

**Spring Valley Partnering Meeting
October 22, 2013
Spring Valley Trailer Conference Room**

| Name | Organization/Address | X |
|-------------------------|---|----------|
| Sherri Anderson-Hudgins | CEHNC | X |
| Thomas Bachovchin | ERT | X |
| Brenda Barber | CENAB | X |
| Todd Beckwith | CENAB | |
| Bethany Bridgham | American University | X |
| Janelle Boncal | Parsons | |
| Jessica Bruland | ERT | X |
| Sean Buckley | Parsons | X |
| Paul Chrostowski | CPF Associates, AU Consultant | |
| Tom Colozza | CENAB | |
| Jennifer Conklin | DDOE | |
| Kathy Davies | US EPA Region 3 | |
| Dr. Peter deFur | Environmental Stewardship Concepts/RAB TAPP Consultant | X |
| Diane Douglas | DDOE | |
| Bill Eaton | URS | |
| Brandon Fleming | USGS | |
| Clem Gaines | CENAB, Public Affairs | |
| Alma Gates | RAB Member - Horace Mann Rep. | |
| Steve Hirsh | US EPA Region 3 | X |
| Leigh Isaac | Environmental Stewardship Concepts | |
| David King | CENAB | |
| Carrie Johnston | RCAI - Community Outreach Team | |
| Dan Noble | CENAB | X |

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|---------------------|--|----------|
| John Owens | CENAB | |
| Randall Patrick | Parsons | X |
| Lan Reeser | CENAB | X |
| Amy Rosenstein | Risk Assessor (Independent Consultant) | |
| Allen Shapiro | USGS | |
| Don Silkkenbaken | Parsons | |
| Jim Sweeney | DDOE | X |
| Andrea Takash | CENAB, Public Affairs | X |
| Tenkasi Viswanathan | CENAB-WA | X |
| Ethan Weikel | CENAB | |
| Nan Wells | ANC3D Commissioner | X |
| Cheryl Webster | CENAB | |
| Kelly Williams | CEHNC | X |
| Laura Williams | Environmental Stewardship Concepts | |
| Bruce Whisenant | CEHNC | |
| Rebecca Yahiel | ERT - Community Outreach Team | X |
| Doug Yeskis | USGS | |

Summary of October 22 Spring Valley Partnering Meeting

Consensus Decisions

- No consensus decisions were made.

October 22, 2013 Action Items

- A groundwater meeting to address the path forward for site-wide groundwater will be scheduled, tentatively in early 2014, following installation and sampling of the new deep wells.
- AU will follow up on the university's planned athletic event schedule for spring 2014 to identify potential additional non-work days at the 4825 Glenbrook Road site.
- As requested by EPA, a later start time (tentatively 10:00 or 10:30 AM) is tentatively planned for the Tuesday, December 10, 2013 Partnering meeting, pending confirmation of EPA's schedule.

Tuesday, October 22, 2013

Check-in

The Partners conducted their normal check-in procedure.

Kelly Williams of USACE-Huntsville (CEHNC) attended the meeting as a temporary replacement for Bruce Whisenant, who was recently deployed to Afghanistan for a year to serve on the international side of ordnance and explosives (O&E) work.

A. Groundwater Study Efforts

The goal of this segment of the meeting was to provide an update on ongoing and upcoming groundwater study efforts.

USACE provided a brief update on the status of upcoming groundwater study efforts.

2013/2014 Extended Groundwater Monitoring Program: Selected existing groundwater monitoring wells are proposed to be discontinued from the monitoring program because no perchlorate or arsenic results of interest have been detected at these locations. Proposed discontinued wells include MP-3 and MP-4, where multiple sampling ports require significant time during each sampling event. Both wells will be sampled one final time during the upcoming semi-annual sampling event in late 2013 to confirm nothing of interest is present at these locations, before these wells are formally discontinued.

MW-23 is proposed for abandonment and removal from the extended groundwater monitoring program. This well is situated at a 52nd Court residential property and was installed after several years of pursuing a Right of Entry (ROE) for well installation in the immediate vicinity. MW-23 was sampled a total of three times prior to 2013, with contaminant concentrations ranging from trace to non-detect, and has not been sampled during the past year. The homeowner recently contacted USACE and requested removal of the well, in the event that USACE is no longer interested in sampling at this location. USACE agreed and intends to remove MW-23 from the monitoring program, abandon the well at the property, and repair the side yard to match the original (pre-installation) site conditions.

Partner concurrence for these proposed changes will be requested pending submission of recent sampling data summaries and proposed changes to the Partners for review.

Semi-Annual Sampling: Selected existing groundwater monitoring wells and surface water monitoring locations will be sampled twice annually for the next few years. These locations include a total of 20 shallow and deep wells and 10 surface water locations. The first semi-annual sampling event began in late April 2013, as part of the extended 2013 groundwater monitoring program, and all sampling was completed by mid-May 2013. [Details of the sampling effort were provided at the May 2013 Partnering meeting. Hard copies of the updated groundwater sampling map and the validated analytical data table were provided at the August 2013 Partnering meeting. Sampling results were generally consistent with previous sampling rounds, and these validated analytical results will be shared with the RAB as early as November 2013.]

The second semi-annual sampling event is scheduled to begin in late November 2013, and all sampling will tentatively be completed by mid-December 2013. This effort was originally scheduled for October/November 2013 but was significantly delayed due to the recent federal government shutdown. USACE's in-house sampling teams were unable to work on Formerly Used Defense Site (FUDS) projects for a total of 17 days, and these sampling teams are currently committed to other projects. The sampling teams expressed confidence that the second semi-annual sampling event will be completed by the end of the 2013 calendar year.

