U.S. Army Natick Soldier Systems Center
Restoration Advisory Board (RAB) Meeting
Grant Conference Center
Natick, Massachusetts
February 2, 2012
Final Meeting Notes

I Attendance

RAB Members Present:

Marco Kaltofen	Co-Chair, Community Member
John McHugh	Chief of Environmental & Health Office, U.S. Army Garrison, Natick
Robert Campbell	Massachusetts Department of Environmental Protection (MassDEP)
Dr. Kannan Vembu	Natick Board of Selectmen Representative
A. Richard Miller	Community Member
Christine Williams	U.S. Environmental Protection Agency (EPA)
James Fitzgerald	Community Member
Dr. Harlee Strauss	Community Member

RAB Members Absent:

Steven Lubic	Natick Board of Selectmen
Joel McCassie	Installation Co-Chair, U.S. Natick Soldier Systems Center (NSSC)
Elizabeth McCoy	Employee Member, U.S. Natick Soldier Systems Center (NSSC)
Tony Doheny, Jr.	Community Member
Neil Osgood, Jr.	Community Member
Jim Straub	Massachusetts Department of Conservation and Recreation (MassDCR)

Others in Attendance:

Rosa Mastrocola	H&S Environmental, Inc.
Jeff Pickett	AMEC Environment & Infrastructure
Stan Reed	AMEC Environment & Infrastructure
Dr. Willard Murray	ECC
Kevin Palaia	ICF International
Wendy Luce	ICF International
Fred Santos	ECC
Stacy Greendlinger	U.S. Environmental Protection Agency (EPA)
James Connolly	Restoration Officer, U.S. Army Garrison, Natick

II Handouts

1. Draft meeting minutes from March 30, 2010
2. Draft meeting minutes from February 16, 2011
3. Draft 5-Year Review T-25 Area Groundwater at the U.S. Army Natick Soldier Systems Center (NSSC) PowerPoint Presentation by ECC and AMEC
4. Carbon Filtration Systems, Inc. Natick SSC Building 94 Liquid Carbon Usage Report (June 2011)
5. Emissions From Energy Production Calculations Energy Audit, Natick Soldier Systems Center Building 94, Natick, MA
6. ARIEM Building Investigation U.S. Army Natick Soldier Systems Center (NSSC) - PowerPoint Presentation by ICF International
7. Sediment Dewatering Area Investigation U.S. Army Natick Soldier Systems Center (NSSC) – PowerPoint Presentation by ICF International

III Meeting Minutes

Mr. John McHugh called the meeting to order at 7:11 PM.

Mr. McHugh announced that due to last year's budget act, Installation Co-Chair, Joel McCassie retired in December 2011 and Mr. McHugh would assume the Army side of the Co-Chair position for the time being. He suggested that the RAB thank Mr. McCassie for his service. Mr. McHugh asked if there were any objections, there were none.

Mr. McHugh asked for a review of the March 30, 2010 minutes. The March 30, 2010 minutes were not finalized according to the February 16, 2011 minutes.

Mr. Richard Miller mentioned two grammatical errors in the minutes. On the last page, paragraph two, line two, the pond name Cochituate is possessive; further down on the same page, Army Corps of Engineers , in the word 'Corps' is missing the 's'.

Mr. McHugh asked if there were any other comments, changes or revisions. Mr. McHugh made a motion to accept the March 30, 2010 minutes. Mr. Jim Fitzgerald seconded the motion and the minutes were accepted.

Mr. McHugh requested a review of the February 16, 2011 meeting minutes. He asked if there were any changes, comments, or revisions. He then made a motion to accept the minutes and the minutes were accepted.

Mr. McHugh asked if there were any general comments.

Mr. Miller questioned if the final minutes were available online for sharing purposes. Mr. Connolly stated that the minutes were not currently available online, however, could be made available if a repository was accessible.

Mr. Miller asked if the minutes were available in the library. Mr. Connolly confirmed there were copies available in the library and electronic copies were emailed to those in meeting attendance.

Ms. Christine Williams asked Mr. Miller if he would like the minutes uploaded to the EPA website. She stated that if she was emailed the final version of the minutes she would have them posted to the EPA website for public access. Mr. Miller responded that it would be beneficial to have the minutes available on the EPA website.

