

MEMORANDUM FOR RECORD

SUBJECT: Fort Detrick Restoration Advisory Board (RAB) Meeting Summary,
21 September 2011

1. Summary Contents

Items addressed at the meeting are listed below, with corresponding section numbers indicated in the column on the right.

SUBJECT/ACTION TYPE	SECTION NUMBER
Summary Contents	1
Attendees	2
Meeting Opening / Remarks	3
Purpose of RAB Meetings	4
Meeting Minutes	5
CERCLA Installation Restoration Program Process	6
Updates on Archival Search Report, Interview Project and Herbicide Testing Project	7
Right of Entry Update	8
Area B Groundwater Workplan Update	9
Restoration Advisory Board Open Discussion	10
General Community Concerns	11
Meeting Closing	12

Please note: PowerPoint presentations were utilized during the RAB meeting. A copy of the presentations is attached to these minutes and is incorporated into these minutes by this reference.

Text contained within brackets [] has been added for clarification purposes.

2. Attendees

Members Present:

Mr. Robert Craig, Chief, Environmental Management Office, Acting Fort Detrick Co-Chair
Dr. Gary Pauly, Community RAB Member, Co-Chair
Mr. Joseph Gortva, Environmental Restoration Program Manager
Dr. Henry E. Erbes, Community RAB Member
Ms. Elisabeth Green, Maryland Department of the Environment
Mrs. Laurie Haines, Army Environmental Command
Mr. Cliff Harbaugh, Community RAB Member
Ms. Karen Harbaugh, Community RAB Member
Ms. Helen Miller-Scott, Community RAB Member

Others Present:

Mr. Gary Zolyak, USAG/OSJH (Ft. Detrick Environmental Attorney)
Mr. Robert Sperling, Fort Detrick Public Affairs Office
Mr. John Buck, US Army Corps of Engineers
Mr. Rob Thomson, U.S. Environmental Protection Agency, Region III
Mr. William Hudson, U.S. Environmental Protection Agency, Region III
Mr. Keith Hoddinott, USAPHC
Mr. Tim Llewellyn, ARCADIS
Mr. Andrew McDonald, ARCADIS
Ms. Katrina Harris, Bridge Consulting Corp.
Ms. Violet Rice, Community Member
Ms. Jen Hahn, Community Member
Mr. Dewey Chaney, Community Member
Ms. Sylvia Chaney, Community Member
Mr. Rolan Clark, Community Member
Mr. Mike Langford, FDA
Ms. Barbara Brockmyer, Frederick Co. Health Department
Mr. George Rudy, Community Member

Members Absent:

LTC James St. Angelo, Fort Detrick, Co-Chair
Mr. Charles Billups, Community RAB Member
Mrs. Alicia Evangelista, Frederick County Health Department
Mr. Barry Kissin, Community RAB Member
Ms. Shelley Luehring, Community RAB Member
Mr. Gerald Toomey, Community RAB Member
Mr. Craig Toussaint, Community RAB Member
Mr. Thomas Wade, Community RAB Member

3. Meeting Opening / Remarks

Mr. Robert Craig, Acting Fort Detrick Co-Chair, and Mr. Gary Pauly, Community Co-Chair convened the meeting at 6:34 p.m. on Thursday, September 21, 2011 at the Hampton Inn & Suites, 1565 Opossumtown Pike, Frederick, Maryland. Mr. Craig welcomed everyone to the

meeting and expressed that LTC St. Angelo regrets that he could not attend [LTC St. Angelo was on pre-scheduled travel]. He asked the other Board members and regulatory partners to introduce themselves, which they did.

4. Purpose of RAB Meetings presented by Mr. Gary Pauly

Mr. Pauly referred to the RAB's Purpose and Ground Rules, which were summarized on Power Point slides.

