

## MEMORANDUM FOR RECORD

SUBJECT: Fort Detrick Restoration Advisory Board (RAB) Meeting Summary, 15 JUNE 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:

LTC. James St. Angelo, Fort Detrick, Co-Chair  
Mr. Robert Craig, Chief, Environmental Management Office, Fort Detrick  
Dr. Gary Pauly, Community RAB Member, Co-Chair  
Mr. Joseph Gortva, Environmental Restoration Program Manager  
Mr. John Fairbank, Maryland Department of the Environment  
Ms. Liz Greene, Maryland Department of the Environment  
Mrs. Alicia Evangelista, Frederick County Health Department  
Mr. Barry Kissin, Community RAB Member  
Ms. Helen Miller-Scott, Community RAB Member  
Ms. Karen Harbaugh, Community RAB Member

### Others Present:

Mr. Gary Zolyak, USAG/OSJH (Ft. Detrick Environmental Attorney)  
Mr. John Buck, US Army Corps of Engineers  
Mr. A. Lynn Hoch, Ft. Detrick  
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. John Cherry, ARCADIS  
Ms. Katrina Harris, Bridge Consulting Corp.  
Ms. Pat Wolfe, Community Observer  
Mr. Jerry Wolfe, Community Observer  
Ms. Violet Rice, Community Observer  
Mr. George Rudy, Community Observer  
Ms. Megan Eckstein, Frederick News-Post  
Ms. Jen Hahn, Community Observer  
MS. Laura Pfeiffer, Frederick County Health Dept.  
Ms. Bianca Koch, Community Observer

### Members Absent:

Mr. Charles Billups, Community RAB Member  
Dr. Henry E. Erbes, Community RAB Member  
Mr. Cliff Harbaugh, 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  
Mrs. Laurie Haines, Army Environmental Command

## **3. Meeting Opening / Remarks.**

LTC James St. Angelo, Fort Detrick Co-Chair, convened the meeting at 6:38 p.m., on Wednesday, June 15, 2011, at the Holiday Inn Conference Center, 5400 Holiday Drive,

Frederick, Maryland. LTC St. Angelo welcomed everyone to the meeting and thanked everyone for their participation. He asked the other Board members and regulatory partners to introduce themselves which they did. Mr. Joe Gortva introduced John Buck from the Corps of Engineers and Tim Llewellyn from ARCADIS.

**4. Purpose of RAB Meetings** presented by LTC St. Angelo, Fort Detrick.

LTC St. Angelo referred to the RAB's Purpose and Ground Rules, which were summarized on Power Point slides.

LTC St. Angelo said the Board is not a decision-making body, but is a vehicle for two-way information sharing. He added that the Board is an opportunity for stakeholder involvement, with the stakeholders being the Army and the community. He emphasized the Board is a forum for discussion and exchange of information so all have the same level of understanding of the ongoing work and the ability to comment on the work. LTC St. Angelo stated that the meeting is open to the public; he welcomed those present and thanked them for attending.

LTC St. Angelo added that the Fort Detrick web site ([www.detrick.army.mil/rab](http://www.detrick.army.mil/rab)) has all the presentations from meetings for the past several years.

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

Mr. Gortva stated that he had sent a draft of the February 2011 meeting minutes to Board members who were present at the meeting and had received and incorporated comments from Barry Kissin and Karen Harbaugh. Mr. Gortva asked for any other comments, and receiving none, stated he would consider the minutes final and would post them on the web site.

**6. Area B Groundwater Investigation Progress Report** presented by Mr. Tim Llewellyn of ARCADIS.

Mr. Llewellyn reviewed the topics he would be discussing related to the Area B Groundwater investigation: brief background on Area B and previous work, the objectives of the current phase of work, a brief summary of historical surface water data, status of field activities started in February 2011, and a review of the schedule and the path forward.

Mr. Llewellyn stated that the Army has performed a great deal of work at Area B since 1974. He said quite a few (76) groundwater monitoring wells had been installed, surface water/sediment/soil sampling has been conducted, dye trace studies were completed in 1997, waste has been removed from former disposal areas, and caps placed over the former disposal areas.

