

## MEMORANDUM FOR RECORD

SUBJECT: Fort Detrick Restoration Advisory Board (RAB) Meeting Summary, 23 February, 2011

### 1. Summary Contents.

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

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**Please note: PowerPoint presentations were utilized during the RAB meeting. A copy of the presentations are attached to these minutes and 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 Co-Chair  
Dr. Gary Pauly, Community RAB Member, Co-Chair  
Mr. Joseph Gortva, Environmental Restoration Program Manager  
Mr. John Fairbank, Maryland Department of the Environment  
Mr. Rob Thomson, U.S. Environmental Protection Agency, Region III  
Ms. Alicia Evangelista, Frederick County Health Department  
Ms. Laurie Haines, Army Environmental Command  
Dr. Henry Erbes, Community RAB Member  
Mr. Cliff Harbaugh, Community RAB Member  
Ms. Karen Harbaugh, Community RAB Member  
Mr. Barry Kissin, Community RAB Member  
Ms. Shelley Luehring, Community RAB Member

### Others Present:

Mr. Gary Zolyak, USAG/OSJH (Ft. Detrick Environmental Attorney)  
Mr. A. Lynn Hoch, Ft. Detrick  
Mr. William Hudson, U.S. Environmental Protection Agency, Region III  
Mr. Keith Hoddinott, USAPHC  
Mr. Randal Curtis, US Army Corps of Engineers  
Mr. Tim Llewellyn, ARCADIS  
Mr. John Cherry, ARCADIS  
Mr. Jeffrey Parks, Shaw Environmental  
Ms. Ashley Roeske, US Army Corps of Engineers  
Ms. Elizabeth Hinson, One Stop Environmental  
Ms. Katrina Harris, Bridge Consulting Corp.  
Ms. Francesca Colantuno, Total Health Concern  
Mr. Barbara Whitman, Community Observer  
Mr. Eric Cross, Kristen Renee Foundation  
Mr. James Krantz, Community Observer  
Mr. Patrick Burke, Vietnam Veterans  
Dr. R. Lipsey, Toxicologist, Consultant for Kristen Renee Foundation  
Ms. Pat Wolfe, Community Observer  
Mr. Jerry Wolfe, Community Observer  
Mr. Dave Gudes, Community Observer  
Ms. Laura Pfeiffer, Frederick County  
Ms. Sylvia Chaney, Community Observer  
Mr. Dewey Chaney, Community Observer  
Mr. Rod Erg, Vietnam Veterans  
Ms. Violet Rice, Community Observer  
Mr. Lou Krieger, Vietnam Veterans  
Ms. Sheila Cherizard, Kristen Renee Foundation  
Mr/Ms Portor, Vietnam Veterans  
Ms. Nancy Switzer, Vietnam Veterans  
Dr. Barbara Brookmyer, Frederick County Health Department

Ms. Dolly Crum, Community Observer  
Mr. Andy Zarins, Community Observer  
Ms. Sarah S., Community Observer  
Ms. Patti Brown, Community Observer  
Mr. George Rudy, Community Observer  
Mr. Mike Langford, Fort Detrick Alliance

Members Absent:

LTC James St. Angelo, Director, Safety and Environment and Co-Chair  
Mr. Charles Billups, Community RAB Member  
Ms. Helen Miller-Scott, 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, Fort Detrick Environmental Coordinator, convened the meeting at 6:30 p.m., on Wednesday, February 23, 2011, at the Hampton Inn and Suites, 1565 Opossumtown Pike, Frederick, Maryland. Mr. Craig welcomed everyone to the meeting and thanked everyone for their participation. He welcomed Vietnam Veterans and residents from neighboring communities who had come to the meeting to express their concerns.

Mr. Craig advised Dr. Barbara Brookmyer would be hosting a meeting on March 14 at Winchester Hall at 6:30 p.m. with the State and County Health Departments to discuss information regarding cancer concerns. Dr. Brookmyer added that the meeting will be televised on Channel 19 and also available through the Internet. She also noted the meeting will be to discuss information available from additional investigations performed by the State, which will be incorporated into a final report.

Mr. Craig stated that the Army recognizes there are concerns about Agent Orange and its health effects, and the U.S. Army Public Health Command is setting up a clearinghouse to address requests for information and concerns that extend beyond Fort Detrick's boundaries. He continued explaining that, while much of the developmental work was done at Fort Detrick, most of the testing of Agent Orange was done elsewhere. He reminded those present the purpose of the Restoration Advisory Board is to discuss only Fort Detrick's environmental issues. Mr. Craig advised that concerns about testing performed at Fort Hood and Fort Drum should be steered to the U.S. Army Public Health Command. He noted the clearinghouse is just getting set up, and he will pass along additional contact information as soon as it is received [Subsequent guidance provided in April 2011 directs that respective Army Installation Public Affairs Offices need to be contacted instead of the U.S. Army Public Command. Installations are the release authority for information pertaining to their property].