Mr. Pauly stated that the Board consists of representatives from the Army, regulators, and the community and provides a forum for disclosure of information about environmental restoration projects at Fort Detrick. He noted that any Department of Defense facility that has environmental issues would potentially form a Restoration Advisory Board with the objective of keeping everyone informed. He advised that Department of Defense policy restricts the Board to dealing only with environmental restoration issues. Ms. Helen Miller-Scott added that the board is not a decision-making body, but only an advisory board. She noted that the Board consists of people with different backgrounds and experience who focus on restoring an area where there has been an environmental impact, such as old dump sites.

Mr. Pauly reviewed the meeting ground rules. He stated that an agenda had been prepared in advance, and to avoid the meeting becoming unmanageable, the Board would like to move through the agenda without too much interruption. He asked that questions be held until the designated time at the end of the agenda. Mr. Craig added that they need to vacate the meeting room at 9 p.m., but if time permits questions would be taken on each agenda item. He also stated that other questions and comments would be taken during the time allotted at the end of the meeting.

Ms. Laurie Haines invited community members in the audience to consider becoming Board members and noted that applications were available at the front table. Mr. Craig later reiterated the invitation for community members to apply to be on the Board.

5. Meeting Minutes presented by Mr. Joseph Gortva, Fort Detrick

Mr. Joe Gortva stated that he had sent a draft of the June 2011 meeting minutes to Board members who were present at the meeting and asked for any comments. None were offered. Mr. Gortva said he would solicit comments from members not present and then place the minutes on the web site.

6. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
presented by Ms. Laurie Haines of the Army Environmental Command

Ms. Haines reviewed the objectives of her presentation, including providing an overview of CERCLA and the Army's role and responsibilities in the CERCLA process versus the roles of the regulatory agencies, as well as an overview of the CERCLA process at Fort Detrick. Mr. Gortva noted that this presentation had been requested by several Board members.

Ms. Haines first discussed the statutes and regulatory authority. She advised that CERCLA was passed by Congress in 1980, and Section 120 of CERCLA addresses Federal facilities. She said that CERCLA was put in place because of sites like Love Canal and Valley of the Drums, and other uncontrolled contaminated sites where no owner was available to address the problem. Ms. Haines advised that CERCLA was amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). She explained that CERCLA, sometimes called Superfund, created a tax on the petroleum and chemical companies to fund the cleanup of sites where there was no owner or the company went out of business. Ms. Haines advised that Federal facilities cannot use that money to fund the cleanup of their sites; Congress appropriates money for Federal facilities to use for cleanup through the Defense Environmental Restoration Program (DERP).

Ms. Haines said that CERCLA is the overarching law and the regulation is the National Contingency Plan, which was developed by EPA and outlines the CERCLA process for getting a site cleaned up. She said that the Plan also established the National Priorities List, sometimes called the Superfund List,

Ms. Haines stated that EPA's responsibility at every Federal facility on the Hazardous Waste Compliance Docket is to conduct a Preliminary Assessment and to evaluate each site for inclusion on the National Priorities List. She advised that EPA created the Hazard Ranking System for this purpose, and if a site scores above a certain number, it is placed on the National Priorities List. She added that a State can also request a site be placed on the National Priorities List. Ms. Haines advised that while a site is normally placed on the List after initial data is collected, it can also be included very late in the process as what occurred with Fort Detrick.

Ms. Haines explained that after Congress passed CERCLA, the President was directed to take certain actions which he did through Executive Order 12580. She stated that this order delegated CERCLA "lead agency" authority to Federal Agencies.

Ms. Haines said that the Department of Defense has responsibilities for sites not on the National Priorities List and those which are on the List. She said that for sites not on the List, the environmental activities are conducted with oversight by the State regulatory agencies. She continued explaining that for sites on the List, EPA is the lead regulatory agency but the Department of Defense still has the responsibility to execute the program, with EPA's concurrence needed on the final remedies. Ms. Haines said that another requirement is to enter into a Federal Facilities Agreement with EPA which Fort Detrick has just done.

Ms. Haines next discussed the CERCLA process, noting that it is a lengthy prescribed process. She stated that CERCLA authorizes two types of response actions: removal and remedial. She explained removal actions are conducted when there is an emergency or action needs to be taken fairly quickly to mitigate an imminent health risk. Ms. Haines said that there are three types of removal actions, depending on the time frame, which can be immediate to having a planning period of at least six months.