Mr. Llewellyn summarized the objectives of the current phase of work: further assess the depth and extent of the known contamination, further assess the full range of possible chemical compounds, further assess the groundwater flow directions including potential deep groundwater flow under Carroll Creek, and further assess the potential for vapor intrusion into buildings onsite or off-site.

Mr. Llewellyn displayed an aerial photograph and pointed out the areas of known groundwater contamination. He stated that the groundwater flow is from left to right across the screen (from west to the east). He said the peak [onsite] concentration of TCE during the last sampling event in September 2010 was 1,400 parts per billion and the peak [onsite] concentration of PCE during the September 2010 sampling event was 740 parts per billion. He advised that these concentrations dissipate as the groundwater moves toward Carroll Creek and the springs. Mr. Llewellyn stated that TCE and PCE are common degreasing solvents. He advised that the drinking water standard for both compounds is five parts per billion.

Mr. Llewellyn displayed another aerial photograph showing the known groundwater discharge areas and stated that the map was based on a 1997 dye trace study. He explained that dyes were introduced into the aquifer at various locations on Area B, and then samples were collected at various monitoring points to see where the dye showed up. He advised that most of the dye showed up at Robinson Pond, Robinson Spring, and along Carroll Creek so it appears the groundwater plume is flowing towards Carroll Creek.

Mr. Llewellyn discussed the historical surface water data that has been collected since 1992. He displayed an aerial photograph noting where PCE and TCE have not been detected and where they have been detected below and above the drinking water standard. He explained that when the groundwater discharges into Carroll Creek, dilution occurs and the concentrations drop below detection limits.

Mr. Llewellyn summarized the status of the work recently completed or in progress. He advised that the details of the work are contained in the work plan. Mr. Llewellyn explained the current activities are the existing well assessment and repair and the installation of new wells up to 325 feet below ground surface. He noted other upcoming work includes a dye trace study, spring and seep surveys, direct push investigation, and vapor intrusion sampling. Mr. Llewellyn advised that all these activities include off-site locations so they are awaiting completion of rights-of-entry forms. He stated that there would also be a very broad groundwater/surface water sampling event in 2011 or 2012 after all the new wells are installed.

Mr. Llewellyn advised that all wells inside the Area B boundary were assessed to make sure they are in good condition for sampling. He stated that 91 down-hole video logs were completed on and off Area B to determine if any screens were damaged and to determine if the sediment load at the bottom of the wells would interfere with data collection, which proved to be true in 29 cases. He explained that 29 existing wells were redeveloped to remove sediment, along with some general well repairs. Mr. Llewellyn said that more extensive well repairs and some well abandonment will be recommended to EPA and the Maryland Department of the Environment where there is more extensive damage. He advised that 78 horizontal flow meter surveys had been completed in 38 existing wells to see if the flow fields are changing. Mr. Llewellyn showed pictures of the instrumentation used in the horizontal flow meter survey and a graph of the type of data obtained. He explained that a video camera is dropped inside the well for about 2 hours and films particles that pass over the camera; from that data, groundwater flow direction can be ascertained.

Mr. Llewellyn next discussed the importance of studying the groundwater flow. He displayed diagrams showing the general groundwater flow in a limestone/karst environment and stated that with any aquifer system groundwater flows from areas of high hydraulic head to areas of low hydraulic head and looks to discharge to surface water bodies; it is also true in any type of aquifer system that groundwater flows downhill. Mr. Llewellyn said that in a sand and gravel aquifer, the groundwater moves in a relatively straight line and its flow direction is easier to predict. He said that in a karst system with fractures and limestone, which dissolves in groundwater over millions of years, solution cavities start to form and can lead to complex patterns of groundwater flow. Mr. Llewellyn said that in a karst system the groundwater flows can be completely random.

Mr. Llewellyn showed an aerial photograph with the proposed new well locations. He advised that up to 36 new wells will be installed, some as deep at 325 feet. He explained that the legend showing the four-step process to installing a well and the status of each well. Mr. Llewellyn showed several photographs of wells being installed and noted good progress has been made with two drill rigs and crews operating simultaneously. He explained the data that is collected while the well is being drilled is to ensure the well will provide the most useful data. Mr. Llewellyn showed an excerpt from a video log from the down hole video camera and pointed out an open fracture.