Mr. McHugh asked if there were any additional general comments.

Mr. Miller informed all attendees about the website, www.cpeo.org. He stated that online information is available to the public about U.S. cleanups occurring at federal facilities, Superfund sites and Brownfields and instructions on how to get on the email list were also available on the website.

Mr. McHugh asked if there were any additional general comments, there were none.

Draft 5-Year Review Presentation

Mr. McHugh introduced the Draft 5-Year Review presentation being presented by Mr. Fred Santos, Project Manager at ECC and Mr. Stan Reed, Project Manager at AMEC. Mr. Santos introduced Dr. Willard Murray, Senior Environmental Engineer at ECC.

Mr. Santos announced that AMEC Environment & Infrastructure bought MACTEC. He confirmed that the same personnel and office space from MACTEC are still being utilized for this project.

Mr. Santos stated that the presentation outline changed slightly and he would like to begin with the 5-Year Review presentation first. Mr. Santos turned over the presentation to Mr. Stan Reed.

Mr. Reed introduced himself as an employee of AMEC Environment & Infrastructure from the Portland, Maine office. He added that he was part of the group that prepared the Draft 5-Year Review. He stated that he would like to discuss what the Draft 5-Year Review entails, the reasons for it, the processes used and the conclusion of the Review. He commented that the Review was sent out to the RAB a couple days prior.

Mr. Reed began by stating that they are in the process of doing the 5-Year Review for the T-25 Area Groundwater Operable Unit which is at the north end of the installation because there is a groundwater remedial treatment system located there. He stated that the 5-Year Review is required by CERCLA when there is a remedial system installed and there are still hazardous substances remaining in the ground or water at or above concentration exposure limits. He added that at the T-25 Area, the primary goal is to meet clean-up standards. However in the interim period, there were some exceedances of groundwater standards, thus the 5-Year Review was conducted. He added that the purpose of the Review is to determine that the remedy is protective of human health and the environment. He added that the Reviews are conducted no less than every 5 years.

Mr. Reed showed some slides locating the T-25 Area at the Natick facility. He mentioned that the area is densely occupied with permanent and temporary buildings, stacked storage containers and monitoring wells. He added that there has been some “sub-areas” defined in the past but those areas were not subject to the 5-Year Review, which was limited to the T-25 area. He continued that at T-25, TCE and PCE are the primary groundwater contaminants and showed on the slide that the concentrated areas are located in the central portion of the site; however, there is a plume that extends north. He added that the groundwater extraction treatment system is located in Building 94, and that there are several extraction wells in the vicinity. He explained that the plant extracts pumped groundwater from the ground into the plant. The pumped groundwater is then treated and discharged.

Mr. Reed reiterated that the purpose of the 5-Year Review is to determine whether the remedy in use is protective or not. This occurs by answering three major questions:

Question 1: Is the remedy functioning as it intended to by the decision documents? In this case, there is a Record of Decision (ROD) that was issued in 2001 which is the decision document.

Question 2: Are the exposure assumptions, toxicity data, clean up levels, and remedial action objectives (RAOs) that were used at the time of remedy selection still valid?

Question 3: Has any other information come to light that calls into question the protectiveness of the remedy?

Mr. Reed continued stating that the remedy at T-25 Area was groundwater pump and treat. He said that a pilot study was initiated in 1997 and ran for several years before being incorporated as the remedy into the ROD in 2001. He reiterated that the target compounds for cleanup were tetrachloroethylene (PCE) and trichloroethene (TCE).

Mr. Reed stated that the Remedial Action Objectives (RAO) identified four major points which are the over action objectives of the remedy:

- To prevent migration of contaminated groundwater
- To prevent exposure to contaminated groundwater exceeding standards
- To restore groundwater quality, and
- To monitor groundwater concentrations.

Mr. Reed continued to explain that the remedy components are not limited to the groundwater pump and treat system and that there are other components including a long-term groundwater monitoring plan and a monitored natural attenuation (MNA) evaluation to assist the remediation process. He added that there are also Institutional Controls, including an ordinance by the Town of Natick, which prohibits the use of groundwater on installation property including a large area west of Main Street to Speen Street, well in excess of the area of the groundwater plume. In addition, the Town requires the Army to participate in the operation and maintenance of the Town's Springvale water treatment plant, and 5-Year Reviews for as long as it is necessary until there is no longer any groundwater contamination above cleanup limits.

