Spring Valley groundwater be used as drinking water in the future?

EPA replied that if the Potomac River water becomes undrinkable and the cost of treating groundwater is not an issue, local groundwater may be the only reliable source of drinking water.

Question from L. Miller, RAB Member – Is this an ultraconservative position?

S. Hirsh explained that according to the National Contingency Plan (NCP), available contaminated drinking water sources should be remediated and returned to their previous uncontaminated condition.

Comment from L. Monsein, RAB Member – In a public area where city treated water is available, such as Spring Valley, it seems unlikely that contaminated groundwater is considered a potential drinking water source.

S. Hirsh explained that contaminated groundwater is considered a potential drinking water source, and the responsible parties would have to ensure that remediation occurs. For example, the U.S. Navy says that contaminated groundwater at Virginia Beach FUDS sites (within range of the Atlantic Ocean) will never be used for drinking water. However, these prohibitions can change, and townships and cities often change their laws based on their residents' needs. Thus, EPA requires all Superfund sites to consider the potential beneficial use of resources such as groundwater.

L. Monsein noted that the risks and benefits of addressing groundwater contamination must be considered. S. Hirsh agreed that there are risks and benefits that must be balanced. An alternative option is to treat the contaminated groundwater on-site using a large treatment plant, followed by pumping the treated groundwater back into the ground.

L. Monsein questioned whether Congress would be likely to approve such a project in the Spring Valley neighborhood vicinity, based on the risks and benefits.

S. Hirsh noted that this issue can be further debated, but the bottom line is that the EPA requires all Superfund sites to consider the potential beneficial use of resources such as groundwater.

Question from M. Pritzker, RAB Member – Is the bottom line that it is not likely that Spring Valley residents will be injured by drinking groundwater in the future, and that none have been injured so far?

S. Hirsh noted that the risk of drinking Spring Valley groundwater is geared specifically toward pregnant women who consume groundwater during a certain portion of their gestation period.

M. Pritzker asked whether it is true that this has not occurred to date.

S. Hirsh replied that they believe this is true but they cannot provide a definitive answer at the moment.

Question from P. Dueffert, RAB Member – Is it fair to say that the project team has spent significant effort and time to look for a hidden source of perchlorate contamination, and there does not appear to be any additional efforts that would help to locate the perchlorate source, as evidenced by the modest concentrations recently detected in groundwater.

T. Beckwith agreed with this statement.

Comment from S. Hirsh, EPA Region III – The question is whether we have conducted a reasonable and appropriate groundwater study, as there is always more that can be done. I think we are close, if we have not already reached that point. There are many options to manage Spring Valley groundwater in the future. One option includes continued monitoring of un-remediated groundwater, along with provisions such as deed restrictions that will add some level of certainty that the groundwater will not be used as a future potable drinking water source.

Question from George Vassiliou, RAB Member – Steve, what is your opinion on this topic?

S. Hirsh replied that based on the low perchlorate concentrations within a relatively small area, further groundwater monitoring could possibly be supplemented by an *in situ* remedy to help biologically degrade the perchlorate contamination. Establishing a large treatment plant to treat and replenish groundwater does not appear necessary. It is also important to inventory and keep track of groundwater contamination locations of concern.

Question from G. Vassiliou, RAB Member – What does the USACE say about this topic?

T. Beckwith replied that the USACE's opinions will be assessed during the groundwater Remedial Investigation / Feasibility Study (RI/FS) process. The groundwater monitoring program is currently approaching completion of the RI phase. Groundwater risk issues, including hypothetical future use scenarios, will be evaluated as part of the alternative analysis for addressing site-wide groundwater that will be presented in the FS.

S. Hirsh added that a groundwater FS would be deemed unnecessary if the groundwater poses no unacceptable health risks, and no further actions would be proposed. Contaminated groundwater in Spring Valley seems to have exceeded this threshold, and options for addressing groundwater need to be evaluated, with the goal of selecting a reasonable and appropriate alternative.

G. Vassiliou agreed that further evaluation and recommendations appear to be necessary.

Question from K. Connell, RAB Member – When will you conduct the next sampling event?

T. Beckwith replied that additional groundwater and surface water sampling events have not been scheduled yet. Another sampling event may be scheduled during 2012, pending feedback from the Spring Valley Partners at the May 2012 Groundwater Partnering meeting.