Ms. Haines explained that remedial actions involve a lengthier process, which is the process underway at Fort Detrick. She stated that there are six phases in the remedial action process. Ms. Haines said that while the process seems to be linear, it is most often iterative.

Ms. Haines said that the first step is the site discovery and Preliminary Assessment where historical information is collected about materials used at the site to determine if it is possible that chemicals may have been released into the environment.

Ms. Haines said that if it appears that chemicals may have been released into the environment, a Site Investigation is performed during which sampling is conducted and a determination is made to whether a release actually occurred.

Mr. Gortva added that the results of these investigations are thoroughly coordinated with the regulatory agencies.

Ms. Haines advised that the next phase is the Remedial Investigation, which is the phase Fort Detrick is at with the Area B groundwater. She stated that much data is collected during this phase to characterize the site conditions and determine the nature and extent of the contamination, to determine the risk involved from the contamination to the public and the environment, and to develop a conceptual site model which helps in the understanding of the risks posed by the site. Ms. Haines explained that because of complex site conditions, it may take several iterations of remedial investigation data collection before a site is fully characterized.

Ms. Haines said that after there is a good understanding of where the contamination is and its potential impact, a Feasibility Study is developed to evaluate actions which could remedy the problem. She explained that there is a prescribed process for doing this evaluation and listed the five principal requirements for the selection of remedies. She continued explaining that EPA has identified nine criteria to evaluate remedial alternatives, with this analysis being performed in two steps. She said that the first step is an individual evaluation of each alternative with respect to each criterion and then a comparison of options to identify the relative advantages and disadvantages. Ms. Haines said that the remedial alternative with the best performance against the nine criteria is called the preferred alternative. Ms. Haines displayed a list of the nine criteria and a chart showing what is meant by each of the criterion.

Ms. Haines said that once the Feasibility Study is completed and a preferred alternative identified, a Proposed Plan is prepared which summarizes all the information collected. She noted that the Proposed Plan is released during a formal public comment period for the community's input.

Ms. Haines said that after public comments are received and responded to, the final decision is made and formalized in a Record of Decision.

Ms. Haines said that the next steps in the process are the Remedial Design and Remedial Action phase where the remedy is designed and constructed, which can take a few months to more than a year. She stated that once the remedy is constructed, EPA reports this progress to Congress. She explained that the cleanup might not be complete at this phase, as some remedies like a

groundwater pump and treatment system may take 30 years or more to actually clean up the groundwater. She noted that there may also be land use controls and monitoring wells in place to make sure no one is being exposed while the cleanup is underway.

Ms. Haines said that after a remedy is in place, the next phase is operation and maintenance during which the remedy is reviewed every five years to make sure it is still functioning as intended and is protective until the cleanup goals are reached. Ms. Haines said that once all the cleanup goals are reached, the site can be delisted from the National Priorities List.

Ms. Haines next discussed the public participation aspects of the CERCLA process. She stated that a Community Relations Plan is prepared, and Fort Detrick had prepared such a plan in 2000. Mr. Gortva advised that the plan is being updated. Ms. Haines said that there are many opportunities for the public to participate, such as in Restoration Advisory Board meetings, commenting on remedies in the Proposed Plans, commenting on five-year review documents, and providing comments on the propose deletion from the National Priorities List.

Mr. Craig added that during his 18 years of involvement with environmental restoration, he has seen Restoration Advisory Boards change a proposed remedy because they did not like what the Army proposed. He emphasized that the community does have the power to influence and shape the Army's plans.

Ms. Haines mentioned that the provisions regulating Restoration Advisory Boards are contained in Title 10 of the U.S. Code.