Quarterly Sampling: Two existing groundwater monitoring wells and surface water monitoring locations were selected for more frequent quarterly sampling in addition to the semi-annual sampling events, based on historically high perchlorate detections. PZ-4S/D and the Sibley Sump were both sampled in July 2013, and a field duplicate sample was collected at PZ-4S. Electronic copies of the updated groundwater

sampling map and the validated analytical data table will be provided to the Partners in late October or early November 2013.

Sampling results were generally consistent with previous sampling rounds, and are summarized below. These validated analytical results will be shared with the RAB as early as November 2013.

- **Sibley** – Perchlorate concentrations included 14.3 ppb at the Sibley Sump (slightly lower than previous results, and just below the drinking water standard of 15 ppb). Arsenic concentrations included 3.8 ppb at the Sibley Sump.
- **AU Campus** – Perchlorate concentrations ranged from non-detect at PZ-4S (lower than previous results) and 5.6 ppb at PZ-4D (much lower than previous results). Arsenic concentrations included 1.4 ppb (with a field duplicate of 1.5 ppb) at PZ-4S and 1.5 ppb at PZ-4D.

Additional Deep Wells: Two additional wells are planned to provide additional vertical delineation of groundwater. MP-5 will be installed between MP-3 and MP-4 (on DC property, in the public space “island” at the intersection of Indian Lane and Rockwood Parkway). MW-46 will be installed close to Sibley Hospital. [Preliminary details of the funding and planning process were provided at the August 2013 Partnering meeting.]

Preparations for these new well installations are underway. The contract was awarded to the previous well installation contractor (URS), who is developing the work plan addendum (the contents will closely resemble those completed for previous deep well installations). The public space permit application will be submitted this week. Well installations will tentatively be conducted as early as December 2013, or in early 2014, pending receipt of the public space permit and pending Partner concurrence on the work plan addendum.

Discussion – Semi-Annual and Quarterly Sampling Results

USACE confirmed that the July 2013 groundwater and surface water sampling results will be sent electronically to the Partners, prior to the November 2013 RAB meeting. The proposed changes to the extended groundwater monitoring program (discontinued sampling of selected wells including MP-3 and MP-4, along with abandonment of MW-23) will also be sent to the Partners at that time.

Discussion – Proposed Changes to Extended Monitoring Program

Dr. P. deFur asked whether USGS expressed interest in sampling MW-23 one final time prior to abandonment. USACE replied that further sampling at MW-23 was deemed unnecessary based on all perchlorate and arsenic results to date. Sampling parameter concentrations ranged from trace to non-detect during all three previous sampling events at this location.

In response to P. deFur’s inquiry, USACE explained that sampling parameters at MW-23 extended beyond the primary constituents of interest (perchlorate and arsenic). Sampling for the full AUES parameter list was typically conducted at MW-23 because it is situated immediately downgradient of the original 1993 disposal pit, where excavated soil was fairly clean and all AUES-related items may have been buried intact. Based on sampling results to date, no perchlorate or arsenic contamination was detected in groundwater in this vicinity, but MW-23 can be sampled once more time if desired by the Partners.

EPA commented that the absence of groundwater contamination in the vicinity of MW-23 is interesting. EPA and P. deFur noted that this scenario was very different from the 4825 Glenbrook Road site, where historical disposal activities included glassware containing AUES chemicals.

EPA commented that they do not have a strong opinion on the proposed changes to the groundwater monitoring program. Any opinions expressed by their agency’s hydrogeologist will be shared with the Partners.

USACE explained that MP-3 and MP-4 were purposely installed as sentinel wells to assess whether the perchlorate plume has spread laterally through Spring Valley groundwater. Both wells will be sampled

one final time and then, if appropriate, placed on the inactive monitoring well list. These two wells will not be abandoned.

EPA mentioned the need for a groundwater meeting to determine the path forward. USACE confirmed that a groundwater meeting focused on this topic will tentatively be scheduled following installation and sampling of the new deep wells. At that time the Partners can discuss whether the new deep well data provide the desired additional delineation of groundwater, or whether additional data are needed before preparing the Draft Site-Wide Groundwater Remedial Investigation (RI) report.

Next Steps

A groundwater meeting focused on the path forward for site-wide groundwater will be scheduled, tentatively in early 2014, following installation and sampling of the new deep wells.

B. Site-Wide RI/FS Update (Pre-2005 HHRA Review)

USACE-Baltimore and ERT provided an update on the current status of the Addendum to the Final Pre-2005 HHRA Review Document.

Previous Documents: [This information was not presented during the follow-on meeting, and is summarized for reference purposes.]