Question from P. Dueffert, RAB Member – You mentioned that groundwater sampling is completed for now. Does that mean that the Spring Valley partners may decide that additional sampling is appropriate? Do you anticipate that further sampling will be conducted?

T. Beckwith explained that additional groundwater and surface sampling will likely be conducted, but the tentative scope and schedule has not been discussed with the Spring Valley partners to date.

Question from Penny Pagano, RAB Member – Does Spring Valley groundwater flow in large streams of water or smaller trickling streams of water?

T. Beckwith replied that the groundwater moves slowly through the bedrock and soil, at rates of roughly feet per day. The groundwater flow volume depends on the location. In shallow Spring Valley monitoring wells, the shallow groundwater is not very productive and cannot be pumped continuously for a long time frame.

Question from Mary Douglas, RAB Member – At a previous RAB meeting, there was speculation that perchlorate levels in groundwater are diminishing due to soil removals in the Spring Valley neighborhood. Why do you currently think that the perchlorate levels are decreasing?

T. Beckwith replied that perchlorate concentrations at AU's campus may be decreasing for various reasons. Previous soil removals may have impacted the groundwater chemistry. It is also possible that the contamination life cycle from an initial perchlorate release may have reached a phase where the perchlorate is flushing out of the groundwater, in which case the perchlorate concentrations will continue to decrease until all perchlorate contamination has been removed from the aquifer. There does not appear to be a continuing source of perchlorate that would sustain the plume observed at AU's campus.

Question from P. Dueffert, RAB Member – Could you refresh my memory as to why groundwater is sampled near Sibley Hospital? AUES-related munition activities were not conducted in this area.

T. Beckwith replied that groundwater monitoring wells near Sibley Hospital are situated down gradient of the the AUES testing areas, and groundwater continues to flow down gradient into the Potomac River from this location.

Comment from L. Monsein, RAB Member – New RAB members may not be familiar with the history of encountering perchlorate in groundwater in the vicinity of the Spring Valley neighborhood. Could S. Hirsh briefly explain this topic?

S. Hirsh explained that the EPA issues permits for activities such as discharging groundwater to the Potomac River. During the permitting process, someone suggested sampling an outfall along the Potomac River, where groundwater collected by the Washington Aqueduct discharges via a pipe into the river. This groundwater was collected from hydroelectric vaults underneath large drinking water treatment pools, and discharge of this groundwater is necessary to ensure that the drinking water treatment pools do not crack due to upward pressure. S. Hirsh sampled this location and included perchlorate as an unlikely contaminant for analysis, because the EPA was concerned about the historical use of perchlorate at military sites. Low perchlorate levels were detected in the outfall, which surprised everyone involved. This sampling result led to further investigation of perchlorate in Spring Valley groundwater.

L. Monsein noted that the drinking water basins are located across the street from Sibley Hospital.

Perchlorate Source Area Borings: The purpose of this investigation was to evaluate the local soil and groundwater chemistry to identify any potential source of elevated levels of perchlorate buried in the soils on AU's campus. Sixteen borings were drilled in July 2011 near Kreeger Hall on AU's campus. Soil and groundwater were sampled at each boring location, and the sampling results were reviewed and evaluated by the Spring Valley Partners.

No perchlorate exceedances were detected in soil. Perchlorate concentrations in groundwater exceeded the EPA's interim drinking water health advisory level of 15 ppb at 2 sampling locations. Exceedances include 22 ppb perchlorate at a boring location in front of Kreeger Hall and 16 ppb perchlorate at a boring location behind Kreeger Hall. These locations are slightly up gradient and down gradient of PZ-4S/4D, respectively.

These results are consistent with the previously observed perchlorate plume in the vicinity of PZ-4S/D. The source borings were co-located with the completed AU Kreeger Hall geophysical investigation area, which did not reveal any buried perchlorate sources.

Question from Allen Hengst, Audience Member – Can you confirm that you did not investigate anomalies or trenches that were co-located with these elevated boring locations?

T. Beckwith clarified that one anomaly co-located with the boring in front of Kreeger Hall was investigated and no AUES material was found. The area surrounding the elevated boring location behind Kreeger Hall which is down gradient from PZ-4S/4D, was previously investigated. Any residual perchlorate source in this area is unlikely to travel uphill and up gradient toward the vicinity of PZ-4S/D.