Mr. Craig advised that he would be representing LTC St. Angelo who could not be present and acting as the Army co-chair. Mr. Craig introduced Mr. Gary Pauly and advised that he is the new Community co-chair. Mr. Craig asked the other Board Members to introduce themselves,

which they did. Mr. Craig asked two representatives from the U.S. Environmental Protection Agency staff to introduce themselves, which they did. Mr. Craig also introduced Mr. Gary Zolyak from Fort Detrick's legal office and Mr. Chuck Gordon from Fort Detrick's Public Affairs Office.

**4. Purpose of RAB Meetings** presented by Mr. Robert Craig.

Mr. Craig referred to two documents, the RAB's Purpose and the RAB's Ground Rules, which were summarized on Power Point slides. He asked everyone to be cognizant of the charter of the RAB, which is focused on environmental cleanup issues. He explained the Board can only look at what is present today at Fort Detrick and whether there are any associated health risks that need to be addressed. Mr. Craig stated that questions and comments from the community are welcome, but requested they be limited to the topics on the meeting agenda and presented at the time allotted after the presentations.

Mr. Craig stated that the Board is jointly and equally chaired by LTC St. Angelo from the Army and Mr. Gary Pauly from the community. He further explained that the Board is made up of representatives from the community, installation, and regulatory agencies. Mr. Craig stated that the Board is not a decision-making body, but is a vehicle for two-way information and advice sharing. He added that the Board is an opportunity for stakeholder involvement and a forum for early discussion about the cleanup program only. Mr. Craig stated that the Board is governed by the Defense Environmental Restoration Program and follows several laws, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA), which are both risk-driven response action laws.

**5. Meeting Minutes** presented by Mr. Joseph Gortva.

Mr. Gortva stated that he had sent a draft of the November 2010 meeting minutes to the Board members and had posted them that day on the Fort Detrick web site ([www.detrick.army.mil/rab](http://www.detrick.army.mil/rab)). He asked the Board members to let him know of any comments on the minutes.

**6. RAB Membership** presented by Mr. Joseph Gortva.

Mr. Gortva welcomed Ms. Shelly Luehring as a new Board member and Mr. Gary Pauly as the new Community co-chair.

**7. Technical Assistance Program** presented by Mr. Hopeton Brown, Army Environmental Command.

Mr. Brown introduced himself as the Branch Chief for the Army Environmental Command's Cleanup Division, Program and Liabilities Branch. Mr. Brown explained that the Technical Assistance for Public Participation (TAPP) provides a mechanism for members of a Restoration Advisory Board to obtain technical assistance to help them better understand the scientific and engineering issues underlying an installation's environmental restoration activities. He stated that the TAPP Rule was established under 32 CFR Part 203 in February 1998, which codifies the structured policies and procedures for this program.

Mr. Brown summarized the program by stating that it provides community members with an opportunity to design a technical assistance project and aide in the selection of a provider. He noted that the technical assistance is obtained through a government purchase order mechanism to expedite the procurement of services. Mr. Brown stated that the maximum amount of funding for a technical assistance grant is \$25,000 or one percent of the total restoration cost, whichever is less. He noted the lifetime limit is \$100,000, but Army Headquarters can grant a waiver of the lifetime limit. In response to a question from Mr. Pauly, Mr. Gortva stated the size of Fort Detrick's program would allow an application for \$25,000.

Mr. Brown noted that a TAPP does not mean a Board can abandon existing working relationships, for example, conducting their own investigations. He stated that it is not a grant or blank check to use at a Board's discretion. Mr. Brown displayed and reviewed a list of projects which are eligible and projects which are not eligible under a TAPP. He explained that eligible projects would include the review of restoration program documents and proposed remedial technologies, the interpretation of health and environmental risks, and certain types of technical training. Mr. Brown continued explaining that ineligible projects would include the generation of new primary data, re-opening final Department of Defense (DoD) decisions, and conducting community outreach efforts.

Mr. Brown reviewed the application process and stated that the application should specify the type of assistance required, and if possible, suggest one or more providers. He stated that the application should be detailed enough for the Army to evaluate the nature and eligibility of the project, identify potential providers, estimate costs, and prepare the required documentation such as a Statement of Work to begin the procurement process. Mr. Brown advised that the community members must identify a single point of contact for communication with the installation regarding the TAPP procurement process and certify that the project is the result of a majority decision by the community members of the Board. He said that the installation co-chair reviews the application to ensure it is complete, describes an eligible project, and is within budget. Mr. Brown said that the Army would coordinate with the Board on preparing a draft Statement of Work. He noted that if the Army denies the request, it must inform the Board in writing, give the reason for the denial, and recommend alternatives for achieving the desired assistance. Mr. Brown stated that the Board can appeal the decision.

Mr. Brown continued explaining the appeal process, noting the majority of the Board's community members must agree to the appeal. He stated that the chain of command for the appeal process is the installation environmental restoration manager, the Army Environmental Command, Army Headquarters, and finally to the Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health, who is the highest authority for appeal.

A community observer in the audience asked how a non-Board member should communicate with the Board that the community would like the Board to look into applying for a TAPP. Mr. Craig suggested the non-Board member make such a comment during the time allotted for community comment at a Board meeting.

