Spring Valley Partnering Meeting
June 23, 2015
Spring Valley Project Trailers Conference Room

Name	**Organization/Address**	
Sherri Anderson-Hudgins	USACE - Huntsville	**X**
Thomas Bachovchin	ERT	**X**
Brittany Bangert	USACE	**X**
Brenda Barber	USACE - Baltimore	
Todd Beckwith	USACE - Baltimore	
Janelle Boncal	Parsons	
Bethany Bridgham	American University	**X**
Sean Buckley	Parsons	**X**
Paul Chrostowski	CPF Associates, AU Consultant	**X**
Tom Colozza	USACE - Baltimore	
Jennifer Conklin	DDOE	
Kathy Davies	EPA – Region III	
Peter deFur	Environmental Stewardship Concepts/RAB TAPP Consultant	**X**
Diane Douglas	DDOE	
Bill Eaton	URS	
Alma Gates	RAB Member – Horace Mann Representative	
Steven Hirsh	EPA –Region III	**X**
Dawn Iovan	EPA – Region III	
Carrie Johnston	ERT – Community Outreach Team	
Julie Kaiser	USACE - Baltimore	
Rebekah McCoy	ERT	**X**
Dan Noble	USACE - Baltimore	**X**
Cliff Opdyke	USACE - Baltimore	
Randall Patrick	Parsons	**X**

Amy Rosenstein	ERT (Risk Assessor, Independent Consultant)	
Don Silkkenbaken	Parsons	
Jim Sweeney	DDOE	**X**
Tenkasi Viswanathan	USACE – Washington Aqueduct	
Cheryl Webster	USACE - Baltimore	
Ethan Weikel	USACE - Baltimore	
Nan Wells	ANC 3D Commissioner	
Maya Werner	ERT	
Kellie Williams	USACE - Huntsville	
Bruce Whisenant	USACE - Huntsville	**X**
Rebecca Yahiel	ERT – Community Outreach Team	**X**
Alex Zahl	USACE - Baltimore	**X**

Summary of 23 June 2015 Spring Valley Partnering Meeting

Consensus Decisions

- None

23 June 2015 Action Items

- Partners will respond to USACE about the part two comments for the Final RI.

Tuesday 23 June 2015

Check-in

The Partners conducted their normal check-in procedure.

A. Groundwater Study Efforts

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

U.S. Army Corps of Engineers (USACE) provided a brief update on the status of groundwater study efforts and the Groundwater RI report.

USACE provided the groundwater data to the Partners and completed the second sampling of the Rockwood Parkway multiport well last week. Those results should be received in a few weeks and USACE will provide the validated data to the Partners.

The Groundwater Remedial Investigation (RI) report is being reviewed by the Centers of Expertise (CX) and the Public Health Command (PHC). Comments from them are due this week. USACE will work with URS to obtain the draft final version of the RI. A copy of the Groundwater RI is expected for the Partners in late July/early August.

Discussion

Peter deFur asked many how times the new well [MP-5] would be sampled.

USACE explained that after two sampling events, the data would be reviewed by the Partners to determine if the well should be put into the annual sampling rotation. The first sampling results came back clean. If the second come back clean as well, the well may not need to continue being sampled. At some point USACE will shut down many of the wells, but that time is currently undecided.

P. deFur asked how long wells were going to be kept on a monitoring schedule. A few wells are coming back with detections, but there are a large number of wells where nothing has been detected for a long time.

USACE explained that maintenance was completed on all currently sampled wells and they are in good shape. One option is to pause all sampling as they complete the RI/FS to determine whether the wells are still needed.

Environmental Protection Agency (EPA) replied that there is a systematic way to evaluate every well to determine if it is important. Monitoring and Remediation Optimization System (MAROS) is a program that can be used. If a well is located at an interim location in the plume, and there is a well at the beginning and the end of the plume, then that interim well may not be needed. However, it may be determined that another well might be needed. A high level of confidence is needed when a decision to pull a well is made because it is very difficult to replace or reinstall a well.

P. deFur explained that he was discussing not sampling the well further; not necessarily removing the well altogether.

EPA explained that this is an optimization issue; not every well needs to be sampled every year but a good data set for the five year review is needed.

B. 4825 Glenbrook Road Remedial Action

Parsons presented an update on the 4825 Glenbrook Road Remedial Action effort.

1. Recent Intrusive Operations

As intrusive activities continue, soil has been removed down to the footer of the basement wall adjacent to the back patio area. Previous lewisite detections were from soil located under the patio. A hole will need to be cut in the basement wall to allow stairs to be installed to gain access to the upper level. Currently the stairs are in the way of bringing in a roll-off.