Mr. Llewellyn said that they will continue to make decisions with the regulators as the wells are drilled, and he expects the drilling will continue for several months.

Mr. Llewellyn discussed the future work to be conducted at the site, including the dye trace study to further evaluate groundwater flow directions; spring and seep surveys; off-post assessment of shallow groundwater; vapor intrusion sampling at several buildings; and a very comprehensive sampling of groundwater and surface water.

Mr. Llewellyn reviewed the project schedule noting that the drilling will continue through the fall of 2011. He also noted that the other planned work is dependent on obtaining the rights-of-entry agreements from private property owners, with 35% of the properties having returned the agreements to date.

Mr. John Buck from the Baltimore District Corps of Engineers talked about the private properties where rights-of-entry agreements are being sought and stated a significant portion of the work at Area B is going to occur off the installation. He explained that the agreements give the Army permission for a discrete period of time and for specific type of activities to access the property and protects the property owners in the event any damage might occur. He noted that about a third of the agreements have been returned. Mr. Buck said that the Army is working with the City and County and their legal staff on their rights-of-entry agreements as the agreements are slightly more complicated since a government agency is involved. He stated that the Army continues to work with residents who have not yet granted permission to gain their confidence; if they are unable to gain their permission, the study may need to be altered or other measures taken to gain access. Mr. Gortva stated that residents are being encouraged to work with the Army and discuss any concerns with the EPA or the Maryland Department of the Environment.

Mr. Kissin asked if compensation is being offered to the private property owners. [For the proposed activities compensation is not appropriate.] Mr. Buck and Mr. Llewellyn explained [for locations that are being requested to allow the sampling of groundwater where wells do not exist] that direct push technology will be used so in most cases the samples are collected and nothing is left behind. Mr. Llewellyn said that in a few cases a small diameter PBC piezometer might be left in place.

Mr. Kissin asked about the depth of wells being installed offsite and whether the investigation will show whether or not there is contamination in the deep groundwater offsite. Mr. Llewellyn responded that the deep wells are being installed onsite to further investigate the groundwater onsite, while the phase of investigation being undertaken offsite is to further investigate the shallow groundwater. He said that if the data indicates deeper groundwater from Area B is flowing under Carroll Creek, then there would be a need to further investigate the deeper groundwater offsite. Mr. Gortva stated that there are plans to install a well or wells to 325 feet in the Carroll Creek floodplain, but the exact location will not be determined until information is received from the dye trace study, which will start in the fall of 2011 and run for about six months. Mr. Gortva said that after the information is received, the Army will discuss the data with the regulators and decide where additional wells should be placed.

Mr. Kissin requested a map be provided showing the offsite well locations, and Mr. Llewellyn said he would provide this at the next Board meeting.

Mr. John Fairbank said it is important for the community to understand that the purpose of the study is to come up with a remedy that will be protective and offsite data is needed to be protective offsite.

Ms. Helen Miller-Scott asked about the approximate area on a person's property that would be impacted during the well installation and sampling, and whether the properties are small properties or larger fields. Mr. Llewellyn explained that it would depend on the type of activities being conducted. He said that if Carroll Creek runs through their property and the work is to collect a sample, the worker would walk onto the property, collect the sample, and then depart. He continued explaining that if a direct push sample is needed, the drill rig is mounted on a small truck and the work is conducted over no more than two days. Mr. Llewellyn said that he would need to get back to the Board with the information on the size of the properties where rights of entry are being requested. Mr. Llewellyn said that an information session was held with the property owners to provide information and answer questions, and a detailed fact sheet was also provided to each property owner. In response to a question, Mr. Buck confirmed that property owners are being told exactly what activities would be conducted on their property, that measures will be in place to minimize any damage, and that any damage will be repaired.

Mr. Kissin asked how deep the direct push would go, and Mr. Llewellyn responded about 45 feet deep or to bedrock, which is relatively shallow, but the exact depth will not be known until the direct push is done.