Mr. Brown advised that there is no separate appropriation for TAPP; it is funded out of the installation's allocation of Army environmental restoration funds.

Mr. Brown stated that purchase orders are used to accelerate the procurement process. He explained that awards are made on the basis of competitive bidding among contractors registered in the Central Contractor Register and who meet specified criteria.

Mr. Brown stated that the Board may nominate potential assistance providers; however, once the Board initiates a request, it should have no more contact with potential contractors or the procurement office until the contract is awarded. He said that the government will select a provider offering the best value to the government; he noted "best value" is not necessarily the least expensive, but the best overall value. He also added that the community members of the Board may be asked to review and provide comments on potential providers should more than one meet the established criteria. Mr. Brown advised that the procurement process can take up to 10 weeks.

Mr. Brown reviewed the qualifications a TAPP provider must have, including knowledge of hazardous substance issues and academic training in a relevant discipline. He stated that another key qualification is the ability to convey technical information in terms understandable to lay persons. He noted that current contractors doing environmental work at the installation cannot be TAPP contractors

Mr. Brown advised that there are yearly reporting requirements to Congress with respect to a TAPP, and the Board would have to provide a report on what products or services they received and whether or not they were satisfied with the products or services.

Ms. Karen Harbaugh asked if the funding process for Fort Detrick's cleanup program could be explained in more detail at a future meeting. Ms. Laurie Haines advised that to date there has not been a problem with getting funding for Fort Detrick's cleanup program and problems are not anticipated in the future unless something dramatic happens in Congress.

In response to a question about the amount of funding spent to date, Mr. Gortva stated that Fort Detrick has remedies in place at 42 of 43 sites, with the Area B groundwater being the remaining site to be addressed. He noted that additional sites may be created as studies and investigations continue. He also stated that \$52 million has been spent on environmental cleanup at Fort Detrick to date.

Mr. Craig stated that he sensed there was some interest in further exploring the possibility of a TAPP and suggested it be put on the agenda for the next Board meeting. He noted that additional progress could be made in the intervening months.

#### **8. Area A and Area B Updates** presented by Jeff Parks, Shaw Environmental.

Mr. Gortva introduced Mr. Jeff Parks from Shaw Environmental to discuss the most recent sampling of the groundwater conducted at Area B and the monitoring at the Building 568 site in

Area A. Mr. Gortva mentioned that the snapshot sampling was the last work performed by Shaw Environmental prior to the implementation of the work plan by ARCADIS, another contractor.

Mr. Parks noted that the Area B Groundwater Remedial Investigation Work Plan was issued as a final document in July 2010. He stated that prior to sampling and implementation of the work plan, the Army wanted to have a snapshot of the groundwater in Area B to have data for future well installations and investigations. Mr. Parks advised that the snapshot sampling was conducted in September 2010 and included 30 Area B monitoring wells, three residential springs, and four residential wells surrounding Area B.

Mr. Parks said that the snapshot sampling effort was smaller than the sampling which will be conducted during the remedial investigation, but the snapshot sampling followed the same premises as the work plan in terms of the types of sampling, analysis, detection limits, and chemical parameters.

Mr. Parks reminded the Board that Shaw Environmental has also been conducting semi-annual monitoring of the Building 568 TCE (trichloroethylene) spill since 2002, and he would be providing more information on the monitoring later in his presentation. Mr. Parks said that Building 568 is located in Area A. Mr. Parks explained that the remedy selected after investigation was plume containment using groundwater extraction and monitoring. He continued explaining that an existing groundwater extraction system in Building 568 is being used to extract contaminated groundwater and prevent it from spreading any further. He advised that the system has been effective and the plume has shrunk. Mr. Parks stated that the concentrations of TCE are approaching the Maximum Contaminant Level (MCL) of 5 parts per billion (ppb).

Mr. Parks displayed a map showing the location of Building 568 and the extraction wells. He discussed the sampling results for the last several years, noting they ranged from 8 to 1.5 ppb. Mr. Gortva added that the original concentrations were about 1,000 ppb in the early 2000 timeframe.

Mr. Parks stated that a few wells, including 15A, have shown TCE levels from just below 5 ppb to just above this concentration, as well as a detection of PCE. [In March 2010, 7.3 ug/L of TCE was detected in 15 A. 15 A is a shallow well, screened 45-65 feet deep.] He stated that PCE is not related to the TCE spill, and efforts are underway to try and determine whether that well is being influenced by contamination in Area B. Mr. Henry Erbes mentioned the nearby maintenance building, and Mr. Parks concurred there are some other potential local sources which also will be investigated.

Mr. Gortva stated that a dye trace study is being conducted as part of the Area B groundwater remedial investigation, and Well 15A will be monitored to see if any of the dye appears.

A community member in the audience asked if it is possible that PCE and TCE are still going into Carroll Creek. Mr. Gortva responded that data goes back a number of years that indicates TCE and PCE is coming out in the springs along Carroll Creek from the historical contamination

in the groundwater. He stated that the Creek has been sampled downgradient, away from the springs, and PCE and TCE are not detected.