Ms. Haines next discussed where Fort Detrick is with respect to the CERCLA process. She stated that the Department of Defense was engaged in a CERCLA-like process since 1977, before CERCLA was enacted in 1980, with Fort Detrick's earliest preliminary assessment going back to 1977. She said that in 1988 Fort Detrick was listed on the Federal Facilities Compliance Docket, and in 1991 EPA conducted a preliminary Site Inspection and scored Fort Detrick using the Hazard Ranking System; at that time, Fort Detrick did not score high enough to be placed on the National Priorities List. She stated that as a result of the preliminary assessments, 43 sites on Areas A, B and C were identified as requiring additional evaluation and/or cleanup. Dr. Henry Erbes commented that he did not think sites at Area C were included in the initial 43 sites.

Ms. Haines said that until 2009 when Fort Detrick was added to the National Priorities List, the Army had been implementing CERCLA with the Army acting as the lead agency and with oversight by the Maryland Department of the Environment. She noted that the CERCLA process was completed at 42 of the 43 sites prior to being listed on the National Priorities List, with the remaining site being the Area B groundwater.

Ms. Haines showed a summary of the remedial actions taken at Fort Detrick and noted the actions taken at the 42 sites had been approved by the Maryland Department of the Environment. Ms. Haines said that two removal actions had also been taken at Fort Detrick to connect some residents to the City of Frederick water supply system and to remove source material at Area B.

Dr. Erbes said that the decision document for the hot spot removal action identified known drums to be removed. He stated that four or five drums were seen in a trench in the 1998 or 1999 timeframe, and six to eight weeks after a reaction in the trench, increased levels of volatile organic compounds were seen in Robinson Spring. He said that it was assumed a drum was punctured during the trenching operations. Dr. Erbes questioned whether the drums were ever removed. Mr. Gortva responded that during the delineation of the pits during the B-11 project, several drums were seen that were stacked on top of each other. He continued explaining that when the workers remove the drums they crumbled so what was removed was actually drum carcasses. Mr. Gortva said that he had reviewed video footage of the trenching done in 1997 and it matched the location of these drums.

Ms. Haines stated that the Fort Detrick Area B Groundwater was added to the National Priorities List in April 2009 and a Federal Facility Agreement was signed in December 2010. She noted that a Site Management Plan is being developed, which will be an Appendix to the Agreement. Ms. Haines explained that even though actions have been taken at Area B, EPA will be reviewing the final decisions made on 13 Area B source areas. Mr. Gortva added that a draft of the Site Management Plan has been provided to RAB members. He stated that comments had been received from EPA on the draft, and a modified version should be out in the next two weeks. He said that once EPA agrees to the modifications, the plan will be final and will be posted on the web site. Ms. Haines said that the Site Management Plan is the schedule that will be followed and is updated yearly.

A community member in the audience asked how much time a community member, who is not part of the Board, has to look at the Site Management Plan and provide comments. Ms. Haines said that the Site Management Plan does not have a CERCLA-required formal public comment period, but is available for the public to review. The community member asked if Ms. Haines could provide a list of specific CERCLA-required public involvement opportunities, and Ms. Haines said she would compile and provide such a list.

Ms. Haines stated that her last slide was to show the iterative nature of CERCLA as she had mentioned earlier. She advised that a third Preliminary Assessment by Archive Search Report related to Agent Orange was initiated in 2011. She said that some areas have been identified, which have led to the next step of a Site Inspection where sampling will be conducted. Mr. Craig added that the sampling may not show any evidence of contamination being present, and the CERCLA process would be truncated as no additional investigation would be needed. Mr. Gortva referenced Mr. Pauly's earlier explanation that the environmental restoration program looks to see if past activities conducted at Fort Detrick have caused some type of environmental contamination that exists today which the Army needs to address. Mr. Gortva said that if the Army did some testing or a process 40 years ago but there is no remaining environmental contamination today, under CERCLA, no further action is needed. Ms. Haines concurred, but said that a non-CERCLA study may be undertaken, such as a health study, but no further CERCLA investigation would occur.