- **Review of pre-2005 human health risk assessments (HHRAs)** is one of the key issues identified in the site-wide evaluation document, *Evaluation of Remaining Sampling Requirements*, which was finalized in July 2012. Details of the finalized site-wide evaluation document were described at previous Partnering meetings.
- The Final Pre-2005 HHRA Review Document was finalized in August 2013 and addresses the key issue mentioned above. Details of the document structure, contents, and associated maps were described at the August 2013 Partnering meeting, the July 2013 On Board Document Review meeting, and previous Partnering meetings.
 - In summary, a total of 5 previously-completed HHRAs and subsequent AUES parameter sampling results were re-evaluated to determine whether the associated conclusions remain protective of human health, based on updated screening criteria. These HHRAs were completed by USACE and/or USEPA between 1993 and 2000, followed by AUES parameter sampling. The pre-2005 data and conclusions were re-evaluated using an elaborate step-by-step screening assessment process. The resulting numerous tables and explanatory text summarize all of the pertinent information from each of the pre-2005 HHRAs. The screening assessment process also incorporates miscellaneous grab samples (associated with anomaly investigations) that were collected more recently and not yet rolled into a site-specific HHRA, as well as recent supplemental soil sampling completed by ERT in 2012.
 - The report also identifies areas new Exposure Units (EUs) that may require additional risk screening (e.g., actions such as supplemental soil sampling) and possible risk assessment. Depending on the results of follow-on risk screening and evaluation, one or more EUs may require full separate HHRAs, which will be included in the site-wide Remedial Investigation (RI) report.
 - During the July 2013 On-Board Document Review, the Partners reached several agreements to be incorporated into the document. Final Partner concurrence was obtained for the revised document, which was then finalized and submitted to the Partners.
 - Also during the On-Board Document Review, toxicologists identified the need to evaluate the presence of any locations that could indicate areas of higher concentrations,

in order to ensure that the identified EUs do not dilute higher concentrations over a larger area. Partner concurrence was obtained for performing a follow-on screen as an addendum to the finalized pre-2005 HHRA review document. The purpose of this follow-on screen is to ensure compatibility between EU size and the exposure scenario being evaluated.

Presentation Background: A follow-on screen process was conducted to address outlier locations and to determine which EUs truly require further evaluation and formal risk assessment. Follow-on screening was conducted for a total of 13 EUs. These areas were the focus of one or more sampling efforts including pre-2005 HHRAs, recent supplemental sampling, samples associated with anomaly removals and anomaly avoidance, and a few individual residential properties where one or more samples were collected for various purposes.

Presentation Objectives: The preliminary conclusions for the Draft Final Addendum to the Pre-2005 HHRA Review document were discussed, and the supporting maps and selected tables were reviewed, with the goal of obtaining Partner feedback.

Presentation Summary: [These preliminary conclusions were summarized in the Draft Final Addendum.]

A total of three formal HHRAs are recommended for the following EUs: AOI 9, Spaulding-Rankin, and Southern AU. Significant soil volumes were previously excavated and removed from these EUs, and these data were taken into account. The formal HHRAs for AOI 9 and Spaulding-Rankin will be encompassed same document, based on similar receptors (primarily private residences). The formal HHRA for Southern AU will be a standalone document, based on similar receptors specific to this portion of AU, and is likely to receive different types of comments and questions than the primarily residential EUs.

- **AOI 9 EU** was identified for a formal HHRA based on one COPC that potentially presents risk with a calculated non-cancer Hazard Quotient (HQ) above 1 (**cobalt**).
- **Spaulding-Rankin EU** was identified for a formal HHRA based on one COPC that potentially presents risk with a calculated non-cancer HQ above 1 (**cobalt**).
- **Southern AU EU** was identified for a formal HHRA based on a total of 6 COPCs that potentially present risk. Calculations for 2 of these COPCs resulted in a non-cancer HQ above 1 (**antimony** and **cobalt**). Calculations for the remaining 4 COPCs resulted in estimated incremental cancer risks greater than the USEPA acceptable range (**four SVOCs**).

Most EUs were not recommended for further action because the follow-on screen demonstrated that these areas will not pose future human health risks. For example, at the 4900 Quebec Street property, mercury was the only sampling parameter and was identified as a COPC because it exceeded background criteria. Reasonable human health risk scenarios were used to calculate a non-cancer HQ below 1. This EU consists of a single residential property where remaining mercury concentrations will not pose future human health risks, thus this EU will not require a formal HHRA to be incorporated into the site-wide HHRA.

- Three other individual residential properties were screened and identified as possible EUs, and were also recommended for no further action (NFA). These include a 4200 block of Warren Street property, and two 52nd Street properties (3900 block and 4000 block).
- With respect to larger areas of the site, several potential EUs were also recommended for NFA: POI 39, Dalecarlia Woods, AOI 8, AOI 11, AOI 13, and Western POI 53 EU.

Tentative Schedule: Further preparation of the Draft Final Addendum is underway. Additional non-detect (ND) data points were recently identified for incorporation into the follow-on screen. These NDs were not included in the source document data tables but are available in the corresponding detailed laboratory outputs. Inclusion of these ND data points may create a flattening effect, thus they do have some value in

the follow-on screen statistical analyses, but no significant changes to the preliminary Draft Final Addendum conclusions are anticipated.

ND data points will be obtained from the relevant PDF documents and transcribed into Excel spreadsheets, followed by the second iteration of the follow-on screen. This process will delay the document review time frame by two or three weeks; otherwise, the document would already be nearly ready for Partner review. Submission of the Draft Final Addendum is anticipated in early November 2013, followed by Partner review and concurrence.

Path Forward: The follow-on screen will be finalized as an addendum to the finalized pre-2005 HHRA review document, followed by preparation of work plans and completion of formal HHRAs for each EU.