Mustard and 1,4-Dithiane have been detected in the soil from below the patio at very low levels below quantitation limits in soil that was sent to ECBC during low level analysis. Nothing has been detected by the air monitors or headspace tests. As of 18 June, 65 roll-offs and 414 soil drums (572 yd^3) have been removed. The soil drums will be treated as hazardous no matter the level of contamination. Fifty-two pounds of accumulated scrap glass have been recovered from behind the curved retaining wall and the area around the foundation of the basement wall. The vast majority of glass is from behind the curved retaining wall. Because the basement wall was in contact with contaminated soil, the wall was sampled for low-level agent and agent breakdown products (ABPs). If any rubble is drummed, it needs to be crunched down into a grapefruit size piece of rubble, which is very time consuming. Therefore, the basement wall was sampled in order to make sure that the wall was clean. The results came back with no detections for low-level analysis.

Hazardous waste is continuing to be shipped from the tent one location. This is a long process because Parsons receives slots in Veolia, Port Arthur, TX as they come, and Parsons cannot dispose of all drums at one time. There are at least a few more shipments left to be sent. Two tractor-trailer loads of hazardous drums were shipped on 18 May.

The western middle side of area D is currently being excavated. A cinderblock wall that provided the foundation for the back patio was broken up and the wall will be knocked down at some point in order to install the stairs.

Scrap glass included some American University Experiment Station (AUES) related laboratory jars. The glass was not out of the ordinary, however some items were large.

Parsons will continue excavating from 4801 Glenbrook Road towards 4835 Glenbrook Road. They anticipate that they will have to dig deeper than saprolite to expose the basement footer. Once the footer is exposed, the basement wall will be removed and excavation will continue to carve into the hill to confirm saprolite. Parsons anticipates finding saprolite at various levels around that area.

The site will be shut down the Friday, July 3rd.

Higher temperatures have started earlier than last year. Even with the early start time, only about one to two level B teams are able to work. When the outside temperature reaches 80 degrees, the teams' ability to work is limited. Work time for a team begins when they are suited up. However, by the time the team gets into the tent, there is not much time left.

If you compare predicted soil volume to our scheduled percent complete, the physical soil volume percent completed is higher than the scheduled percent completed. The conservative schedule is still good. With the current schedule, work under the second tent is anticipated to be completed in December.

Discussion

EPA asked if the crawl space area was removed.

Parson replied that the crawl space would be removed most likely after the 4 July holiday, once the stairs were installed.

EPA asked if it was a possibility to air condition the tent or cool off the workers.

Parsons responded that cooling the tent via air-conditioning is not an option due to the large size of the tent. USACE and parsons has looked at cooling suits and other alternatives in order to increase work time. However, the weight vs. cooling benefit of cooling suits does not benefit the teams. The wet bulb instrument (*Editor's note: Wet-bulb temperature is determined by both actual air temperature and humidity*) has been determined to be the best way to determine the amount of time a team can safely work in high temperatures. Core body temperature could be used but that option becomes very tricky and is not beneficial to the project.

USACE stated that because Parsons uses the wet bulb to determine how long a team can work, it does not matter if the person's body temperature cools down because the person would still have to be pulled out of the tent based on air temperature. Additionally, the team does not have experience with body cooling and it could be very cumbersome to implement.

USACE Huntsville stated that the cooling method had been researched before at other sites such as in Arizona, and had not made sense. Furthermore, USACE Industrial Hygienists did not approve of the method either.

Parsons further explained that core body temperature is a lagging indicator, whereas a wet bulb is a leading indicator.

EPA asked how much time one to two level B teams are inside the tent.

Parsons explained that one to two level B teams equates to about an hour of level B work. Afterwards, the team completes as much level D work as possible, which includes transferring cleared drummed soil into roll-offs. This scenario does not occur every day; there are some cooler days where a full day of level B work can be completed.

USACE explained that Parsons is still busy, despite the slow progress removing the level B soil.

Parsons stated that the schedule is based on what was experienced under the first tent. The schedule was created very conservatively to account for the higher summer temperatures. Furthermore, less hand digging has occurred this year, compared to last year.

Parsons stated that the water line is still stuck partially open, and asked if anyone had any influence with DC Water to make sure it is addressed before the winter. This water line runs from the street to AU between 4825 and 4801 Glenbrook Road.

USACE would like to be able to shut the water line off during the winter. DC Water said they would fix it.