Mr. Parks summarized the path forward, which includes continuing to monitor the groundwater until the concentrations are below the MCL of 5 ppb and then the Army will close the site after concurrence from the Maryland Department of the Environment and the EPA.

Mr. Parks next discussed the Area B groundwater snapshot activities. He stated that the sampling parameters were increased to get a more complete picture of the Area B groundwater, and the samples were analyzed for volatile organic compounds, semi-volatile organic compounds, pesticides, PCBs, metals, herbicides and picloram, 1,2,3-TCP, and BCEE and 1,4 dioxane. He explained that the single chemicals he mentioned are emergent chemicals which were not sampled for previously, but have become more prominent in national studies. Mr. Parks displayed an aerial photograph showing the sampling locations.

Mr. Parks displayed an aerial map showing the results of the analysis of the samples for TCE. He advised that the highest concentration was in well 57D at 1,400 ppb. He said that this concentration is lower than the historical high of 1,900 ppb reported in September 2006. Mr. Parks advised that overall the groundwater plume is largely unchanged from previous sampling events.

A community member in the audience advised that the old Robinson well is now available for sampling.

Mr. Barry Kissin asked about the average depth of the wells, and Mr. Parks responded that they range from 30 feet to 320 feet. Mr. Parks stated that two of the wells were deep wells at the 300 foot level. Mr. Gortva added that, as part of the remedial investigation, approximately 27 deep wells will be installed. He said the wells would be installed to 320 feet; if data suggests a need to have wells deeper, wells will be installed deeper than 320 feet.

Mr. Parks reviewed the results of analyzing the samples for PCE and noted the concentrations were fewer and lower than the TCE concentrations. He said that the PCE groundwater plume is a smaller plume within the TCE plume. Mr. Parks stated that the PCE plume is largely unchanged from previous recent sampling events. He advised that the highest detection was 740 ppb [in well 24D], which is well below the historical high in August 1998 of 200,000 ppb [in well 57D].

Mr. Parks reviewed the results of analyzing the samples for other volatile organic compounds, noting that there were some compounds detected at levels slightly above their MCL. He advised that the detections were from locations within the TCE and PCE plume boundaries. He explained that some of the compounds are breakdown products of TCE and PCE so those detections were not unexpected. Mr. Parks said that the concentrations of breakdown products have increased over historical ranges, which is an indication that TCE is breaking down into daughter products and biologically degrading.

Mr. Parks discussed the results of analyzing for some chemicals not previously included in the sampling analysis. He stated that no freons were detected in the groundwater above screening levels, nor was 1,2,3-trichloropropane in any of the groundwater samples. Mr. Park said that chloroform was the only other volatile organic compound detected above screening levels in two off-site spring samples, and while the concentrations exceeded the tap water screening limit, they were below the MCL.

Mr. Parks next reviewed the results from the analysis for herbicides, pesticides, and PCBs. He advised that of the 26 samples only two detections of two herbicides were found, both below the screening level. He also stated that one pesticide was detected in two wells below the MCL. Mr. Parks explained that the components of Agent Orange [2,4-D and 2,4,5 -T] also were looked for during the analysis and were not detected in any of the groundwater samples. He advised that no PCBs were detected and have not previously been detected in Area B wells. Mr. Parks advised that no herbicides, pesticides, or PCBs were detected in any residential samples.

Mr. Parks discussed the results from the analysis for semi-volatile organic compounds and metals. He advised that 19 semi-volatile organic compounds were detected in Area B wells, with seven detections above tap water screening limits [these included 1,2,4-trichlorobenzene, 1,4-dichlorobenzene, 1,4-dioxane, 2,6-dinitrotoluene, bis(2-Ethylhexyl)phthalate, naphthalene, and N-nitrosodi-n-propylamine], but there were no detections exceeded MCLs. He stated that no semi-volatile organic compounds were detected in any residential samples. Mr. Parks said that 17 metals were detected in Area B wells, with three metals (aluminum, iron, and manganese) exceeding the MCL. He explained that these exceedances are not unusual and are related to the site geology. He said that the highest concentrations were in the well which is near the former Area B-11 chemical waste disposal trenches.

[1,4-dioxane is an additive to TCE, and moves faster in groundwater than TCE. Due to this, the detection of 1,4-dioxane in the leading edge of a groundwater plume can be a potential precursor to presence of TCE. In the case of the Area B groundwater monitoring wells, the plume has developed to a point where 1,4-dioxane is no longer a precursor for onsite wells.]

[A question was asked as to what level of arsenic was detected in the groundwater during the September 2010 sampling event. There were 26 on-site wells and one off-site spring sampled for arsenic. Well 20D had an estimated (J-flagged) value of 5.3 ppb. Robinson spring designated RISP-3 had an estimated (J-flagged) detection of 4.6 ppb. Both of these samples results are below the Safe Drinking Water Acts Maximum Contaminant Level (MCL) for arsenic which is set at 10 parts per billion (ppb). The MCL is considered safe for a lifetime exposure. There were no other detections of arsenic in the September 2010 groundwater samples.]