Discussion – Follow-on Screening

EPA inquired about the rationale for conducting further screening as opposed to a baseline risk assessment. ERT clarified that this follow-on screening concludes a two-part effort, focusing on specific areas of the Spring Valley FUDS where further risk assessment is warranted. Now that all sampling data have been screened (including orphan exceedances such as a single sample collected at an individual residential property), the HHRA process can focus on broad areas where further risk assessment is warranted, instead of producing a large unwieldy document encompassing all areas identified for possible risk assessment. The ultimate goal of the finalized pre-2005 HHRA review document and the follow-on screening addendum is to funnel down to specific focal areas of the site and produce a more organized site-wide HHRA.

EPA asked whether potential different exposures are evaluated within each EU, such as exposure risks for children enrolled in daycare at the AU campus Child Development Center (CDC). ERT clarified that the CDC is not situated within the Southern AU exposure unit footprint. ERT explained that all potential exposure scenarios within the EU footprint were not evaluated as part of the follow-on screen. At this stage, the current goals are to ensure that outlier locations and hot spots (areas of higher concentrations) were not unfairly smoothed out during evaluation of the entire footprint, and ultimately to determine which of these footprints will require an HHRA.

ERT clarified that although arsenic was identified as a contaminant of concern within the Spaulding-Rankin EU (underneath a bunker at 4710 Woodway Lane), it dropped out of the initial screening process because it did not pose a cancer or non-cancer risk at this location. However, each formal HHRA will examine all parameters that were detected within the EU. For example, even though arsenic is not considered a COPC based on the follow-on screening, potential arsenic risks will still be evaluated in the formal HHRA.

USACE added that an arsenic exceedance exists below the concrete floor in one of the bunkers, which presents a potential concern for future residential site use. This exceedance will be addressed in the full Site-Wide HHRA.

Discussion – Formal HHRAs for Individual EUs

In response to EPA's inquiry, ERT and USACE briefly described the anticipated schedule for developing these EU-specific full HHRAs. The follow-on screen (draft final addendum to the finalized pre-2005 HHRA review document) will be submitted for Partner review and concurrence. The formal risk assessment process will then be detailed in a two-pronged work plan that includes the Southern Campus EU as well as the two residential EUs. Barring significant scrutiny and changes to this process, the formal HHRAs for each EU will be prepared and incorporated into the Site-Wide RI report.

USACE mentioned that these formal HHRA work plans are slightly unusual (compared to typical work plans) because the text must define how known outliers will be addressed within each EU. Normally, work plans are developed without having nearly as much background information available.

ERT briefly summarized the process for addressing outliers within the formal HHRA. [Details of this

process were discussed at recent Partnering meetings and will be elaborated upon in the work plan.] Outliers are defined as samples whose concentrations exceed ten times the averaged remaining concentrations, and risks will be calculated for these individual outlier locations. In some cases, the first maximum outlier was identified and excluded, and the next highest outlier was identified and excluded, and so forth until all outliers were identified, and this information was factored into the Draft Final Addendum preliminary conclusions. For example, there are already 6 areas within the Southern AU EU comprising a certain number of samples, whose outlier risks may be assessed separately. This would result in effectively 6 separate formal HHRA's (one per outlier area) to be presented alongside the single formal HHRA (in the same document) for the remaining portion of the Southern AU EU (excluding the outlier areas).

Discussion – Documenting NFA Decisions

The Partners briefly discussed the path forward for describing and documenting final decisions made for each residential property. USACE noted that the property's site history, completed project efforts, determinations of no residual risk, and NFA conclusions would be summarized in the RI/FS, with remedial action decisions summarized in the Proposed Plan (PP) and Decision Document (DD). EPA replied that all NFA conclusions would typically be presented in a separate NFA DD.

EPA confirmed that this information should be enumerated in the DD instead of simply referring back to the RI/FS. This will ensure important results and conclusions are carried through from the RI to the DD, thus providing clarity on the final decisions for all areas of the site. The final DD should summarize the past two decades of work completed at the site, including the final decision for each property within the Spring Valley FUDS, resulting in a thick and convoluted document.

USACE asked whether summarized results for each property should be reiterated in the DD. EPA replied that this is the case for any properties where AUES-related munition items were found and where soil sampling was completed. ERT added that these are the soil samples for which risks are to be reviewed and calculated in the all-encompassing HHRA within the Site-Wide RI, along with a detailed summary of the data review and decision making process.

EPA noted that even if all remedial work had already been completed at this site, and even if the DD was written as a closeout instead of requiring post-DD actions, this final document would still need to declare that these site efforts were completed followed by the NFA decision, and this information would still need to be approved and signed by USACE leadership.

The Partners agreed that this information would be best presented in one or more tables to show which sites were deemed no further action necessary. Within the DD, this section would be presented separately from any remedies recommended for other portions of the site.

The Partners briefly discussed the likelihood that at least one area will show risks in the site-wide HHRA and thus require preparation of a site-wide FS. EPA voiced the opinion that an FS will probably be necessary, followed by PP and DD decisions such as long-term monitoring at the site. The potential need for additional investigative or remedial cleanup activities is more speculative at this point. USACE agreed.

Discussion – Site-Wide Decision Making Process

USACE commented that once the HHRA work plans are approved, the next step seems to be presenting all of the individual EU draft HHRA's within the larger draft RI report. ERT confirmed that this accurately reflects the anticipated schedule. The draft Site-Wide RI report is considered a work in progress.