Parsons explained that they first noticed the partially open water line when DC went to turn it on in the spring. DC could not open it by hand and brought a machine to try to open it mechanically. This ultimately broke the valve, leaving it stuck open. The valve is in the street and it is DC Water's responsibility.

USACE asked when it was broken. Parsons replied that it was broken in April. Parsons has not seen DC Water return since.

C. Fordham Road

USACE discussed the Baltimore District's efforts to complete a small arsenic grid removal at a home on Fordham Road.

This grid was located between two property lines on Fordham Road. USACE was originally under the impression that the grid was on one property due to the fence placement. However, it was determined that the grid was actually on the neighboring property.

The neighbor to the south had arsenic contamination coming on to the property from the neighboring property. However, the concentrations were below 43ppm and the homeowner had requested a comfort letter.

There are three partial grids remaining at the middle property. One grid is located on the street curb and is DC property.

Delineation sampling of the removed grid was completed last year in order to support removing soil to a one foot depth, instead of the standard two feet. This was agreed upon by District Department of the Environment (DDOE) and EPA.

Two large trees were located near the grid, but it is not anticipated that they were impacted. Some roots were exposed and USACE will keep monitoring them to ensure that they are all right. An electric line embedded in the landscape was encountered. The crew was able to dig around the line and keep it intact. The crew restored the area with topsoil and mulch. The fence between the two properties was old and replaced along that portion of the property line.

The crew hand walked dirt in buckets to drums in the front yard, which wore a small path through the grass. USACE is currently working with the homeowner to restore the grass. If the grass seed does not take in the current heat, USACE will come back in the fall to restore the grass.

The removed soil is currently in drums at the federal property. A waste characterization sample was collected and is currently at the lab for analysis. The sample results are expected to come back non-hazardous. If the soil is determined to be non-hazardous, it will be added to the non-hazardous waste stream from 4825 Glenbrook Road, and Parsons will complete disposal.

The Removal Action report is currently being written internally by Baltimore and should be received by the Partners in a few weeks. After that, USACE will follow up with the homeowner to determine if they would like a comfort letter.

Discussion

DDOE and EPA asked who would get a comfort letter.

USACE stated that the owner has a sampling results letter and would ask the homeowner if they would like a comfort letter in addition. If the homeowners requests one, then USACE will contact EPA to create the letter.

D. Remedial Investigation/Feasibility Study

USACE provided an update on the status of the Site-Wide RI report.

1. Responsiveness Summary

The public comment period ended on 26 May. A draft responsiveness document was created for the public comments that were received. That document was sent to the Partners.

USACE received comments from 11 individuals, including comments from Peter deFur, per his request. From the 11 individuals, 32 comments were disseminated. There were nine comments expressing concern over the length of time the project was going to take and what it did to the individual property owners and the value of their properties. There were nine comments asking for clarifications or for additional information to be added to the report. Some comments did request additional work be conducted and gave descriptions of areas where they thought USACE need to conduct the additional investigations. Comments also included ongoing dialogue with USACE or points of contacts with other agencies, such as with the Agency for Toxic Substances and Disease Registry (ATSDR). All questions were answered in the responsiveness summary document.

USACE is not finalizing the RI report at the moment and will wait for comments from EPA and DDOE in the coming weeks.

None of the public comments received will cause a big change in the Site-Wide RI document. Some comments asked USACE to include additional references and other small documents to the Final RI report. These references and document will be incorporated into the Final RI report.

Discussion

ERT stated that the responsiveness summary will be Appendix H in the Final Site-Wide RI.

ERT discussed that at the 14 April Partnering meeting, a joint comment from EPA, DDOE, and P. deFur about how three metals were handled was discussed. The public version of the RI stated that there were two single soil samples from underneath the two bunker slats. One contained arsenic, while the second contained lead and mercury. Both samples were maximum results and exceeded the HI level. In the public version of the RI, those samples were not carried forward to the FS or made Chemicals of Concern (COCs) and thus were dismissed at the RI level. The comment at the last Partnering meeting was to bring them forward to the FS and make them COCs. This was done and that comment was fully responded to in the 'part two response to comments.' The three metals were made COCs and recommended to be evaluated in the FS to determine appropriate actions for them. Language was also added in the Final RI that stated the USACE does not anticipate conducting further soil testing.

P. deFur stated that somewhere down the road, most of the private residences that denied access for soil sampling will change hands and the new owner may want to or will need to get their soil tested. They will probably come back to the Army for answers.

USACE stated that all property owners have received several letters requesting a ROE to sample, including a final letter that states if USACE does hear back from the homeowner, USACE will consider their effort complete.