Mr. Gary Pauly asked for clarification that detections at Robinson Spring and Pond and the outfall were above the maximum contaminant levels. Mr. Fairbank noted that Mr. Llewellyn's information summarized 20 years of data and the exceedance was most likely in 1997. Mr. John Cherry of ARCADIS confirmed the exceedance was in 1997, and the detection was at 5.9 parts per billion so it was right above the standard of 5 parts per billion. Mr. Gortva added that in 1997, while doing trenching at the B-11 Site to try and find the source of the TCE in the groundwater, chemical waste pits were found; it was several months later when there was a spike in the TCE level detected in the groundwater. Mr. Gortva said that the Army believes the trenching operation may have disturbed a rusty drum and released the contents. In response to a question, Mr. Gortva said that the soil from the pits was removed and went to a permitted incinerator in Texas.

A member of the general public stated that she was sorry to hear that not all the homeowners were cooperating in helping the Army to help the community. She suggested that the Army utilize a liaison between Fort Detrick and the community because of the general fear of the Frederick community and lack of trust with the Army. She asked if the chemical levels would change based on rainfall. Mr. Llewellyn responded that there can be seasonal variations, which is why groundwater sampling is conducted in the fall and spring to account for any variations. She stated that she spent a lot of time at Robinson Pond and there is a very large oak tree nearby; she asked if the leaves or roots of trees would provide any historical chemical data. Mr. Llewellyn said that he would need to check further into bioaccumulation for this type of tree. Mr. Fairbank added that at Aberdeen Proving Ground trees were planted to control groundwater flow; they found there was not much TCE accumulation in the trees. Mr. Buck noted that volatiles do not generally bioaccumulate as other compounds do, such as metals. She asked that if it was possible to publish a map showing where before Carroll Creek the solvents are no longer detectable and if the fish in Carroll Creek had been tested. She stated that this type of information would help ease the minds of citizens who use Carroll Creek recreationally. Mr. Llewellyn stated that historical information shows the volatiles are just below the detection level in Spring 2 and then almost immediately at Carroll Creek. Mr. Gortva stated that there was no data that any other springs existed beyond this point. She stated that there is a house which has a spring in their basement. Mr. Gortva said that he would definitely be interested in looking at that property.

Mr. George Rudy asked where the contamination is going once it reaches Carroll Creek. He also asked if it was true that the private residences would only be sampled one time. Mr. Llewellyn responded that very low levels of contamination (parts per billion) do go into Carroll Creek, but the compounds are then diluted below detection levels and there may also be some volatilization. He stated that the communication with private property owners is very specific about whether there is a need for repeated sampling.

Mr. Gortva suggested that bioaccumulation be a topic for an upcoming Board meeting.

**7. Arsenic Sampling Data Review** presented by Mr. Joseph Gortva.

Mr. Gortva stated that there had been questions at the last meeting about arsenic levels in Area B groundwater. He said that he had pulled data from various reports to provide a broad overview of arsenic sampling and data results for Fort Detrick.

Mr. Gortva defined arsenic as a naturally occurring compound, a natural component of the earth's crust, and a compound which can be released to the environment from natural sources such as erosion of soil and rocks, as well as from human activities as products are made from arsenic.

Mr. Gortva next discussed the natural occurrence of arsenic in Maryland, noting that Maryland soil and rocks have high levels of arsenic. He referenced the Maryland Department of the Environment's reference document, which provides an anticipated typical concentration for arsenic in Central Maryland to be 4,900 parts per billion due to naturally-occurring sources. He added that different soils from different rocks can have higher levels or lower levels so background studies need to be completed for each soil type. He stated that naturally-occurring levels can also differ between surface and sub-surface soils.

Mr. Gortva displayed an aerial photograph showing Fort Detrick's restoration sites and noted a broad area has been sampled for arsenic.

Mr. Gortva said that the arsenic level in the soil at "Area B-Ammo Original Area" was determined to be within background concentrations. He stated that at "Area B-Ammo Outside Area" arsenic detections ranged from 6.1 to 8.9 mg/kg, which slightly exceeded the background level so a human health risk assessment was performed. He advised that the assessment found the arsenic was evenly distributed, there was no evidence of a source, and the risks were within EPA's target risk range. He said that the regulators reviewed the data and concurred so the site was closed out.