A community member in the audience asked for clarification of who the regulatory agencies are, and Ms. Haines responded they are the Maryland Department of the Environment and the U.S. Environmental Protection Agency. The same community member asked if sampling plans are

approved by these regulatory agencies, including the size of samples and confidence intervals. Mr. Gortva responded that the question is part of the answer as to why the environmental restoration process takes the amount of time that it does. He explained that when data is collected and provided to EPA for their review, EPA may request more information or additional sampling in another area. He continued explaining that detailed sampling plans are submitted to the regulators, which include how the samples will be collected, where the samples will be collected from, what laboratory will analyze the samples, and what type of data validation will be performed. Mr. Gortva said that there are also quality assurance plans that have to be developed and reviewed by the regulators. He stated that this is another example of the iterative nature of the process, as regulators submit comments; plans are revised and re-submitted to the regulators, as well as to the Board, for their review and comments.

The community member stated that he was not concerned about the length of time, but was wondering if the public ever had the opportunity to look at sampling plans and criteria or was it only Board members who had that opportunity. Mr. Gortva explained Proposed Plans were required by CERCLA to have formal public comment periods, but other documents did not have formal public comment periods. Mr. Gortva suggested that attending Board meetings was a good way to hear about plans and provide comments. The community member asked if it was possible to request an advance copy of a document or have the documents placed on the web site so a member of the public could be prepared to comment at a Board meeting. Mr. Gortva responded that generally the Board is given a document and asked to provide comments in a few weeks, and the public could be given the same timeframe to provide comments.

7. Updates on Archive Search Report, Interview Project, and Herbicide Testing Project presented by Mr. Joseph Gortva and Ms. Laurie Haines

Mr. Gortva stated that the Corps of Engineers should be submitting a draft Archive Search Report to the Army in the November timeframe.

Mr. Gortva said that the herbicide testing at Area B is awaiting completion of rights-of-entry with the County so the background testing can be conducted.

Mr. Gortva said that rights-of-entry forms are also delaying the finalization of the herbicide sampling plan, but once the forms are received, the Army will send out the plan to the regulators and Board and post the plan on the web site.

Ms. Haines reminded the Board that Fort Detrick had asked the Corps of Engineers to conduct interviews with members of the public on anything they may have seen regarding any type of waste disposal activities or practices. She stated that a hotline was put in place and interviews conducted. Ms. Haines advised that the report summarizing the interviews should be available in a few weeks. Mr. Gortva added that a copy of the report will be given to those conducting the Archive Search Report to see where information might be matched up.

A community member asked if members of the public can still provide information about past waste activities. Mr. Gortva said that the Army is always willing to hear additional information, and if a community member is not comfortable sharing with the Army, they can always call Maryland Department of the Environment or the EPA. Mr. Gortva advised that there is

information for contacting Fort Detrick's Public Affairs Office on the web site; the phone number is 301-619-2018; the email address is usagpao@detrick.army.mil. Mr. Craig added that it would be helpful to obtain any information as soon as possible so it could be included in the current efforts.

8. Right of Entry Update presented by John Buck, US Army Corps of Engineers

Mr. Buck referred to the previous meeting's discussion of the study of the Area B groundwater which has both an on-site and an off-site component. He stated that before the Army can go on someone else's property, a right-of-entry form needs to be completed to protect the property owner in case of any damage and gives the Army the right to go on the property. Mr. Buck advised that there are 32 private property parcels the Army would like to include in the sampling program for which right-of-entry forms are needed, and 12 have been completed to date. He said that visits to the properties will be conducted soon to attempt to talk to the property owner in person. He emphasized the importance of including off-site parcels in the study so a comprehensive report can be developed. Mr. Buck said that similar forms are being worked on for County and City properties between the Army and County/City lawyers.

9. Area B Groundwater Workplan Update presented by Tim Llewellyn, ARCADIS

Mr. Llewellyn reminded the Board of the drilling program that begun in Area B, which had been briefed at the previous Board meetings, along with the planned off-site work just discussed by Mr. Buck. He stated that the drilling work began in April 2011 and it appears that it is going to take seven months to complete. Mr. Llewellyn advised that he would be giving just a brief update on the status of the work since the last meeting.