ERT clarified that this language was included in the section of the Final RI that discusses the five-year reviews.

USACE stated that there is a point at which if a property owner continues to deny access while USACE is attempting to conduct site cleanup, then USACE moves to the assumption that the property owner will handle the issues on the property, whatever they may be. This does not need to be spelled out in the RI, but can be mentioned in the Decision Document (DD). In the DD, USACE will acknowledge that they know of arsenic grids on properties on Fordham Road and have attempted to clean them up, but access was not granted by the homeowner.

EPA stated that the DD needs to explain USACE's logic for not cleaning up the remaining arsenic, since it is the first legal document the public can utilize.

USACE asked if anyone had any additional comments or issues on the 'part two response to comments.' DDOE stated that they did not have any issues. EPA stated that they did not believe there were any additional issues.

2. AU Comments Discussion

USACE stated that in response to AU's comments, cobalt will move forward to be evaluated in the FS for the AU Exposure Unit (EU). AU brought forward other comments that had been addressed on previous documents. USACE does not intend to incorporate them into this document.

It had been established that AU does not concur with the way that USACE approached arsenic. In the last set of comments, AU had stated that arsenic concentrations had decreased down to background level. The main comment from AU was that USACE does not use the same parameters as AU for outdoor workers in the risk assessment.

AU stated that USACE may have misunderstood their comment. AU was not relying on data that AU generated 15 years ago in a parallel risk assessment that was submitted to USACE. They are relying on published data from scientific and regulatory literature. Whoever wrote the response must have thought that AU was still relying on the old data. The bottom line is that AU is responsible for the health and safety of their grounds workers.

AU has concerns about the adequacy of the delineation of the AU EU. This is mainly due to difficulty reconciling all of the documents, to determine what has been sampled and what is still out there. The second concern is about the risk assessment for workers. The risk assessment that was conducted by AU shows that cobalt is an issue for workers, which USACE has agreed to move forward to the FS, but it also shows that nickel could be an issue. If whatever USACE chooses to do to address the issue for cobalt also addresses the nickel concern, then AU will be satisfied.

AU's Remedial Action Objective (RAO) is to obtain a strict risk base level or hit background for COCs. It may be that USACE will obtain background, since background was obtained for several of the other elements that AU showed risk for.

The Hazard Index (HI) of two for cobalt may present a possible precedent for the future, which may have regulatory ramifications.

USACE will not change the parameters that were used to evaluate the risk to outdoor workers. Standard defaults were utilized and were reviewed by EPA and DDOE who did not have any issues with the way the risk assessment was completed. Furthermore, under the parameters and assumptions that were used, nickel was not a problem.

ERT stated that 90- 95% of the sampling information that AU is looking for is in the Time Critical Removal Action (TCRA) report, which was incorporated in the C-2 appendix of the RI report.

USACE asked if AU requires their workers to wear breathing protection when they use leaf blowers. Some metals that AU discussed were at or below background levels but when AU conducted their risk assessment it generated excess risk. Based on that, the background soil could present a hazard to workers when it turns to dust.

USACE stated that those AU workers are conducting a unique activity. If that unique activity generates risk that normally most of us would not experience, AU would have to put protection on the workers. Because AU is going to engage in the unique activity, it carries its own risk with it. Therefore, AU should protect the workers even if risk is coming from the naturally occurring concentrations of chemicals. AU still has to acknowledge that it is a real risk because of the activity going on.

AU responded that they do not require their workers to wear breathing protection. These workers do have safety training and do on occasion wear personal protective equipment. The workers are protected, instructed to minimize their risks, and are subjected to OSHA requirements for hazard communication. The bottom line is that AU believes that chemicals put in the soil by the AUES should be cleaned up to a level that is consistent with background levels.

USACE stated that it is possible that the Army could have brought nickel-containing chemicals to the AUES. However, USACE has not researched that since nickel was determined not to be a problem according to their calculations.

USACE is standing firm on how they conducted the risk assessment and they understand the specifics and critiques from AU. However, unless the EPA wants to engage USACE on concerns that they have in light of the comments from AU, USACE will stand by their risk assessment results.

EPA stated that they would review the issue.

3. Timeline

USACE would like to move forward with finalizing the RI document. Once everyone is comfortable with the Public Comment Responsiveness Summary document, the RI will be finalized.

The draft FS has been reviewed internally. ERT is currently incorporating those comments. Once the draft is updated, it will be sent to the CX. The Partners should receive the draft-final FS by the end of the summer.