In response to EPA's inquiry, USACE explained that internal USACE review of the draft RI report is tentatively scheduled for late spring 2014, followed by the U.S. Army Center of Expertise (CX) and the U.S. Army Center for Health Promotion and Preventive Medicine (CHPPM) reviews. There appears to be very little benefit to sharing the internal draft with the Partners before internal U.S. Army concurrence is obtained. The draft RI report would be shared with the Partners as early as summer 2014.

EPA commented that sharing the internal draft RI report with the Partners would be beneficial if many decisions are being made that would impact other site activities or decisions, particularly those that have not yet been discussed in detail among the Partners. USACE replied that this issue is not anticipated during internal review unless the U.S. Army reviewers disagree with specific aspects of the document, such as the MEC HA methodology or the HHRA methodology. If internal draft reviewers request significant deviations from details that were already discussed with and approved by the Regulatory Partners, then USACE will certainly share these submitted comments with EPA and DDOE to obtain input.

EPA noted that based on this schedule, draft FS preparation may begin as early as fall 2014, and all Partners should be on the same page at that point. EPA also emphasized the importance of discussing acceptable versus unacceptable remedial alternatives prior to drafting the FS. For example, potential alternatives for site-wide groundwater include remediation, monitoring, or no further action.

The Partners briefly discussed preparing two separate FS documents (one focused on site-wide groundwater and one focused on the overall site-wide project) and then combining the decision-making process from both documents into a single PP and DD. EPA mentioned that FS document schedules do not typically coincide so that the recommendations can be combined in a single decision document. USACE and EPA agreed that separate or combined DDs will depend on how the document schedule progresses.

USACE confirmed that the final DD (equivalent to the Record of Decision, or ROD) for the site will tentatively be completed by the end of FY 2015. ERT added that the planned site-wide document schedule was updated and was pushed back slightly due to the recent two-week federal government shutdown, with DD finalization extending approximately three weeks into FY 2016. All final steps in the site-wide document process, including DD finalization, will be completed in FY 2015 if at all possible.

EPA noted that the Partner review time frame for the Site-Wide RI should probably be extended to 60 days, instead of the currently planned 30 days. DDOE added that more than 60 days may be necessary.

P. deFur noted that the planned 30-day public comment period may also need to be longer. USACE Public Affairs responded that this time frame can be extended if necessary.

Discussion – Site-Wide RI/FS Development and Identification of ARARs

ERT mentioned that the next challenge is to effectively fit all pertinent information into the larger Site-Wide RI and tell the story. Success will hinge on how the source reports are referenced within the RI report.

EPA inquired about the work plan development timetable for the full Site-Wide RI report. USACE replied that they plan to meet with ERT (who is preparing the document) to prepare the Draft RI table of contents (TOC), followed by Partner review and discussion. ERT added that preliminary TOC contents were discussed at various Partnering meetings during the past couple of years. The document's layout and organization is one of the next major topics that will require Partner discussion, resolution, concurrence.

EPA reiterated that significant Partner interaction should also occur during scoping of the Site-Wide Feasibility Study (FS), including discussion of the alternatives to be presented in the FS, rather than simply launching into draft FS document preparation. USACE added that regulatory partner input will be necessary to identify the applicable or relevant and appropriate requirements (ARARs). EPA confirmed that ARARs will guide actions to address unacceptable risks, while "no action" remedial alternatives are associated with the lack of ARARs. Typically, ARARs are requested from the applicable state in which the project is located (in this case, from the District of Columbia) during the RI stage, then fleshed out during the FS, and finally locked into place within the Record of Decision (ROD) (in this case, the Decision Document (DD)).

ERT added that many of the ARARs identified in the 4825 Glenbrook Road Site-Specific FS remain applicable to the Site-Wide FS.

Discussion – Display Materials

USACE mentioned that the Community Outreach team members recently organized numerous Spring Valley project photographs and developed a consistent organized presentation format. The resulting display materials consist of framed layouts containing photographs and maps, with each layout focused on a specific project aspect. (All display materials were posted on the walls and were available for viewing after the meeting.) The purpose of these display materials is to aid community discussions of site-wide project documents (e.g., the Site-Wide RI report) at upcoming public meetings. For each meeting, appropriate display materials will be selected to accompany the presentation.

USACE mentioned that they particularly like the historical layouts where individual photographs were placed as accurately as possible on the 1918 aerial.

DDOE noted that organized layouts serve as an unofficial table of contents (TOC) for the Site-Wide RI.

N. Wells added that these display materials are wonderful and important to share with the community. She is pleased that they will be brought to future public meetings.

Discussion – Tentative Document Schedule

ERT elaborated on the tentative schedule for submitting the Draft Final Addendum to the Pre-2005 HHRA Review document for Partner review. The best case scenario is submission at the end of October, assuming that the remaining preparations (including the incorporation of missing data points with non-detect values) are straightforward. The worst case scenario is submission in mid-November 2013 (approximately two or three weeks from today).

C. 4825 Glenbrook Road Remedial Action Update

The goal of this segment of the meeting was to discuss the decision-making process and the ongoing remedial action for the 4825 Glenbrook Road site.

USACE-Baltimore and Parsons provided an update on the high-probability remedial activities in progress at the 4825 Glenbrook Road site.