Mr. John Fairbank of the Maryland Department of Environment Hazardous Waste Program's Federal Facilities Division provided additional information from the Water Management Administration's Public Water Supply (PWS) data base for Frederick County. There are no public water supply systems in Frederick County where finished water exceeds the arsenic MCL. Raw water produced by PWS in the county ranges from < 1 ppb to as much as 26 ppb of arsenic. The arsenic observed in PWS raw water is related to the dissolution of arsenic containing minerals in the aquifer formation, a natural process. Consequently, the limited detection of

arsenic (5.3 ppb and 4.6) found during the September 2010 sampling event are within the observed range of arsenic in groundwater found in Frederick County.

Groundwater will also be tested again during the ongoing Area B groundwater investigation in 2011.]

**9. Interview Project Update** presented by Tracy Smith, One Stop Environmental.

Ms. Tracy Smith introduced herself and noted her company, One Stop Environmental, had been awarded the contract by the Huntsville Corps of Engineers to conduct the community interviews. Ms. Smith reminded the Board that the purpose of the project is to document public knowledge about environmental contamination and testing activities that may have occurred at Fort Detrick from the 1940s to the 1970s and to provide the information to the Army.

Ms. Smith reviewed the project timeline. She stated that in October 2010 a web page was created and a toll-free number was established. She continued explaining that once the web page and phone line were set up, they distributed public announcements to the community about the interviews through the local media. Ms. Smith said that in November 2010 they started scheduling phone interviews and in December 2010, they conducted telephone interviews and distributed the public announcement a second time through the media.

Ms. Smith stated that in January 2011 telephone interviews continued with individuals who had responded to the announcements and the scheduling of on-site interviews began. Ms. Smith advised that the first set of on-site interviews were conducted the previous week and would continue over the following two days, with a final set planned for March 2010. Ms. Smith said that all the verbal interviews will be documented into a summary report for the Army.

Ms. Smith reviewed some of the features of the web site ([www.detrickcommunity.com](http://www.detrickcommunity.com)) including the posting of public announcements, the toll-free number, and an information form which can be filled out online.

A community member from the audience stated that he had registered, but not yet been contacted. Ms. Smith stated that she would get his information after the meeting. She advised that there were forms available at the meeting and that anyone interested in being interviewed could fill it out that evening. Several community members from the audience asked Ms. Smith if she had reached out to any community members or organizations. Ms. Smith explained that the project was structured to respond to anyone who contacted them, but not to initiate contact. She encouraged anyone interested to speak to her that evening or contact them after the meeting through the web site or by phone.

Ms. Smith displayed a copy of the privacy statement that is on the web site, as well as the public announcement. She advised that the media announcement was distributed to 39 media outlets in October and December 2010 -- 5 print, 21 radio, and 13 television.

Ms. Smith discussed some of the questions asked during the interviews. She noted that former or current employees were asked: When did you begin and end employment? Describe your position and the type of activities you performed. If provided an aerial map, could you find where you were located and what you saw. What time of day did you remember seeing these activities take place? Where any signs posted informing you of the activities? Where you notified beforehand? Did you reside on or off post?

Ms. Smith stated that questions asked of community members included: How many miles do you live from Fort Detrick? How long have you lived there? What was your occupation while living there? What did you see while living there? Had you heard anything about this activity taking place before you observed it? Any other pertinent information that you observed that may be related to contamination activity?

Ms. Smith noted that the summary report would include data maps showing the interviewee's current and/or former residences, the timeframe of the residences, locations where the interviewee noted past activities and potential concern, and the timeframe when they observed the activities.

A community member in the audience stated that some current employees are concerned about their employment and asked whether there was a way to provide information confidentially. Ms. Smith responded that there are provisions for maintaining privacy.

A community member in the audience asked if the report would be available to the public. Mr. Gortva responded that it would be available.

Mr. Robert Craig reiterated that the goal is to find out what happened at Fort Detrick during the 1940s through the 1970s, and the interviews are just one mechanism. He advised that another avenue being pursued is the archival search and introduced Mr. Randal Curtis to give an update on that report.

**10. Archival Search Report** presented by Mr. Randal Curtis, U.S. Army Corps of Engineers.

Mr. Curtis reminded the Board that he had presented information at the November 2010 meeting on the preliminary report prepared on the search for information regarding activities involving 2,4,5-T. He noted that since the presentation that report had been submitted. Mr. Curtis said that he would be discussing that report, as well as additional findings, since the November Board meeting and upcoming activities.

Mr. Curtis explained that the archive search is a process where historical government documents are reviewed to determine what was done, where it was done, and whether there is something that needs to be looked at from an environmental perspective. He said that since Fort Detrick is a research and development institute, many records exist. He advised that his staff is reviewing thousands of reports and boxes of information. Mr. Curtis noted that some of the documents are still classified, and they are working their way through those documents.

Mr. Gortva asked Mr. Curtis to explain where the records are and where they are not. Mr. Curtis responded that the records are not at Fort Detrick anymore. He stated that prior to the mission change in 1972, there was a technical library on post that would have maintained technical reports from Fort Detrick's scientists, as well as technical publications, such as professional journals, where their results would have been published. Mr. Curtis said that this repository of information got dispersed with some of it going to repositories and some of it going to other technical libraries, so everything is not in one concentrated location.