Deep monitoring wells: The purpose of the deep groundwater study is to further characterize deep groundwater aquifer chemistry and flow patterns in the surrounding area. A total of 3 groundwater monitoring wells have been installed in the Spring Valley project area as part of this effort, 2 of which were installed in October 2011. .

One of the new deep wells is located on the 4800 block of Glenbrook Road across the street from the 4825 Glenbrook Road site, and the other is located on the 4900 block of Rockwood Parkway. Both wells were drilled to an approximate depth of 200 feet and characterized in October 2011, followed by installation of final FLUTE sampling liners in February 2012. Each FLUTE sampling liner is custom-made with sampling ports at specific well depth intervals of interest. These intervals were selected by the interagency partners and correspond to specific bedrock fracture zones that allow groundwater to flow into the wells and be sampled. During sampling, separate sampling tubes are used for each specific port, and groundwater is purged and then collected for analysis.

A new groundwater monitoring well (MW-44) was installed in front of Kreeger Hall on AU's campus in March 2012. This well was drilled to an approximate depth of 95 feet followed by installation of a single well screen at an approximate depth interval of 80 to 95 feet to vertically delineate groundwater contamination in the area. This effort was completed during AU's Spring Break to minimize potential disruptions to the campus community. The project team originally planned for this well to be the fourth and final multi-port deep well installed in the project area, similar to the two deep wells described above. The planned drilling depth of 200 feet could not be reached due to incompetent weathered crumbly bedrock, and the final well depth of 95 feet was necessary to prevent the well borehole from collapsing inward and losing the drilling rods.

Sampling was completed in March 2012 for the new deep wells, and receipt of the validated analytical laboratory results is pending. The sampling results and potential need for additional deep monitoring wells will be reviewed at the May 2012 Groundwater Partnering meeting, and will tentatively be shared with the RAB at the June 2012 RAB meeting.

Isotopic Perchlorate Analysis: AU's campus and Sibley Hospital are two locations where the highest perchlorate concentrations in the Spring Valley project area have been detected to date. Perchlorate

samples will be collected at both of these locations to determine if these two perchlorate plumes originated from the same source. Perchlorate is comprised of chlorine and oxygen, and specific isotope ratios of these elements can reveal information about the perchlorate source.

Spring Valley groundwater contains low (ppb) levels of perchlorate, while 10 mg of perchlorate must be collected in order to conduct the analysis. This requires a large volume of groundwater to be pumped, collected, and filtered continuously over the course of several days to isolate and collect a sufficient amount of perchlorate that can then be analyzed. The system to accomplish this includes a sampling tube connecting the monitoring well to the groundwater collection station, a nitrogen-powered pump to circulate the groundwater through the filter, and a specialized filter column that collects the perchlorate.

One perchlorate sample was collected from PZ-4S/D at AU's campus in March 2012. A second perchlorate sample will be collected near Sibley Hospital in April 2012, followed by laboratory analysis of both samples.

Question from A. Hengst, Audience Member – Regarding isotopic analysis of perchlorate, will you obtain results that show that the perchlorate sources are the same or different? Do you anticipate this 'yes' or 'no' result?

T. Beckwith replied that this 'yes' or 'no' result is ideal, but the project team cannot guarantee that the analytical results will be that simple.

Question from A. Hengst, Audience Member – If it turns out that both perchlorate sources are the same, would that mean that the original perchlorate plume traveled from AU's campus to Sibley Hospital?

T. Beckwith clarified that the two perchlorate plumes would not necessarily be connected if their sources appear to be the same. They may have originated from two very similar sources.

Question from A. Hengst, Audience Member – Would similar perchlorate sources indicate the presence of other AUES-related burials?

T. Beckwith clarified that several conclusions are possible if the perchlorate sources are similar. If both perchlorate sources appear to be manmade and are attributable to a particular time period, then they can still be associated with different manmade sources. For example, perchlorate that was used in a road flare and perchlorate that was used in a military rocket during the same time period may have identical isotopic signatures. Just because the sources are similar and from the early 20th century time period does not mean that both, or either, of the sources are necessarily connected to American University Experiment Station activities.

Question from A. Hengst, Audience Member – Will the isotopic perchlorate results be presented at the May 2012 RAB meeting?