Overview of Completed Efforts to Date:

- Details of previously-completed efforts, including house demolition and low-probability site preparations, were presented at the December 2012 and January 2013 Partnering meetings.
- Details of initial low-probability efforts, during which no AUES-related items were found, were provided at the March/April 2013 Partnering meetings.
- Details of high-probability site preparations were provided at the March/April/May/June/August 2013 Partnering meetings. Details of recent AUES-related debris findings were presented at the May 2013 Partnering meeting.
- Personnel training, tabletop activities, and pre-operational surveys were completed by USACE-Huntsville and were then inspected and reviewed by the Department of the Army (DA). The DA identified a couple of details that were promptly addressed by USACE, and the team passed the DA pre-operational exercise.
- High-probability excavation began once all of these preparations were completed, and is currently underway.

High-Probability Excavation (Area F): Removal of high-probability soil began in Area F, in the front yard of the site, and is currently progressing southward toward the neighboring 4801 Glenbrook Road property. Completed excavation depths to date range from 2 to 4 feet below ground surface (bgs). Upcoming excavation will continue to reflect a depth of 4 feet to prevent unintentional creation of sloping

or benching hazards within the ECS footprint. Hardscape such as the front sidewalk will also be removed as excavation progresses.

AUES-related debris findings in Area F to date were limited to glassware fragments that were cleared for headspace. No air monitoring detections for chemicals of concern (e.g., chemical agents) were observed.

To date, a total of 72 cubic yards of soil were removed. This volume represents compressed soil below the ground surface, but upon accounting for the above ground air fluff, the total volume placed in the roll-offs was approximately 100 cubic yards of soil. Composite soil samples are collected as the roll-offs are filled.

Recent Changes to AEGL-2 Values: The interim Acute Exposure Guideline Level (AEGL) values for lewisite were recently finalized. Interim values were defined in 2007, and finalized values were released to the public in 2013. [The details and significance of AEGLs for AUES-related chemical agents were discussed during previous Partnering meetings.]

- AEGL-3 values (classified as lethal) were not revised, with final values equal to interim values.
- AEGL-2 values (classified as disabling) were revised, with final values higher (and less conservative) than interim values.

Based on modeling and calculations of these values, the interim and final AEGL-2 values for lewisite after a 1-hour exposure time frame would be 0.12 mg/kg³ and 0.25 mg/kg³, respectively.

The interim AEGL-2 values for lewisite are more conservative and thus provide a greater hazard distance, because a person would need to travel further from the lewisite source to experience the same decrease in concentration. These more conservative interim values were used in the final Site-Specific Work Plan (SSWP) and the Chemical Safety Submission (CSS) for the 4825 Glenbrook Road site. (If the final values were used instead, the hazard distances and thus the Shelter-in-Place radius would be smaller and closer to the high-probability excavation area.)

These changes do not impact the current maximum credible event (MCE) described in the finalized Public Protection Plan (PPP). The current MCE is based on arsenic trichloride, which continues to define the greatest hazard distance for the site; therefore, no changes to the MCE are recommended based on the updated and finalized AEGL levels.

Site-Specific Work Plan for 4825 Glenbrook Road: Additional comments were recently received from the CX, after the document was finalized. One comment emphasized the need to state that the remediation goal for the site-specific RA is the removal of all soil with a **mean** concentration greater than 20 ppm arsenic. From the CX's perspective, the remedial action goal associated with grid confirmation sampling cannot be described as the removal of every ounce of soil exceeding 20 ppm arsenic. Instead, the remedial action goal is the removal of all soil with a mean arsenic concentration (in this case, 20 ppm) at a 95 percent confidence level.

Although the CX's comment was valid from a statistical standpoint, USACE and Parsons did not intend to run statistical analyses of the grid confirmation sampling points, for the purpose of calculating the mean arsenic concentration in the excavated soil. Instead, all soil encountered above 20 ppm arsenic will be removed, as stated in the original remediation goal. Removal of the word "mean" from the tracked changes version of the document will be reflected in a page change for submission to all stakeholders, as appropriate.

Tentative Remedial Action Schedule: [This information was not presented at this meeting, and is included here for reference purposes.] Three phases of remedial action are planned: demolition (completed), initial low-probability efforts including the remaining low-probability test pits in the back yard including the utility trench (completed), and all planned high-probability and low-probability soil removal areas. Site preparations for high-probability efforts were completed in September 2013. High-probability soil removal began in early fall (September 23) 2013, with completion anticipated approximately one year later in early fall (September) 2014. The remaining low-probability soil removal

actions (the remainder of excavation area A, along with excavation area B) will be conducted as early as fall/winter 2014, followed by site restoration. The remediated property will be returned to AU, the property owner, as early as December 2014.

Holiday Schedule (Non-Working Days): The planned schedule for upcoming non-work days at the site include the following federal holidays and associated holiday breaks: November 11 (Veterans Day), November 27 (half-day) through November 29 (Thanksgiving), December 20 through January 6 (Winter Holidays), and January 20 (Martin Luther King, Jr. Day).

Discussion – High-Probability Excavation Progress Photographs

USACE mentioned that high-probability excavation progress photographs (shown in the presentation) were taken from the former location of the driveway retaining wall which has been fully removed.

In response to questions about these photographs, USACE confirmed that the front basement wall of the house is visible. The front wall will not be moved at this time, and adjacent excavation will continue and create a level playing field. The entire front walkway is still intact at this time.

Discussion – Remaining Portion of Test Pit 120 (Within Area F in Front Yard)

The Partners briefly discussed the time frame for excavating the remaining portion of Test Pit 120 in the front yard, where AUES-related glassware and lewisite-contaminated soil were encountered during the previous high-probability site investigation. Parsons is assessing whether this area should be addressed under the first (current) tent location (earlier than planned) or under the third tent location (as planned). USACE recommended that Parsons remove the remaining portion of Test Pit 120 now, as this soil is situated in the middle of the current tent and there are no logistical issues associated with sloping, shoring, or excavation. The field teams are fully prepared in the event that additional AUES-related glassware is found.