Mr. Llewellyn first discussed some site background and the objectives of the study. He displayed an aerial photograph with Area B outlined in black, the extent of the known TCE contamination above drinking water standards shown in red, and PCE contamination above drinking water standards outlined in blue. He stated that the contaminated groundwater is moving through a fractured bedrock aquifer to the east towards the downgradient property line and Carroll Creek and associated springs.

Mr. Llewellyn reviewed the objectives of the current study, which are to further assess the known contamination, the full range of possible chemical compounds present, the groundwater flow directions including the potential for deep groundwater to be contaminated and to flow under Carroll Creek, and the potential for vapor intrusion into on and off-site buildings.

Mr. Llewellyn gave an update on the work planned to accomplish the objectives, noting the existing wells had been assessed and repaired and the new well installation is underway with a targeted completion date of November. Mr. Llewellyn stated that the dye trace study, spring and seep surveys, off-site direct push investigation, and vapor intrusion sampling were on hold pending the completion of the right-of-entry forms. He noted that when the anticipated extensive monitoring well network is in place, two rounds of groundwater sampling from all the wells will be conducted. Mr. Llewellyn estimated that the timing for the sampling will be late 2011 or early 2012.

Mr. Llewellyn discussed the progress made over the past five months on the well drilling. He advised that there are two drilling rigs on site operating simultaneously on a 10-day on/4-day off schedule to maximize production. Mr. Llewellyn showed several pictures of the drilling rigs. He stated that continuous air monitoring is performed around the rigs to ensure the solvents are not released into the air, and there has only been one detection to date around the B-11 pit, which was expected. He noted that the detection was below action levels, but the detection was noted.

Mr. Llewellyn explained that once there is an open hole in the bedrock, geophysical tools are placed into the hole to obtain information. He stated that a broad spectrum of geophysical tools is used to ensure the well screens are in the appropriate pathways. Mr. Llewellyn showed photographs of the views from the geophysical tools. He also explained that packer testing is done to understand how much flow is going through a section of fractured rock, as well as to analyze for contamination.

Mr. Llewellyn showed a summary of the status of the drilling program and noted 20 of 20 planned borings are in progress as of that morning, and 8 of 29 new monitoring wells have been installed. He stated that when the additional monitoring wells are complete, there will be a total of 105 monitoring wells in Area B, plus the ARCADIS contract has an option for 7 additional wells, as needed. Mr. Llewellyn stated that 2,146 of 3,640 linear feet of drilling and 1,970 of 2,720 linear feet of geophysical logging were completed. He advised that 24 of 50 packer test intervals had been completed and 19 groundwater samples collected. Mr. Llewellyn displayed an aerial photograph with graphics showing the progress on the new well installations.

Mr. Llewellyn next discussed the key preliminary findings, starting with the wells where TCE and PCE have been detected above the drinking water standard of 5 parts per billion in the fractures tested. He stated that the detections to date are fairly consistent with past sampling results, with the highest concentrations near the B-11 landfill area. He explained that the older sampling results are from monitoring wells, while the newer results are from screening, unvalidated data so they are not quite comparable. He noted that there would also be some fluctuations based on the season of the year when the sampling was performed.

Mr. Llewellyn continued reviewing the key preliminary findings and stated that the average flow rate is approximately 4.4 gallons per minute and the total amount of water pumped to date is 6,000 gallons. He explained that the water being pumped out is taken to an area where a small treatment area has been set up; the water is run through carbon units and discharged to the installation's sanitary sewer system. Mr. Llewellyn stated that the packer testing is successfully identifying the key groundwater flow paths and helping to discern the best placement for the well screens.

Mr. Llewellyn stated that bi-weekly conference calls with EPA and the Maryland Department of the Environment continue where real-time data is discussed and collaborative decisions are made.

Mr. Llewellyn said that most of the new data collected to date is from shallower depths of less than 100 feet, and the data from the deeper borings and wells will be collected next. He

explained the deep well installation method and stated extreme care is taken during the drilling to ensure contamination is not dragged down to deeper depths. Mr. Llewellyn said that the drilling will continue into November.