T. Beckwith clarified that the results will not be available until after the May 2012 RAB meeting. These isotopic perchlorate results will be reviewed by the Spring Valley partners at the May 2012 Groundwater Partnering meeting.

Question from L. Miller, RAB Member – You already described the monitoring well prefixes 'MW' [monitoring well] and 'SW' [surface water location]. Could you briefly review the other prefixes used to describe groundwater sampling locations?

T. Beckwith explained that the prefix 'PZ' stands for piezometer. The purpose of a piezometer is to measure groundwater levels, but the project team has been able to collect groundwater samples from these wells for groundwater chemistry analysis.

T. Beckwith added that the prefix 'MP' stands for multi-port well. This type of well extends deep into the ground with multiple groundwater sampling ports at different depths.

Next Steps: All recent groundwater study analytical results will be shared and discussed with the Spring Valley partners at the May 2012 Groundwater Partnering meeting. The need for any additional groundwater data collection will be discussed to determine the next steps in the groundwater monitoring program.

The USACE's groundwater study contractor will prepare the Remedial Investigation (RI) report for site-wide groundwater. Upon finalization of the RI, the remedial alternatives for addressing groundwater contamination will be evaluated in the site-wide groundwater Feasibility Study (FS).

B. Inaccessible Properties for Arsenic Soil Sampling and Arsenic Soil Removal

T. Beckwith presented a brief summary of all residential, commercial, and federal properties in the Spring Valley FUDS that have not granted access to USACE for arsenic soil sampling or removal.

This is in response to a request made by a RAB member at the March 2012 RAB meeting.

Overview: A total of 9 residential properties, 9 federal lots (each consisting of 0.5 acres), and 1 commercial property are inaccessible for arsenic soil sampling. None of these properties are adjacent to properties where arsenic soil removal was completed, and arsenic-contaminated soil migration is not an issue.

All required procedures were followed to obtain access to these properties to no avail. For each property, USACE formally requested property access in writing at least twice, along with supplemental campaigns to reach the property owners, discuss the details of the ROE request, and answer any questions. These informal outreach efforts included going door-to-door and leaving door tags, and leaving telephone or email messages when possible, outreach to neighboring property owners to obtain alternate contact information, using tax data for contact information, and other research sources.

After multiple formal and informal attempts to gain ROEs, EPA, DDOE, and the residential and commercial property owners were notified that USACE will no longer pursue a right-of-entry for these inaccessible properties. As described at the March 2012 RAB meeting, the project team is currently following the USACE Formerly Used Defense Site (FUDS) policy for addressing private properties of interest where right-of-entry was not obtained.

Inaccessible Residential Properties: Property owners expressed a variety of reasons for not granting property access.

- **4200 block of 48th Place** – The long-time resident does not wish to be disturbed by soil sampling.
- **4200 block of 49th Street** – The resident extensively re-landscaped the property using new soil and is not concerned about potential AUES-related contamination on the property.
- **4400 block of 50th Street** – The resident does not wish to be disturbed by soil sampling and possible soil removal.
- **4900 block of Tilden Street** – The resident extensively reviewed historical information provided by USACE and believes that soil sampling on their property is unnecessary.
- No response was received for a total of five properties (4300 block of 44th Street, 4300 block of 50th Street, 4400 block of Windom Place, 4800 block of Van Ness Street, and 5100 block of Yuma Place).

Inaccessible Federal Lots: Property access was not granted for 9 federal lots at Glover-Archbold Park, which is situated at the eastern edge of the Spring Valley FUDS, due to an ongoing legal constraint between USACE Headquarters and the National Park Service (NPS) Headquarters. This property access

negotiation reached a standstill because the USACE legal counsel says that USACE cannot sign the Special Use Permit required by NPS.

Inaccessible Commercial Property: An acceptable right-of-entry could not be established between USACE and the property owner. This commercial property, which is situated at the eastern edge of the Spring Valley FUDS near the federal lots described above, is a public utility substation containing numerous buried underground utilities.

Comment from John Wheeler, RAB Member – The inaccessible federal lots and commercial property are located along Van Ness Street.

T. Beckwith confirmed this.

Question from K. Connell, RAB Member – What specific reason caused the federal government to deny property access?

T. Beckwith replied that the USACE legal counsel and the NPS legal counsel disagree about the need to sign the special use permit for soil sampling.