USACE Public Affairs inquired about the anticipated time frame for addressing Test Pit 120 under the first (current) tent location. USACE replied that hardscape removal is tentatively scheduled for next week, and they will find out whether Test Pit 120 can be fully addressed during the following week.

EPA asked whether the soil excavated from test Pit 120 will be handled differently than the surrounding soil by collecting a sample prior to loading the soil in a roll-off box, due to the previous high-probability effort's data showing low level agent concentrations at this location. Parsons agreed that this soil will be sampled more deliberately compared to other soil areas with composite soil samples.

USACE noted that the soil excavated from Test Pit 120 will still be shipped off site in roll-offs, even if it is contaminated with agent or other AUES-related chemicals. This method provides a seal very similar to a drum, and a hard cover can be used instead of a tarp if needed.

Parsons added that excess drum liners will be placed along the sides of the roll-off before adding the soil. The soil will be covered by additional excess drum liners and then secured by a tarp.

Parsons emphasized that off-gassing soil will not be shipped off-site before it is screened. Parsons confirmed that the Test Pit 120 soil will be headspaced and screened for low level agent prior to excavation, then placed in a roll-off, covered, and brought off-site.

Discussion – Roll-Off Sampling Process

In response to EPA's inquiries, Parsons and USACE briefly summarized the roll-off sampling process. Site personnel load soil into an average of 1 roll-off per day, with each roll-off containing approximately 10 to 12 cubic yards of soil (appearing approximately halfway full). A composite sample is collected as drums of soil are emptied into the roll-off, thus representing the entire roll-off. Once the composite sample is obtained, the soil is headspaced.

Parsons clarified that the composite sample is not headspaced before the roll-off exits the protective tent structure, based on the lack of air monitoring detections from the MiniCAMS. If no air monitoring

detections are noted during excavation, then two additional clean filtration cycles are completed to secure the ECS, and the tent door is lifted so the roll-off can be pulled out.

Regarding the previous high-probability effort at the site, EPA asked whether lewisite was detected by the MiniCAMS or simply detected as low-level agent in the soil analysis. USACE replied that low levels of lewisite and mustard were observed during low level soil analysis, but that agent-impacted soil headspaced clear. Approximately 100 cubic yards of soil were shipped off site at any given time, with a calculation showing how much agent was present in that soil volume, and this information was sent to USEPA Region 6 [where the approved disposal facility is located].

N. Wells asked whether any lewisite has been found during the current remedial effort. The Partners clarified that all lewisite findings to date were detected prior to 2010, during the previous high-probability effort. A soil sample was collected from one of every three drums, and all drums were transported to and staged at the Federal Property. Upon receipt of the analytical data, all clean soil drums were disposed of in dumpsters and the remaining drums were shipped off-site to an approved facility.

P. deFur noted that those drums were sealed tightly, unlike the roll-offs containing recently excavated soil. USACE explained that the current roll-offs will be sealed fairly tightly, with the soil wrapped up neatly and the liners and tarp secured without any flapping or loose portions. The same amount of leakage would be expected from an unlined drum as from the sealed and tarp-covered roll-offs.

In response to P. deFur's inquiry, Parsons and USACE briefly described and confirmed the procedure for handling soil in the unlikely event that air monitoring equipment detects lewisite within the ECS. Lewisite would likely be concentrated in a small portion of the excavation area, rather than a large area of soil suddenly off gassing. The source of the lewisite will be located and addressed, and the associated soil will likely be drummed rather than placed in a roll-off.

EPA noted that a significant volume of lewisite would need to be present in order for the MiniCAMS to detect off gassing. Due to the large volume of air inside the ECS, lewisite at the point of excavation could be concentrated at ppm levels but would be significantly diluted (perhaps more than 1000 times) by the time it reaches the MiniCAMS. USACE agreed and added that off gassing is reduced during colder weather, which means that excavated soil needs to undergo low level analysis to assess whether any low-level agent is present.

In response to DDOE's inquiry, USACE emphasized that all roll offs with soil containing low level agent will be sealed and secured as tightly as possible. This procedure is fairly typical at some other remediation sites. Site personnel provide a lot of due diligence when securing a roll-off, and this process may take an hour or more.

USACE mentioned that roll-offs with secured tarps are currently present at the Federal Property if any Partners wish to view them after the meeting.

Discussion – Site-Specific Work Plan for 4825 Glenbrook Road

USACE confirmed that the CX wanted to include, as part of the remediation goal for the site, calculations of the mean soil concentration exceeding 20 ppm arsenic.

Discussion – Tentative Schedule

USACE and AU briefly discussed the planned schedule for additional non-work days at the site (in addition to upcoming federal holidays) based on AU campus athletic events held within the Shelter-in-Place (SIP) zone.

All site personnel will be granted approximately one week off during the AU field hockey team's tournament, from November 7 through November 12, with site activities resuming on November 13 at 6:30 AM. USACE confirmed that November 12 could serve as a travel day for site personnel to return and prepare to resume intrusive work the following morning.