Mr. Gortva discussed "Area B-20 South" and advised that arsenic was detected in 8 samples at concentrations ranging from 5.55 to 21.6 mg/kg, with three samples exceeding the background screening level. He said that the Army did a human health risk assessment, which determined that the risks were within EPA's target risk range so this site was also closed out. Mr. Gortva said that at "Area B-20 North" arsenic was determined to be within the background level.

Mr. Gortva summarized the sampling results for arsenic for "Area B-Grid" and "Area B-Skeet" and advised that the results showed concentrations below background screening levels.

Mr. Gortva next discussed "Area B-1" and advised that an old map had been found years ago which showed the site was a disposal area, even though no records of disposal existed. Mr. Gortva said that geophysical studies and borings were done, but no waste material was found. He advised that a very large metal detecting survey was done, and again no waste material was found. He stated that arsenic sampling was performed using XRF field meters, which tend to overestimate results; concentrations were detected up to 33 mg/kg. He said that since there were no disposal areas found, the site was closed out.

Mr. Gortva stated the Area B disposal areas were found to have arsenic concentrations above background, with the highest detection being 114 mg/kg in a disposal site which was excavated. He noted that all of the disposal sites were capped in 2010 to prevent potential dermal exposure and percolation of rain water through the waste material, and thus the potential pathway for direct dermal exposure was removed.

Mr. Gortva summarized the results from sampling the Area B groundwater for arsenic. He advised that the EPA drinking water standard is 10 parts per billion. He asked Mr. Fairbank to explain the data from Maryland. Mr. Fairbank advised that the Maryland Department of the Environment Water Department periodically tests water for priority pollutants, and arsenic levels in raw groundwater in municipal systems in Frederick County ranges from less than 1 part per billion to 26 parts per billion of arsenic in their system. He continued explaining that arsenic in finished, blended municipal water is below the EPA standard.

Mr. Gortva showed a chart with arsenic detections in groundwater from 1995 to 2010, noting that it was a very short list ranging from just above non-detect to a one-time detection above the standard of 15 parts per billion. He referred to an aerial photograph showing where the samples were collected for analysis for arsenic. Mr. Gortva said that the Area B groundwater will be analyzed for metals, including arsenic, during the ongoing investigation in 2011 and 2012.

Mr. Gorta displayed an aerial photograph showing where surface water and sediment samples were collected and analyzed for arsenic. He stated that there has only been two detections of arsenic in surface water at 47.5 parts per billion and 5.12 parts per billion. He explained that the two surface water samples were turbid samples (containing sediment), and the data is suspect. He advised that all samples downstream of these two locations were non-detect. Mr. Gortva reviewed the sediment sampling results and noted that the background concentration was 20 mg/kg. He said that the highest concentration detected in the streams and springs was 16 mg/kg, which is below background concentrations.

Mr. Gortva showed an aerial photograph with future surface water sampling locations, pending rights-of-entry agreements.

## **8. Environmental Restoration Program Update** presented by Mr. Joseph Gortva.

Mr. Gortva first updated the Board on the Federal Facility Agreement. He stated that the EPA had provided a copy to the Army on June 13, 2011 of the public comments received by EPA during the public comment period. He said that slight changes are being made to the Agreement, and it should be final by July 13, 2011.

Mr. Gortva reviewed the status of the Phase I Herbicide/Dioxin Sampling Plan prepared, by the U.S. Army Public Health Command, for the one known site in Area B where a truck mounted sprayer was used. He reminded the Board that this work included collecting background samples at multiple offsite locations, and the lack of approved rights-of-entry is delaying the start of the sampling. Mr. Gortva said that two of the locations are owned by government entities, and the Army is working with these agencies. He estimated the timeframe for the sampling would be in September 2011. In response to a question as to whether the work plan would need to be re-

submitted to the regulators, Mr. Gortva said that the location and number of background samples would be submitted to the regulators.