4. Institutional Controls – Institutional Analysis

USACE proposed an additional site-wide RAO. The RAO would be to reduce the probability of residents, contractor/maintenance workers, and visitors/passers-by from handling MEC encountered during residential or construction/maintenance activities conducted within the SVFUDS.

The Draft-Final RI did not include language that applied to all of the properties within the FUDS - only those that were identified in the RI for potentially containing an explosive hazard. The RAO would acknowledge that there is always a possibility of encountering MEC within the whole neighborhood, not just the specific indentified properties. The FS would then describe this RAO and discuss how it would be achieved through institutional controls. For example, educational institutional controls such as mailings addressing the three R's and the five year reviews will be considered.

An Institutional Analysis (IA) is required to be completed per USACE guidance. The USACE guidance that establishes and maintains institutional controls for Ordnance and Explosives projects focuses on the use of institutional controls to manage explosive hazards, emphasizing stakeholder participation and fostering long-term community commitment during the development, implementation and maintenance of

institutional controls. This analysis should be conducted at any site where an institutional control program is being considered. The additional RAO provides for a formal institutional analysis in the FS.

IA identifies opportunities to implement an institutional control program at a specific site; identifies government agencies having jurisdiction over MEC contaminated lands; and assesses the capability and willingness of government agencies to assert their control over MEC contaminated lands. Local and state government agencies can assist in the development and implementation of the institutional control program. Five elements are considered when assessing the agencies' ability to assist in the implementation of an institutional control program:

- Does the agency have jurisdiction over the site? The District of Columbia, AU, and even Sibley Hospital all could have jurisdiction.
- What are the limits of the authority exercised by the Agency?
- What is the mission of the Agency? If multiple agencies missions are similar, then a cooperative land use control could be implemented.
- What is the capability of the agency? For a local agency, this tends to be a reflection of the local community. Federal agencies may need to augment the budgets of local agencies with additional funding to implement the requirements of the institutional control program.
- What is the desire of the agency to participate? The Federal Government will encourage the participation of a local/government agency. If local officials are convinced that participation in an institutional control program is in their best interests, they are more likely to participate. Resources in the form of funding for the agency's implementation costs may overcome initial hesitancy to become involved.

These five issues are reviewed, researched and documented in an IA report. The IA report can be an appendix to an overall site characterization report or a stand-alone document. Local agency support may be needed in the long term.

The intent is that throughout the life of this project, there are documented instances where members of the community have encountered what is believed to be MEC and the 3Rs (Recognize, Retreat, Report) have not been followed. In order to address this issue, the new RAO was developed. Institutional analysis efforts will be geared towards individual property owners who have control over large parts of the site and are institutions themselves.

Discussion

AU has an education program that may be worth reviewing to see if it is consistent with the RAO. AU is dedicated to the safety of their workers with respect to munitions.

P. deFur asked if the National Park Service (NPS) was included on the list. They have jurisdiction over parts of the SV FUDS. Sibley Hospital will also need to be involved. P. deFur commended USACE for adding this RAO and taking this step within the FUDS.

EPA asked whether construction support would be specifically mentioned. Usually if construction support is not specifically mentioned in the DD, then no construction support can be provided. For example, what would happen if AU decided to change the land use of the Public Safety Building (PSB)? If a community member finds a munition item while completing a construction project on their property, 911 is a reasonable solution. However if AU plans to remove the PSB, construction support may be warranted. Would that be something that AU or USACE provides?

USACE stated that when it comes time for the PSB to be removed, USACE will complete that work as a Remedial Action. The PSB is specifically called out in the RI to move forward to the FS. The bunkers are the other anomalies that will be discussed in the FS. Construction support was not originally included into the document because USACE would not offer support to a property owner who would be, for example, installing a pool.

EPA suggested that adding in construction support language should be evaluated in the IA in order to

inform the public and let them have a voice in the decision. EPA further suggested that the IA be an attachment to the FS.

AU asked EPA if their legal department would be reviewing the institutional controls.

EPA confirmed this. However, this is a new and evolved process. EPA will look at the proposed institutional controls, but there is not a lot of precedent.

USACE asked how AU deals with subcontractors and construction projects.

AU stated that they have an educational program that includes handouts, booklets, photos, protocols, and phone numbers, etc. that is mandatory to share before any project that involves intrusive activity. Currently there is a perimeter around the PSB where no work can occur without senior level approval.

P. deFur asked how AU enforces that policy.

AU stated that it is part of the chain of command and that chain is integrated with Public Safety. Work order tracking confirms that workers are not working in restricted areas. During a steam pipe installation project last year, the protocol worked successfully. When stained soil was observed, the crew backed away, samples were taken and work continued after the area was cleared.