A partial non-work day is proposed for November 19, during AU President Kerwin's lunch event at his house (4835 Glenbrook Road). Site activities would be limited to equipment maintenance and general housekeeping, with a lengthy break between the hours of 11:00 AM and 2:30 PM, and no intrusive activities would be conducted. USACE noted that these limitations may not be sufficiently worthwhile for Parsons to provide a field team that day; alternatively, one team could be present on site until 11:00 AM, with the remaining portion considered non-work hours. USACE-Huntsville mentioned this may be a convenient date to schedule other maintenance activities associated with the Interim Holding Facility (IHF) at the Federal Property, as originally another team was going to be sent to the site to accomplish these tasks.

USACE mentioned that no further work day limitations with respect to AU's schedule are anticipated until April 2014. AU mentioned that their field hockey team is currently excelling in the NCAA tournament, and their lacrosse team will begin practicing in early spring 2014. AU will follow up on the planned athletic event schedule for spring 2014 to identify potential additional non-work days at the site.

The Partners briefly discussed shutting down the temporary water utility line during the winter to prevent the water from freezing. This utility serves as the primary feed for the athletic field irrigation system, with most irrigation occurring during warmer months (roughly March through October). No impacts to the athletic field conditions are anticipated from shutting down the water line during the winter, but careful attention must be given to the water line valves based on previous experience with bad valves and necessary repairs. The ideal time for shutting down the water line would be immediately following the last irrigation in late 2013. The water line is situated at the ground surface and receives no protection from cold weather. Parsons and USACE emphasized that the water line can be turned back on if necessary on a sufficiently warm day, but the resulting water must be drained at the end of the day to prevent freezing. The water line can remain operational until the weather reaches consistently cold temperatures, which is anticipated to occur soon.

AU commented that their tournament playing field is water-based and is maintained using water cannons that are turned off during the winter. AU added that they are fairly certain their campus will not host any athletic events on the field after completion of the upcoming double NCAA game.

USACE mentioned that AU campus facilities personnel recently granted preliminary approval for this activity (tentatively November 2013 through March or April 2014), and AU will confirm the acceptable time frame for shutting down the water line.

Next Steps

AU will follow up on the university's planned athletic event schedule for spring 2014 to identify potential additional non-work days at the 4825 Glenbrook Road site.

D. Open Issues and New Data

The goal of this segment of the meeting was to share issues not on the agenda for possible placement on a future agenda and to share new data that became available since the last Partnering meeting.

One open issue was brought forward as a brief status update.

Status Update – Planned Efforts at the 3700 block of Fordham Road Property

[Details of the tentative schedule for soil sampling, soil removal, and anomaly removals at the 3700 block of Fordham Road property were provided at the January 2013 Partnering meeting, followed by brief discussion of property issues at the March/April/May/August 2013 Partnering meetings. Recent incremental progress was made toward obtaining right-of-entry for completing arsenic delineation and subsequent arsenic soil removal. Details of the signed Anomaly Review Board (ARB) memo for this property were provided at the December 2012 Partnering meeting.]

[As described at the August 2013 Partnering meeting, USACE hopes to resolve current property issues in a timely fashion. The property owner revised and signed the right of entry, but USACE's legal counsel were unable to sign the revised version because they are uncomfortable with some of the revised language. Efforts are underway to encourage the property owner to sign more standardized right-of-entry language that is acceptable to USACE legal counsel. A signed right-of-entry is needed in order to collect delineation soil samples and determine the extent of soil removal to be completed.]

USACE briefly mentioned that they continue to pursue incremental progress toward obtaining right-of-entry for arsenic soil removal at the 3700 block of Fordham Road property. No further details were available at this time.

E. Document Tracking Matrix for Hazardous Toxic Waste (HTW) and Military Munitions Response Program (MMRP)

The goal of this segment of the meeting was to review the comment due dates on HTW and MMRP draft reports and the status of the documents.

There were no documents that required a status review.

F. Partner's Parking Lot

The goal of this segment of the meeting was to review and update the Parking Lot list.

The "Partners Parking Lot" is an informal list designed to assist the Partners in tracking ideas, collaborations, research and tasks. The list is not a formal document specifying actions that must be taken.

The Parking Lot list will be reviewed at an upcoming Partnering meeting. No changes to the status of Parking Lot Items occurred after thorough review of the list at the last meeting.

G. Agenda Building

The next meeting is tentatively scheduled for Tuesday, December 10, 2013.

Discussion – Upcoming Meetings

As requested by EPA, a later start time (tentatively 10:00 or 10:30 AM) is tentatively planned for the December 2013 Partnering meeting, pending confirmation of EPA's schedule.

EPA inquired about planned agenda items for the November 2013 RAB meeting. USACE replied that project updates include recent groundwater sampling results and progress at the 4825 Glenbrook Road site. Planned community items include an update on the follow-on Spring Valley health study, to be presented by Dr. Mary Fox from Johns Hopkins University (JHU) Bloomberg School of Public Health.

Discussion – JHU Follow-On Spring Valley Health Study

In response to P. deFur's inquiry, USACE clarified that JHU's presentation to the RAB will match the summarized follow-on health study results previously presented at JHU's July 2013 public meeting. JHU released one or two additional pages since July 2013, consisting of a table which lists all diseases that were reported by community survey respondents, to expand upon the limited list of diseases that were tallied for statistical purposes within the report.

N. Wells asked if this list of diseases was the only addition to JHU's final report. USACE confirmed that this is the only addition they are aware of. The table provides a tally of how many times each disease was reported by the community survey respondents.

H. Adjourn

The meeting was adjourned at 11:36 AM.