Mr. Robert Craig advised that he had thought there was going to be a clearinghouse established for individuals with concerns about herbicide development at Fort Detrick and elsewhere in the country at the Public Health Command. He said there is still discussion about who will be the main point of contact for the Department of Defense, so in the interim, any concerns or questions about Agent Orange or any other herbicides specific to the Fort Detrick installation should be directed to the Fort Detrick Public Affairs Office. [USAG Public Affairs Office Ph# 301-619-2018, email usagpao@amedd.army.mil] Mr. Craig said that any health issue concerns should be directed to the MRMC Public Affairs Office. [MRMC Public Affairs Office Ph# 301.619.2736 or Lori.Calvillo@us.army.mil] He said that concerns about any other Army locations should be directed to the Army's Public Affairs Office. [Army Public Affairs Office Ph# 703.697.0050 or Maureen.Ramsey@us.army.mil]

Mr. Gortva next discussed the residential well water testing program for wells two miles north, east, and south and one mile west of Area B for volatile organic compounds. He said that for the past two years, 55 residences have requested sampling, and to date there have been no positive detections of TCE, PCE or other volatile organic compound contamination.

Mr. Kissin asked about the depth of these wells, and Mr. Gortva estimated that most are probably less than 120 feet. Mr. Kissin commented that it seems like these wells could be a source of offsite groundwater information as opposed to installing new monitoring wells offsite.

## **9. RAB Member Open Discussion.**

Mr. Kissin requested clarification from the regulators on their perspective on what the fundamental concern or worse-case scenario was that prompted EPA to put Fort Detrick on the National Priorities List. Mr. Rob Thompson responded that he believes there is now an improved work plan for sampling, and the concerns will depend on the results of the sampling. He stated that the investigation is a tiered approach so there will not be an immediate answer, but there will be a better idea of what is happening at the site once the sampling results are received.

Mr. Kissin asked what the worse-case scenario would be for groundwater off-site. Mr. Fairbank responded that the worse-case scenario would be if there is contaminated groundwater beneath Carroll Creek, there is upwelling, and people are exposed to soil gas vapors. Mr. Kissin asked if there is any concern that TCE or PCE is affecting any public water system, and Mr. Fairbank responded there was not a concern at this time. Mr. Kissin asked if there is a potential threat due to the lack of data at this time. Mr. Fairbank said that the City of Frederick gets its water from the Monocacy River or the Potomac pipeline, and not from groundwater, so public water systems are not at risk. Mr. Kissin asked about private wells. Mr. Fairbank referred to Mr. Gortva's earlier discussion about residential sampling and said that based on the wells being sampled; no private wells are impacted by TCE or PCE. Mr. Fairbank said that the presumption behind environmental restoration is to protect groundwater in general and make that resource available to future generations so there is a need to know where that groundwater is, whether it has been trapped in any small fractures if possible, and possibly remediate the source of any

contamination. Mr. Fairbank said that there were still some concerns after the Army's investigations in the late 1990s regarding the deep groundwater, which has resulted in the current additional investigation.

Mr. Craig expressed appreciation for the members of the public who attended the meeting. He reminded the community that there are empty Board seats and encouraged anyone interested to apply for RAB membership.

Mr. Craig recognized Mr. Fairbank's many years of service to the citizens of Maryland and his oversight work at Fort Detrick. Mr. Craig said Mr. Fairbank's expertise will be missed. LTC St. Angelo also expressed his appreciation for Mr. Fairbank's work on the Fort Detrick RAB. LTC St. Angelo welcomed Mr. Fairbank's replacement, Dr. Elizabeth Green.

#### **10. General Community Comments.**

Mr. Rudy referenced the earlier mention of capping the disposal sites and mentioned in his experience with nuclear sites, caps degrade over time. Mr. Gortva responded that five-year reviews are required to ensure the remedy is still protective so the caps are periodically checked to see if any repairs are required. He said that if in 50 or 75 years the impermeable liner may need to be replaced, that issue would be addressed during a five-year review.

#### **11. Next RAB Meeting.**

LTC St. Angelo asked for any topics for the next meeting and encouraged Board members to let Mr. Gortva know of any topics they would like to see on the agenda.

LTC St. Angelo said the next proposed meeting timeframe is September with the exact date to be announced at a later date.

The meeting adjourned at approximately 8:46 p.m.

Reviewed by:

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 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)