Mr. Curtis reminded the Board that the scope of the archive search is researching all historical activities at Fort Detrick, fence to fence, for Areas A (main post), B (test area), and C (water and waste water treatment plants). Mr. Curtis explained that historically Area C referred to the eastern expansion of Detrick in 1952, which is part of the present Area A.

Mr. Curtis stated that the first task undertaken was to prepare a preliminary report, which concentrated on the use and testing of Agent Orange related chemicals or what are referred to as the 2,4,5-T compounds. Mr. Gortva advised that the report can be found on the web site at [www.detrick.army.mil/responsible/interimArchivalReport2010.pdf](http://www.detrick.army.mil/responsible/interimArchivalReport2010.pdf).

Mr. Curtis explained that Agent Orange was composed of two chemicals, 2,4-dichlorophenoxyacetic acid (2,4-D) and 2,4,5-trichlorophenoxyacetic acid (2,4,5-T). He stated that there are different varieties of these two chemical, and all varieties were looked at during the research. Mr. Curtis said that these chemicals were available publicly as weed killers in the late 1940s through the 1960s. He stated that in the late 1960s it became known that the manufacture of 2,4,5-T had dioxins present and subsequently 2,4,5-T was banned for use in food production, and then banned for all uses in 1985.

Mr. Curtis discussed Fort Detrick's involvement with the 2,4,5-T compounds, noting that during World War II there was an organization at Fort Detrick in the Crops Division who had a mission to look at chemicals that might be plant growth inhibitors. He explained that they were not looking at herbicides, but finding chemicals that would impact the crop yield; for example, yielding only a pint of a crop instead of a bushel. He continued explaining that their process was very iterative in that they would start with tiny laboratory amounts of a compound in Petri dishes. He said as they screened thousand of potential compounds, the ones that were more active were tested on greenhouse plants, and then if successful, advanced to testing in small field plot trials. Mr. Curtis advised that 2,4-D was determined to be particularly effective and was advanced to large scale aerial spray tests that were performed at other installations, not at Fort Detrick.

Mr. Curtis stated that a typical test plot at Fort Detrick would have been about 250 feet by 250 feet, segmented for different crops. He said that the crops would be planted in advance, and then when a test was needed, a small movable tent would be put in place, and the compound would be hand sprayed over certain plants. He said that they would do two to three rows at one concentration, move the tent, and then treat several rows at another concentration or with another chemical. He said that they would not spray all of the plants so they would have a control plot to measure the effects of the treated plants. Mr. Curtis advised that in one test they did not use a hand sprayer and instead used an aerial spray from the back of a pickup truck and sprayed

several rows of soybeans and sweet potatoes; from that one test done in Area B, the estimated total amount sprayed was 100 grams. Mr. Curtis said that in comparison, a dollar bill weighs about one gram. He stated that there was not much need to spray much because the test areas were very small discrete parcels.

Mr. Curtis stated that aerial photo analysis was done from historical images found and, combined with other data from the test reports, they were able to identify where Fields B, C, and D were located, along with the most likely location where the truck spraying test occurred. Mr. Curtis advised that the estimated amount of 2,4,5-T compounds tested at Fort Detrick was about 17 pounds. He stated that amount would not go lower, but may be higher (20 or 30 pounds) as later test reports do not give exact quantities.

Mr. Curtis noted that the U.S. Department of Agriculture did a study of the use of 2,4,5-T for the year 1969 and found that in agriculture use, the average was about 48 pounds per 100 acres. He said that the study found the total amount used in 1969 in the United States was nearly eight million acres treated with 2,4,5-T and 9 million pounds for various uses.

Mr. Curtis next discussed some limited additional findings since November 2010. He said that they have not identified any test data or reports involving aviation applied herbicide testing at Fort Detrick; large scale tests were done at other locations. He stated that there is still more documentation to review, but the magnitude of use of 2,4,5-T at Fort Detrick appears to be small—in the 10s of pounds not 100s of pounds. Mr. Curtis advised that there were additional tests done in the mid-1950s, but they involved small plots so the quantities remain small. Mr. Curtis noted that they were still hoping to find the researchers' lab books to supply more details and back up.

Mr. Curtis said that another finding was that in 1957 the Army decided to end the crop research, so by the end of 1957 the crop division personnel dropped from 118 to 11, and for the next few years the remaining staff finished up reports. He stated that at that point the installation started leasing out additional portions of Fort Detrick to be agricultural leases. Mr. Curtis pointed out that cross-hatched areas on a map were the areas leased out. He noted that these leases to the community continued for another decade. In response to a question from a community member, Mr. Curtis said that the information found to date indicates that the areas leased out were not ones where spraying was done.

Mr. Curtis reminded the Board that the full archival research study is looking at all potential environmental releases, not just herbicides so research is continuing. He advised that more than 2,600 reports are currently being analyzed, along with 400 maps and aerial imagery.