USACE stated that the intent of the IA is to provide a solution for the new RAO and make sure that whatever institutional controls are implemented are accepted by other agencies, whether they be federal, state, or local. For example, at a site where local police had a lot of experience, they suggested putting up educational signs rather than doing individual mailings. This prevented any unnecessary public harm. Sending questionnaires to the public has also been utilized. A large part of the IA is making sure that all of the agencies are identified. USACE will be starting this process soon.

4. Pilot Project Discussion

USACE discussed a possible pilot project to implement. The idea arose from public comments on the RI received by some homeowners of the 96 properties identified that need further analysis in the FS. Nine comments were received based on the schedule leading up to the DD.

One homeowner, had three rounds of anomaly investigation, TNT contaminated soil removal, and arsenic screening. Almost all anomalies on their property were investigated due to a MEC (a pipe filled with TNT) found on the property during the RI phase. This homeowner's comment asked USACE to really consider if any hazard was really left at the property after all of the extensive completed investigations. USACE reviewed all reports for the property and found that there could potentially only be one or two anomalies left on the property. Therefore, it does not seem right to tell the homeowner that he will have to wait five years for USACE to resolve the one anomaly. A list of nine properties was chosen from the half of the 96 properties that have already gone through an initial geophysical investigation, where it looked like the most of the detected anomalies were resolved.

USACE would accomplish two things by taking earlier action at these properties. New technology could be field tested and USACE can respond to the community's concern about the length of time it will take to complete work with these new methods, especially for those properties that appear to have minimal work left to complete. USACE understands that they are placing a burden on property owners over the next several years.

The 9 chosen properties have 15 or fewer non-investigated anomalies. Previous geophysical coverage was also evaluated to determine if the property was viable for the pilot study. The properties were split into three groups based on coverage; complete coverage (except maybe a corner of the property), possible complete coverage (may have some minor areas missing), and coverage lacking (large areas not under a solid surface that an instrument was not run over).

The goals for the site visits are to view areas on properties where geophysical coverage was not obtained and to determine whether geophysical coverage is needed in those areas. Furthermore, the team will need to determine if there was a good reason geophysical coverage was not obtained and why it would not be sought after during the Remedial Design (RD).

For some of the 9 selected properties, the magnetic coverage was more than the electromagnetic (EM) coverage because the magnetic instrument was a handheld instrument, while the EM was on a cart. This indicates that the EM was used to its full extent. For any property that will be included in the pilot study all outstanding anomalies will be resolved. If a property needs more data to be collected then that property would probably wait until the Remedial Action.

USACE will have to sit down with each property owner and determine what needs to be done, whether that includes breaking concrete or removing bushes or trees. Some anomalies were left under concrete because other easily accessible anomalies were investigated. The pilot study will help determine whether these were good decisions based on the information available and if there is any new information that would help better resolve the remaining anomalies with or without digging.

For the properties involved in the pilot study, if an anomaly cannot be identified by advanced classification (AC), it will be intrusively investigated. Another purpose of the pilot study is to determine if AC and sensor packages can identify an anomaly through the intact reinforced concrete. An additional purpose is to develop the Remedial Action work plan for the remedial process.

For the benefit of the homeowner, if they are willing to participate in the pilot project, USACE would be willing to commit to resolve all issues with the property. A dig team would be available to resolve any anomalies that need to be dug. By the end of the pilot project, these properties would be considered fully remediated. By choosing nine properties that have an average of ten anomalies left on each property, USACE should run into every kind of problem that could be encountered during the Remedial Action. A solution to those potential problems would be resolved during the pilot project.

EPA and P. deFur discussed their concerns over the property selection process with USACE. They felt that a federal property could be used a blank slate property. The decisions to choose certain properties for the pilot project will have to be explained very carefully.

USACE reviewed the coverage for the three properties selected for a site visit by the Partners.

Discussion

P. deFur asked if the other selected properties had arsenic analyses, soil removal, and/or complete geophysical analyses.

USACE confirmed that arsenic coverage differs between the properties. Complete coverage is relative and varies by property based on landscape, topography, etc.

P. deFur clarified that the pilot study confirms that the method and equipment used at that time is still current.

EPA stated that the equipment and method used is still current for detecting anomalies, but cannot with analyzing the detected anomalies.

USACE explained that the geophysical surveys are good. There is not a better technology to locate anomalies at this time.