G. Beumel added that this is a nationwide issue, rather than specific to Spring Valley.

Comment from M. Pritzker, RAB Member – At the April 2012 RAB meeting, I thought we discussed the option of preparing a report on these properties, and a different agency would decide whether further pursuit of right-of-entry is necessary.

T. Beckwith confirmed that although the Spring Valley project team will no longer pursue right-of-entry at these properties, a memorandum describing steps taken to gain access to the properties to date was prepared and submitted to USACE Headquarters. The path forward for these properties depends on USACE Headquarters' evaluation of the need to sample these properties. One potential option is to force entry onto these properties with the permission of the Department of Justice.

Question from M. Pritzker, RAB Member – Does the memorandum include recommendations for addressing potential problems at these inaccessible properties?

T. Beckwith explained that this particular memorandum just provides the facts for further consideration.

Question from K. Connell, RAB Member – Is this information publically accessible in a disclosable database, so that prospective buyers are aware that arsenic soil sampling was refused?

Question from P. Dueffert, RAB Member – As a Spring Valley resident who bought their property five years ago, I am under the impression that arsenic sampling results letters are necessary for all properties within Spring Valley and must be disclosed with any real estate transaction. The arsenic clearance letter is valuable and homeowner and buyers want to obtain it.

M. Bresnahan, RAB member and real estate agent, confirmed this, but clarified that when the property is an estate there is no one available to fill out the necessary disclosure documents. Estate owners' families may live elsewhere without knowledge of soil sampling needs and issues at the property. Disclosures are sometimes not available for these estate sales because they require actual knowledge of the property's potential soil contamination or the soil sampling status. Real estate professionals in Spring Valley are supposed to be familiar with this issue and should follow up on this issue.

Question from M. Bresnahan, RAB Member – Has the USACE ever received requests for arsenic sampling results letters from estates in the Spring Valley neighborhood?

Carrie Johnston, Spring Valley Community Outreach Program Manager, confirmed this. If an arsenic sampling letter was not available because sampling was not conducted on the property, the buyer/new homeowner was able to request that soil sampling be conducted

Question from John Wheeler, RAB Member – Where do you obtain this information? My property has been sampled for arsenic, but I don't know if I can locate the arsenic sampling results letter.

M. Bresnahan noted that the Community Outreach Team can provide copies of these letters.

Question from P. Pagano, RAB Member – Do real estate agents who work with Spring Valley properties know about the arsenic sampling results letter, and do they mention this issue to prospective buyers?

M. Bresnahan replied that the real estate listing agent is required to be aware of this information.

Comment from L. Monsein, RAB Member – As the RAB discussed a couple of years ago, 'required' is too strong of a word. Federal property disclosures are only required for lead-based paint. Arsenic-contaminated soil disclosures are not federally required. For example, if arsenic sampling was not conducted at a property, then the owner does not know whether elevated arsenic levels are present and they are not legally required to disclose this information.

J. Wheeler added that arsenic disclosures are not required by the District of Columbia.

M. Bresnahan clarified that even though this is not a federal requirement, real estate agents are legally bound by their company's contract to provide disclosures.

L. Monsein replied that this does not qualify as a legal requirement. This is a contractual requirement for real estate agents.

Comment from C. Johnston, Spring Valley Community Outreach Program Manager – In the past, properties not sampled in Spring Valley have been sold, and the Community Outreach Team has been able to contact the new property owners regarding arsenic soil sampling. Most of the time these new property owners provide right-of-entry for sampling.

L. Monsein added that this scenario (real estate transaction without disclosure) is illegal.

Comment from M. Bresnahan, RAB Member – All Spring Valley real estate contracts are reviewed by the broker or assistant broker using a checklist to ensure that all requirements are met before final approval. A Spring Valley addendum is required for all FUDS properties, but I find it interesting that the nearby AU Park neighborhood does not require this addendum. Local real estate offices pay special attention to the Spring Valley zip code, as there have previously been lawsuits at contaminated properties.

C. Johnston noted that previous lawsuits were settled between the property buyer and the real estate company when information was not disclosed about the property.

Question from M. Pritzker, RAB Member – What does the term 'special use permit' mean?

T. Beckwith replied that he's not sure what the specific issue is, but he believes signing the permit may create a liability issue, and the USACE lawyers do not agree that they should sign this permit. This issue is common at many Department of Interior (DOI) properties where the Department of Defense wishes to obtain access.