Mr. Curtis discussed the project schedule and noted that it was contingent on how many records are eventually found. He projected the draft report being completed in the fall, 2011.

A community member in the audience asked whether 1957 was the year when Agent Orange stopped being used. Mr. Curtis clarified that 1957 was when the funding ceased for the crop research program. He said that during the Vietnam War era, another organization within DoD

began examining defoliation techniques and activities with Agent Orange compounds began increasing again.

A community member in the audience asked for clarification on whether there was aerial spraying, as there have been reports it did occur at Fort Detrick. Mr. Curtis responded that he is providing the information found in the technical reports produced during that time period, which indicate the large scale tests involving aerial spraying were performed elsewhere, not at Fort Detrick. Mr. Craig added that there may have been some type of aerial spraying, but it may have been with something other than an herbicide. Mr. Curtis reminded all present that many documents are still being reviewed, and Mr. Gortva noted that all findings will be put into the final report.

A community member in the audience asked if Agent Orange was the same as commercial sprays. Mr. Curtis advised that Agent Orange was chemically the same, but with a higher concentration of 2,4,5-T than commercially available sprays.

A community member in the audience asked if the archival search staff looked at sales records from Dow Chemical regarding amounts sold to the Army. Mr. Curtis stated that the archival search report is only focused on what happened at Fort Detrick. He said that typically the scientists at Fort Detrick were creating the amounts used here as they were small quantities. A member of the public referred to a letter from Dow Chemical; Mr. Curtis said that he would be glad to review it if a copy could be provided to him, and the community member agreed to email it to Mr. Curtis.

#### **11. Environmental Restoration Program Update** presented by Mr. Joseph Gortva, Fort Detrick.

Mr. Gortva first updated the Board on the Federal Facility Agreement. He stated the Area B Groundwater Site was placed on the National Priorities List in April 2009. He advised that the Federal Facility Agreement between the Army and EPA was signed on December 14 and December 17, 2010, respectively. Mr. Gortva said that the 45-day public comment period on the Federal Facility Agreement started January 4 and closed February 17. He stated that comments received by EPA will be sent to the Army by March 10, 2011, and 30 days after the public comments are sent to the Army, the agreement will either be made effective or modified based on the public comments. He noted that it would be approximately April 8, 2011 when it would become effective. [Since the RAB meeting, the FFA comment period was extended to April 3, 2011. As a result, the agreement will be made effective or modified based on the public comments by May 24, 2011.]

Mr. Gortva reviewed the status of the Phase 1 Herbicide/Dioxin Sampling Plan prepared by the U.S. Army Public Health Command for the one known site in Area B where the truck mounted sprayer was used. He emphasized that this was only Phase 1, which is looking at a likely location, and additional phases will be added as needed as other locations are identified. Mr. Gortva explained that background samples will also be collected; several locations initially identified as potential background sample locations have had extensive soil disturbances so new locations are being identified and right of entry packages are being finalized for landholders. Mr. Gortva said that as soon as the right of entry packages are finalized, the draft sampling plan

will be sent to the regulators (Maryland Department of the Environment and EPA) and the Board for review.

Mr. Gortva next discussed the Area B Groundwater Work Plan, reminding the Board that the contract is in place with ARCADIS to implement the Work Plan. He noted that the work plan includes off-site sampling, so Right of Entry packages are being finalized for landholders and should be ready in a couple of weeks. He added that the packages are key to several work plan activities that are commencing, including sampling at the springs, the dye trace study, monitoring of water levels in the streams and creeks, groundwater/surface water/sediment sampling, and vapor intrusion sampling. Mr. Gortva advised that some activities are proceeding and will be starting the next day. ARCADIS will be surveying Area B wells to be sure they are in good condition and making any needed repairs. He said that at the end of the March [April], weather permitting, ARCADIS will begin drilling the 27 deep paired wells starting with the on-post locations.

Mr. Gortva next discussed the residential well water testing. He showed on a map an area outlined in blue which extends two miles to the north, two miles to the east, two miles to the south, and one mile to the west, where water will be sampled and analyzed for volatile organic compounds, which are the main components of the groundwater plume in Area B. Mr. Gortva said that the sampling plan is flexible in that if detections are found near the border, the border will be adjusted and moved further out until the edge of the plume is determined. He noted that in certain areas, such as Clover Hill, all tests have been negative for more than 10 years. He advised that the Maryland Department of the Environment had put together a well protection report for Clover Hill, which states that those wells are not being impacted by the Area B plume. Mr. Gortva said that Fort Detrick will be working in conjunction with Maryland Department of the Environment and EPA as data is received to decrease or increase the borders for the sampling program as appropriate.

Mr. Barry Kissin asked if any residential wells have been sampled off-post that are in the direction of the plume. Mr. Gortva responded that there are only a few wells identified which are downgradient of the plume, and while those wells are inactive, they are sampled. He stated that searches have been done in the past to identify any other wells and none have been found. Mr. Gortva said that if any residents have wells downgradient of the plume, Fort Detrick would like to know and to sample such wells.