Mr. Llewellyn reviewed the future work to be conducted once the rights of entry are in place.

Mr. Llewellyn provided information on a community member's question raised at the previous meeting regarding oak tree bioaccumulation. He explained that there can be uptake into the tree with certain heavy hydrocarbons; however, the volatile organic compounds detected in the groundwater do not bioaccumulate in matter like wood, but move right through the system. He said trees also get most of their water from rainfall and shallow infiltration with water being absorbed through tree roots, primarily during drought conditions.

10. RAB Member Open Discussion

Mr. Gortva stated that Ms. Karen Harbaugh had some questions regarding the rights of entry which will be addressed at the next meeting when more information will be available.

11. General Community Comments

A community member in the audience asked the location where contaminated soil [from the Area B-11 removal project] had been taken to for disposal. Mr. Craig advised that the name of the company was Onyx in Port Arthur, Texas. Another community member asked about how the material was safely transported. Mr. Gortva advised that the dirt was analyzed for chemical and biological content to provide a complete picture of what was in the shipment. He stated that upgraded roll-offs were used with sealed hardtops and a gasket seal. Mr. Craig responded by explaining that the material was transported in accordance with regulations on the transportation of hazardous materials, including proper labeling and shipping manifest.

A community member asked if the Army's responsibilities under EPA regulations are the same as a corporation. Mr. Gary Zolyak responded that the Army has to comply the same as corporations, and in some cases, he feels EPA is more rigorous with another Federal agency than with the private sector.

A community member asked if any buried drums remain at Fort Detrick. Mr. Craig responded that he is not aware of any remaining buried drums at Fort Detrick. Mr. Gortva added that, while they are not aware of any buried drums, to be as protective as possible, caps were placed on the landfills so rainfall cannot infiltrate through waste material and transport contamination into the groundwater.

A community member asked if the regulatory requirements for landfill caps are different for military landfills and if the caps are monitored. Mr. Gortva advised that the caps on the Fort Detrick landfills meet the regulatory requirements for a hazardous waste landfill under the Resource Conservation and Recovery Act (RCRA). Mr. Gortva stated that there is a requirement for an annual review of the caps during which there is an inspection for settling, disturbance by animals, or any type of damage; he said the inspections are usually on a semi-annual basis. He

said that the effectiveness of all remedies is reviewed during the official five-year review process. Mr. Gortva said that the caps are also monitored by looking at the groundwater data that is being collected and analyzed to see if there are any potential problems or significant changes. Mr. Craig added that periodic mowing and maintenance of the caps also provides another opportunity to check on their condition.

A community member asked why the landfills were capped instead of the contents being removed. Mr. Craig said that the evaluation of alternatives showed the cost would be in the billions to remove the landfill contents and that cost was evaluated against a sufficiently protective remedy of capping.

In response to comments about biological waste material, Mr. Gortva said live biological warfare material has never been found at Area B. He stated that the procedures in place for disposal of this type of material appear to have been followed. He said that the environmental restoration issues are the result of chemical disposal procedures in place many years ago that called for the digging of a hole and for chemicals to be put in the holes and buried. Mr. Gortva said that this practice of chemical burial was standard across the United States until environmental regulations were enacted.

A community member commented that she had been told an attorney had filed a Freedom of Information Act request asking for information about what is in Area B and what chemicals were used and she has heard two different answers. She stated that one answer implied records are not available and another answer implied that it would take 750 manhours and \$28,000 to provide an answer. Mr. Gortva responded that there are no records at Fort Detrick that indicate other landfills have drums of chemical waste. He said that at Area B-6 the records indicate what materials were disposed of were mainly laboratory demolition materials, such as stainless steel. He said that when sampling was performed around that location nothing was found in the groundwater that would indicate anything different was disposed of at that site. Mr. Gortva stated there is no guarantee someone could not have disposed of a drum many years ago and that is one of the reasons monitoring wells are installed around these locations and samples analyzed for the types of chemicals that may have been disposed of in the area. He noted that the monitoring around Area B includes a broad spectrum of chemical analyses to ensure if something was disposed of [and was impacting groundwater]; it will be detected by the groundwater testing. Mr. Gortva said that a question was asked if Fort Detrick could provide a list of every chemical ever used in research, where it was purchased, when it was purchased, and this type of question is almost impossible to answer. He explained that his records do not provide this type of information and instead processes are examined to try and determine what chemicals were used. He continued explaining that at a research facility a scientist may have used nanograms of a chemical which makes it impossible to come up with a complete list. A community member asked if records are kept now. Mr. Gortva responded that tracking of all hazardous wastes is now required by regulations and the Army's policy is to keep such information indefinitely.