EPA stated that AC would be better suited to determine if those anomalies are likely to be a munition or not. Additionally, there are other geophysical software packages to help identify anomalies prior to digging. During the RI phase, if only ‘C’ and ‘D’ anomalies were left behind, which are less likely to be a munition, then AC would confirm.

USACE wants to run AC over the remaining anomalies and determine if they are worth intrusively investigating.

EPA stated that for the fifty properties that we not geophysically surveyed, AC could help determine that no anomalies have to be intrusively investigated.

ERT explain that the FS currently states that a property that has not been geophysically surveyed will require the current procedure, supplemented by AC.

EPA asked why USACE would only use nine properties for the pilot study.

USACE explained that after the chosen nine properties, there is a steep curve in the number of anomalies remaining on a property. It becomes harder to choose which properties would be included in the pilot project.

EPA indicated that a few properties with larger number of anomalies remaining might be good to add to the pilot study. It would make sense to address a few of the properties that are more typical of what the Remedial Action properties will be like, including a few properties where no geophysical investigation has been done. Properties could be chosen based on topography, physical features, steep slopes, trees, under wires, etc.

P. deFur stated that there were some properties with more anomalies that were categorized to be deep in the soil and not investigated. Does the depth of anomalies change the probability that one of those items is a MEC? There is the same probability that a 'D' anomaly is a MEC, whether you have one anomaly per unit area or 100 per unit area.

USACE stated that based on the data, if there are more anomalies detected, than there is a greater chance that one of those anomalies is a MEC. The probability of whether or not you will find something on a property will change based on how many 'D' anomalies need to be investigated on that property.

P. deFur stated that instead of working property by property, it may be beneficial to work over the broader area for all of the 'D' items. How many 'D' anomalies need to be investigated to determine that the probability of an anomaly being a MEC is lower than anticipated?

EPA stated that it was determined that 'D' anomalies are not considered a hazard concern. There were a limited number of situations where some 'D' anomalies were dug in order to confirm that they were not a hazard. Under the current classification system, 'D' anomalies are not munitions debris or MEC.

USACE stated that during a Remedial Action, 'D' anomalies are of interest in areas that were determined to be of concern, such as the test range and static test fire areas. The 'D' anomalies are not of interest in areas that were determined not to be an area of concern in the RI. An 'A' anomaly causes concern on a property within a Munitions Response Site (MRS) identified in the RI as an area of concern, more than another property not within an area of concern that has an 'A' anomaly.

EPA stated that there could be an inconsistency with that method. For instance, the federal property is an impact area, but not an area of concern in the RI.

USACE explained that the institutional controls and engineering controls on the federal property lead to a lower MEC Hazard Assessment (HA) score, thereby making it not an area of concern.

ERT stated that what the old system classified as a 'D' anomaly, the new AC will confirm whether it is a 'D' or not, or whether it is an 'A' buried deep. The issue that can be reviewed using the nine properties is coverage; it needs to be determined whether more geophysical work can actually be done on those properties. The bar is raised during a Remedial Action phase for areas that were not cleared during the RI phase, such as areas with bushes and trees. Those bushes and trees may need to be removed during the Remedial Action. The pilot study can also determine whether any additional geophysical work needs to be done in addition to investigating the anomalies USACE knows remain.

USACE stated that there will be instances when items will be detected under an air conditioning unit, or next to a foundation, regardless of the technology. The equipment cannot detect anomalies that are under structures with reinforced concrete, wire screening, or other compounds that mask metallic items.

EPA stated that there is better technology now that could be utilized in Spring Valley, such as the Transient Electromagnetic Induction Towed Array Detection System (TEMTADS); EM coverage could be improved by utilizing the new Man Portable Vector (MPV) instrument since it is smaller and more maneuverable. Is USACE proposing to show that the investigative work done previously was right, or will the pilot study to look at a different method for the Remedial Action phase?

USACE stated that all of the details of the pilot project would be worked out in the work plan. The work plan could include acquiring additional geophysical data in additional areas, reexamining already identified anomalies, or determining that there was a good reason why data was not originally collected in a particular place.

ERT questioned whether previous magnetometer data was an issue during AC, or if both magnetic and EM data was required to complete AC as long as the positional accuracy of the data was good.

USACE explained that even though EM data was not collected in the RI phase, it may not necessarily need to be collected during the Remedial Action phase. Other methods to achieve clearance in those areas that do not require additional collection of data could be identified. There are many ways to look at all of the properties, whether they were geophysically surveyed or not, to determine how the anomalies will be investigated.

EPA did not believe that AC using only magnetic data was sufficient.