A member of the public said that he resided in the Clover Hill area and was told because he was one block out of the area his well could not be tested. Mr. Gortva asked him to contact him directly with the information.

## **12. General Restoration Questions.**

A member of the public mentioned the location of a sump where there might be potential archival layering of dioxin or other herbicides. He also suggested a background location might be the undisturbed woodland area in the middle of the Area B.

Mr. Gortva said that these ideas would be considered as the sampling program moves forward. He noted that the first priority in looking for environmental contamination is to sample locations where activities occurred; if chemicals are detected, then samples would continue to be taken further out until there are no longer any detections. He explained that background samples are collected away from Fort Detrick so the Army knows what the normal levels would be for comparison with samples collected at Fort Detrick.

A member of the public asked about the extent of Fort Detrick's sampling program as far airborne plumes are concerned. Mr. Gortva advised that this is the reason that the archival research report has been funded to see if there are any areas that have been missed.

A member of the public asked if residential basement vapor intrusion studies are being conducted. Mr. Gortva responded that vapor intrusion sampling is part of the Area B work, and they will be looking at off-post locations in the pathway of the plume. He noted that based upon those results, the sampling program may need to be expanded or the data may show there is not a problem.

A member of the public asked if historical meteorological program information existed. Mr. Gortva responded that he was not aware of any such data, but it is the type of information that the archival search may turn up.

A member of the public expressed his concern about black soot landing on his house. Mr. Craig stated that Fort Detrick has spent significant money on replacing the scrubber system at the municipal waste combustors, and they are meeting all standards issued by Maryland Department of the Environment. Mr. Craig said that there was one issue with black soot in the past eight years which occurred on May 5, 2005, when there was a problem at the boiler plant. Mr. Craig invited the citizen to contact him directly if he experienced a black soot problem.

A member of the public commented on activities by a blimp in the 1960s that released material resembling confetti and stated that it was important to know more information about those activities. Mr. Gortva noted that the blimp was not associated with the herbicides testing. Mr. Gortva said that the final archival search report would document historical activities that might have had an environmental impact.

Dr. Richard Lipsy, a toxicologist, stated that he had done research on Agent Orange at the University of Florida, and did the original hazard evaluation for EPA in the 1970s. He said that he believed the comment about the amount of Agent Orange purchased is important. He stated that the 2,4,5-T sold to farmers had very low concentrations of dioxin, while the amount Dow Chemical sold to the Army had extremely high concentrations of dioxin. He said there was an understanding that the Army would never use the Agent Orange for agricultural purposes or anything other than defoliation in Vietnam or testing at Fort Detrick or other bases. Dr. Lipsy stated that the chemicals talked about in the presentations are human carcinogens, and there is sufficient evidence that Agent Orange dioxin, 2,3,7,8-TCDD causes soft-tissue sarcoma, non-Hodgkin's lymphoma, Hodgkin's disease, chronic lymphocytic leukemia, and limited but suggestive evidence that it causes lung cancer, tracheal cancer, bronchial cancer, prostate cancer, and other diseases. Dr. Lipsy said that he thinks the estimated 16 to 17 pounds of Agent Orange

active ingredient is not to be believed and does not think all the records have been found. He stated that it would therefore be important to look at sales records from Dow to the Army at Fort Detrick. In response to a question from Mr. Zolyak as to who had asked Dr. Lipsy to attend the meeting, Dr. Lipsy said he is a consultant for many clients and was hired by Mr. Randy White to attend as a consultant.

Mr. Gortva said that the environmental restoration program will continue to look at what activities occurred in the past and gather information from the interview process and archival search and then investigate whether there is any environmental contamination present today that needs to be addressed. Mr. Gortva said this is the purpose of the environmental restoration program.

Mr. Gortva closed the public comment portion of the meeting and invited any other comments to be directed to Mr. Chuck Gordon from Fort Detrick's Public Affairs Office, who was present at the meeting.

### **13. Next RAB Meeting.**

Mr. Gortva said that the next proposed meeting date is May 11, 2011. Mr. Gortva invited Board members and regulators to let him know if they are not able to attend on that date. [Since this meeting it was determined that the preferred meeting location will be unavailable in May due to renovations. In addition, several key regulatory RAB members will be unavailable until June. The next RAB is tentatively scheduled for June 15<sup>th</sup> pending meeting location availability.]

The meeting adjourned at approximately 9:04 p.m.

Reviewed by:

*Original Signed*  
Dr. Gary Pauly  
Community RAB Member  
Co-Chair

Approved/Disapproved:

*Original Signed*  
James St. Angelo, III  
Lieutenant Colonel, U.S. Army  
Co-Chair & Director, Safety and Environment

Enclosures:

Fort Detrick Installation Restoration Program Technical Assistance Program  
Fort Detrick Installation Restoration Program Areas A & B Groundwater Sampling Results  
Fort Detrick Installation Restoration Program Interview Project Update

Fort Detrick Installation Restoration Program Archives Search Report Findings  
Fort Detrick Installation Restoration Program Status Update  
Meeting Sign-In Sheet

**DISTRIBUTION:**

Each RAB Member (w/o enclosure)