Request from M. Pritzker, RAB Member – Can this topic be added to a future agenda to explain the issues with signing the special use permit and potential solutions?

G. Beumel agreed.

Question from G. Vassiliou, RAB Member – Considering that this property is publically accessible, can EPA or DDOE require that NPS provide access for soil sampling?

J. Wheeler replied that EPA and DDOE cannot require that NPS grant property access.

S. Hirsh noted that in the past, the EPA was asked to collect individual soil samples (not arsenic grid samples) at nearby Civil War parks before the special use permit was introduced as a property access

requirement. For example, the EPA was welcome to collect several thousand arsenic samples at Fort Reno to ensure that arsenic-contaminated soil did not pose a potential threat to the community.

T. Beckwith mentioned that Glover-Archbold Park is situated at the eastern edge of the Spring Valley FUDS, which is distant from locations where AUES activities were conducted. The USACE is not particularly concerned that AUES-related arsenic would be detected in soil at Glover-Archbold Park, but the project team's objective was to sample all properties within the Spring Valley FUDS boundary.

Comment from J. Wheeler, RAB Member – It is very impressive that such a small number of residential properties within Spring Valley could not be sampled for arsenic. The arsenic sampling program obviously required a lot of effort to contact, communicate, and coordinate with property owners.

T. Beckwith confirmed that a significant amount of effort resulted in a high success rate for obtaining property access for arsenic sampling.

Question from K. Connell, RAB Member – Is the National Park Service a subset of the Department of the Interior (DOI)?

T. Beckwith confirmed this.

Suggestion from K. Connell, RAB Member – Has this issue been discussed with the Secretary of the Interior, who has gone on the record about his commitment to the entire review process for community-involved EPA activities? This is one of his signature statements, and he may be surprised to find out that NPS is not complying with this statement. Someone should contact him to bring this issue to his attention, as he may have the authority to suggest that the NPS provide property access for sampling. Taking the political route to resolve this issue may be very effective, particularly during an election year.

G. Vassiliou added that the RAB could write a letter to the Secretary of the Interior.

S. Hirsh clarified that the NPS Superintendent of National Capitol Parks-East has the authority to approve property access to Glover-Archbold Park for arsenic soil sampling, but she denied property access without a signed special use permit.

Question from K. Connell, RAB Member – Is the NPS Superintendent of National Capitol Parks-East an appointed position?

The RAB was not certain.

Comment from S. Hirsh, EPA Region III – To be fair, the NPS stated that they will grant property access if the USACE signs the special use permit. The USACE said they will not sign the permit, but I am not sure what specifically they object to.

M. Pritzker re-emphasized his request for an explanation of this issue at a future RAB meeting.

Comment from L. Miller, RAB Member – Assuming that property access is obtained, is Glover-Archbold Park the best place to deploy Spring Valley project funding and resources for arsenic soil sampling? S. Hirsh replied that arsenic soil sampling in this location is simply a matter of completeness.

Comment from K. Connell, RAB Member – I would think that the federal government would want to stand alongside Spring Valley residents and ensure that their soil is properly analyzed.

L. Miller noted that NPS agreed to grant property access as long as USACE signs the special use permit.

Question from M. Pritzker, RAB Member – Should we involve Congresswoman Norton in this effort?

K. Connell noted that Congresswoman Norton would likely be able to contact the NPS Superintendent.

T. Beckwith replied that the specific details of the issue will be examined, and project team members will follow up with D. Noble who has been handling this issue. Question from K. Connell, RAB Member – Did we decide on a RAB action to address this issue?

G. Beumel replied that USACE will tentatively present this issue from their perspective, followed by a RAB decision on whether they should provide support for obtaining property access.

Question from M. Douglas, RAB Member – It is my understanding that only one of these inaccessible properties raised concerns with the USACE.

T. Beckwith confirmed that access was pursued at a 3700 block of Fordham Road property, where grids with elevated levels of arsenic were identified and metallic anomalies selected for investigation. Property access was denied to perform both of these activities. This property is located near the Sedgwick Trenches and was discussed at the March 2012 RAB meeting.

Comment from M. Douglas, RAB Member – It appears that access to the 3700 block of Fordham Road property is a matter of known and potential contamination, while the remaining properties are a matter of completeness for the arsenic sampling program.