Mr. Gortva added that the FOIA request asked for information about where the TCE was purchased and he did not have such records. He said that such information may exist in some archive and the cost of going through an archival search for such records would take some time

and money. He said that where TCE was purchased is not relevant to the environmental cleanup program as the cleanup focuses on what types of chemicals are present and if remediation is necessary.

Ms. Helen Miller-Scott added that this area was guarded during the time the disposal occurred. Mr. Gortva further explained that guards were at the entrance to Area B during the testing program time and restricted areas were fenced. Mr. Craig added that the fencing may not have been in good condition.

A community member asked about allegations that radioactive tracers were disposed of down drains. Mr. Craig stated that there are laboratories on Fort Detrick that have Nuclear Regulatory Commission (NRC) licenses and are allowed to use sources authorized by the NRC. He said that more than a decade ago the Fort Detrick Garrison had an NRC license which allowed the Garrison to receive the waste materials from the laboratory and after proper decay they were lawfully permitted to be disposed of through one sink. He said that about a decade ago Fort Detrick Garrison decided to discontinue this disposal method and successfully went through a NRC decommissioning process, which included surveying the entire sewer system and the sanitary waste water plant. Mr. Craig said that for a period of time Fort Detrick sent its waste water plant sludge to Envirocare in Utah because it had measurable levels. He stated that Fort Detrick is no longer required to take any actions, other than semi-annual sampling, to make sure no one has improperly disposed of material down a drain. Mr. Gortva added that hospitals or facilities that have a nuclear medicine practice to dispose of material in this manner and levels in Frederick County sludge were higher than Fort Detrick's; however, because Frederick County did not have an NRC license, they were not required to send their sludge to Utah.

A community member asked if there is any downstream monitoring after the landfills were capped. Mr. Craig responded that all landfill cap projects have been installed in the last two years and all have downgradient groundwater monitoring programs. Mr. Gortva added that the briefing given earlier in the evening referred to even more wells being installed to ensure there is a comprehensive monitoring well network in place around the landfills.

Mr. Rob Thompson of EPA asked if records exist as to the number of tenants Area B has had from inception until now and how can Fort Detrick be sure of what those tenants might have placed in the landfills. Mr. Gortva stated that the disposal activities at Area B were handled by a certain group in the Army, comparable to what is known as the Garrison today. He said it was not a situation where the tenants were handling their own disposal; there was a designated group to be sure the materials were being disposed of according to the standards of that time period. Mr. Gortva explained that historical documents show the type of material disposed of in the different areas. Mr. Craig reiterated that it is not possible to rule out that someone may have disposed of materials the Army does not have a record of, but in general there was a process in place. Mr. Gortva added that such unknowns are addressed by using EPA's presumptive remedy of capping the landfills and having a monitoring program in place that will continue for decades.

12. Next RAB Meeting

Mr. Gortva proposed the next meeting timeframe be January 2012. The Board agreed to tentatively schedule the next meeting for January 11, 2012.

The meeting adjourned at approximately 9:03 p.m.

Reviewed by:

Approved/Disapproved

Enclosures:

Fort Detrick Installation Restoration Program Area B Groundwater Investigation Update
Fort Detrick Installation Restoration Program Arsenic Sampling Data Review
Fort Detrick Installation Restoration Program Program Status Update
Meeting Sign-In Sheet

DISTRIBUTION:

Each RAB Member (w/o enclosure)
Each Meeting Attendee (w/o enclosure)