USACE explained that all techniques and technologies needed to obtain a reasonable level of coverage can be used in every property. One issue that remains is that 100% coverage of every property is not likely obtainable. Decisions will need to be made on areas where coverage may or may not be obtainable and what combination of the tools available will be most efficient and cover the largest area.

EPA stated that what has been found on adjoining properties could affect each adjoining property. What has currently been found is a way to support the decision, whether the area is an area of concern or not. These decisions will help develop rules for the Remedial Action.

USACE explained that for any decision they make, they need to recognize that the land is not owned by the government. The property owners have varying levels of desire to cooperate and anxiety about the future work. A set of common sense guidelines are necessary. We will have to accept a different level of investigation at each of these properties.

USACE and EPA discussed the purpose of the pilot study. USACE explained that the Partners have a chance to visit some of these properties and see what will have to be done on every other property to achieve clearance. The idea is that the nine properties would be cleared at the conclusion of the pilot project. AC units would be brought out for this trial to see what works. TEMTADS is a piece of equipment that will likely be used.

EPA and USACE discussed that a judgment on acceptable coverage will need to be made on a property-by-property basis. USACE wants to work with the Partners to determine how that judgment will be made. For instance, is the option to not cut a tree down or break up a driveway preferable to having to restore a property after intrusive investigations occur?

P. deFur asked if these nine properties would be a dry run to developing decision criteria for the actions during Remedial Action. USACE concurred.

USACE will conduct the Remedial Action work differently than during the RI phase. A Remedial Design (RD) will be developed to outline how the remaining 96 properties are to be examined. The pilot study would allow USACE to try out the technology in Spring Valley, select the best machine, help assist in the

development of the decision criteria, and help USACE develop the RD for the DD to resolve the remaining anomalies. The FS will continue independently from the pilot study since it is a broad look at what needs to be achieved, while the RD is a detailed plan. The RD supports the FS.

EPA and P. deFur discussed property types, suggesting that a property that has never been geophysically surveyed would be better suited for that type of pilot project, to collect, analyze and dig if necessary. That property could act as the unknown, while a positive, control, and negative control property would be required to make it a viable experiment.

EPA and USACE discussed facility vs. property boundaries. Cooperativeness of homeowners will be very important. However, if a MRS or Area of Interest (AOI) has 34 properties and 33 homeowners are cooperative but one was not, in the end, that area could be considered complete. USACE will let all property owners know that disturbance and damage to their properties will be minimized, but it is better to participate in the program rather than not. In the end, whether a MRS is considered completely remediated also will be based on the assessment of the entire MRS.

ERT stated that during the Remedial Action, clearing 100% of the site is the goal, not to reduce the number of properties that are investigated. If complete coverage is not obtainable because a property owner will not provide property access, a statistic analysis would have to be run for the area.

P. deFur stated that the overall percentage complete needed is calculated from the overall AOI. The property boundaries are an impediment to the analysis because this is a geospatial analysis for a 100-year-old facility. In an analysis like this, the properties are looked at individually; the entire area is being looked at. What does the probability that a MEC is going to be found depend upon? We need to know when to stop using frequentist statistics and when to use Bayesian statistics because it may be that events are dependent upon one another. The fact that a MEC item is found in one place increases the chance of finding another MEC near the first.

USACE stated that at the end of the Remedial Action, a statistical analysis could be conducted to confirm that the RAO was met, after every avenue to complete the Remedial Action had been explored. It is unknown which homeowner will allow access to their properties. This will be a dynamic process where things may change as the cleanup progresses, especially if something unexpected is uncovered. Individual properties where access was denied can be discussed in the close-out report.

USACE stated that at the end of the project, 100% certainty that no risks or hazards remain at the site can never be obtained because not every square foot can be covered. There will always be some unknowns.

EPA stated that the institutional controls would take care of the rest of the uncertainty.

F. Agenda Building
The next meeting is scheduled for 11 August 2015.

G. Site Visits
The Partners visited three of the nine homes that may be involved in the pilot project. In conclusion, the amount of work that can be accomplished varies at each individual property. From those three property examples, the Partners observed the possibility to collect more geophysical coverage with new smaller instruments that can get into corners and under large bushes. Even with more geophysical coverage, AC may remove the need to intrusively investigate many of the detected anomalies.
Even with properties that have been geophysically surveyed, it is likely their work plans will include obtaining more coverage. However, the team will have to review the past geophysical data for every property individually. USACE will continue to form a plan for the pilot project to see if it is even plausible within the timeframe, and share the results with the Partners by then end of this fiscal year.

H. Adjourn
The meeting was adjourned for site visits at 12:57