T. Beckwith confirmed this.

S. Hirsh added that this is the only inaccessible property where arsenic grids exceeded the Spring Valley cleanup level of 20 ppm arsenic.

Question from K. Slowinski, Audience Member – As a follow-up to the Glover-Archbold Park accessibility issue, there is a watershed cleanup with elementary school children in the inaccessible portion of the park. Are the children safe from contamination or should they stay out of the surface water?

T. Beckwith replied that the safety of children at the park is not an issue. Although the soil has not been sampled in the park, it lies within the easternmost portion of the Spring Valley FUDS where it is unlikely that soil was impacted by AUES activities. Glover-Archbold Park is an area of interest for soil sampling because the project team intended to sample all properties within the Spring Valley FUDS boundary, making it an issue of completeness.

K. Slowinski asked for confirmation that they are referring to the same area, north of Cathedral Avenue, where 10 ppb perchlorate was detected in surface water.

T. Beckwith replied that this surface water sampling location is outside of the FUDS boundary, where perchlorate concentrations fluctuated above and below the drinking water health advisory level. The 15 ppb perchlorate drinking water health advisory level applies to drinking water that is consumed on a daily basis, while this surface water location is not used as a drinking water source.

IV. Open Discussion and Agenda Development

A. Next Meeting: Tuesday, May 8, 2012

Upcoming meetings will be held in May and June 2012.

RAB meetings are not held in August or December.

B. Future agenda topics

- Update on the ATSDR Health Consultation for 4825 Glenbrook Road
- Spring Valley Follow-On Health Study Update (Johns Hopkins University)

- Evaluation of Remaining Site-Wide Sampling Requirements
- Risk and Biology of Arsenic (Dr. Lee Monsein, RAB Member) (May 2012)
- USACE's Issue with Signing NPS Special Use Permit for Sampling at Glover-Archbold Park

C. Open Discussion

Question from K. Connell, RAB Member – Will you present a briefing on the 4825 Glenbrook Road Remedial Design and Remedial Action Work Plan at the May 2012 RAB meeting? I thought this topic was on the agenda for next month.

T. Beckwith and B. Barber clarified that an overview of this document will be provided at the May 2012 RAB meeting as part of the regular USACE monthly update on the 4825 Glenbrook Road site.

Suggestion from K. Slowinski, Audience Member – I suggest that you reach out to someone within the environmental working group to provide a counterpoint to L. Monsein's presentation.

G. Beumel noted that the purpose of L. Monsein's presentation is to share his perspective with relatively new RAB members who have not heard this information. The presentation acts as a counterpoint to the Spring Valley project, and an additional counterpoint seems unnecessary. The regulatory partners (S. Hirsh of EPA Region III and J. Sweeney of DDOE) also provide their perspectives on this topic. This presentation will be shared with the RAB prior to considering the need for additional counterpoints.

V. Public Comments

Comment from G. Beumel, Community Co-Chair – K. Slowinski would like to share the contents of an e-mail that he recently sent to the RAB members. The purpose of this e-mail was to correct factual errors previously expressed by a RAB Member.

Clarification from K. Slowinski, Audience Member – My parents bought a house at 4721 Sedgwick Street in 1955. Soon after my parents moved into Sedgwick Street, my two older brothers and my sister were born, and I was born the following year. My two younger sisters were also born at Sedgwick Street. This was the end of the baby boomer generation. There were many other large families in Spring Valley. We weren't told anything about the contamination left behind from World War I activities of the U.S. Chemical Warfare Service (CWS) at the American University Experiment Station (AUES). Our house was directly across the street from the Hangers and around the corner from the Taleckis. Nancy Hanger and Giza Talecki were both interviewed regarding their serious health problems, which they believed were related to environmental exposure in Spring Valley. Several of my siblings and I have been dealing with similar health issues. An ATSDR Spring Valley study stated that the symptoms of chronic arsenic exposure might take 20 to 30 years before the symptoms appear. It is critical that the Johns Hopkins follow-on health study reach out to those who lived in Spring Valley in the 1940s, 1950s, and 1960s when the contamination may have been most toxic, and that is one of the main reasons that I am involved in this project. Thank you.

G. Beumel emphasized the major points that K. Slowinski wanted to express are that he lived in the neighborhood as a child, and additionally that he obtained his landscape architect license in Maryland.

VI. Adjourn

The meeting was adjourned at 8:47 PM.