On the following slide, Mr. Reed explained a schematic of the groundwater treatment system. He stated that groundwater comes into the equalization tank from several extraction well networks across the installation, which is then pumped to filters. It is then followed by the air stripper unit, which he commented currently removes essentially all of the contaminants from the groundwater. Then that is transferred to an air stream which is treated with activated carbon to immobilize contaminants in the carbon, the air stream is then discharged. The water from the air stripper then goes to two activated carbon units.

Mr. Reed stated that there is much redundancy in the process since the air stripper system is capable of doing all the work and the two carbon units themselves are also capable of doing all of the work, but they are run in sequence producing a very good treated stream. He added that perhaps it is more treatment than is necessary to accomplish the goals.

Mr. Reed continued by discussing the 5-Year Review Process. He stated that the 5-Year Review Process involves the review of site documents including those in the administrative record, which are available in the library. Also reviewing the applicable, relevant and appropriate requirements (ARARs), which consist of the laws and regulations that pertain to the operation of the treatment facility. Other information that is considered is the monitoring data from the long term monitoring program. Part of the process also involves community involvement and public participation. He stated that there was a notice published in the Boston Globe and the MetroWest News on January 3, 2012. The notice announced the fact that the 5-Year Review was being completed and informed the public of today's public meeting, which he added, is part of the community involvement process. The notice also alerted the public where additional information could be found. He stated that interview forms were distributed with 6 questions to approximately 6 people, including stakeholders, Mass DEP, the Board of Heath, and the Conservation Commission. All the collected information contributed to the 5-Year Review Process.

Mr. Reed discussed three questions which are asked at the 5-Year Review.

Question #1: Is the remedy functioning as intended? He commented that the remedy is functioning as intended by the ROD. He added that the groundwater treatment system in place and is operating well, and there are no noted deficiencies. He stated that the long-term monitoring program is well established and noted that the plan has been approved by EPA. He added that the institutional controls are in place which prohibits the use of the groundwater so there was no exposure to the contaminated groundwater.

Mr. Miller raised a question regarding the second question of the 5-Year Review. He stated that the slide reads, "Some exposure assumptions have changed." Mr. Miller asked if any of those changes relax the conditions or requirements.

Mr. Reed responded that they were not. He added that the drinking water standards had not changed, but the EPA health advisory table had made changes to some of the exposure assumptions of manganese and TCE and the changes were reflected in regional screening levels done by Oakridge Laboratories for the EPA.

Dr. Strauss agreed that drinking water standards had not yet changed but probably will change due to the data of TCE as a known human carcinogen and stated that it will probably drop in half. She questioned whether the possibility of the TCE limit dropping in half was considered in the 5-Year Review.

Mr. Reed responded that this example of a future scenario was not part of the 5-Year Review. He stated that the approach to Question 2 was to evaluate whether things had changed that would require additional remediation of a new compound that would add to the remedy or would require additional remedy than what is currently in place. He stated that their evaluation concluded that no new remedy was required. The remedy components in the planned action are still effective in achieving the goals of the ROD.

Mr. Kaltofen inquired if, other than the air stripper component, were there any other major changes that were intended for this system.

Mr. Reed stated that he is not aware of any other proposed changes to the system.

Mr. Miller requested clarification if a new constraint arises before the next 5-Year Review, is this project required to respond to the new constraints or do the current constraints apply? He referenced a state highway department project he was involved with. He stated that new environmental constraints had been implemented after the final plans were approved, and that the highway department must reconsider this when rules change. Mr. Miller would like to know what happens if these regulations change between review periods.

Mr. Connolly stated that if a standard changes prior to project close out then the new standards would be considered at the next 5-Year Review. He added that the net result in most cases would be to run the plant longer. He continued saying that if standards change so much and the current technology is not effective then we will ask the question of what more must be done or what other technology can be used. He stated that the purpose of the 5-Year Review is to sit down at least every 5 years to ensure effectiveness of the plan.

Mr. Miller said that he understands that the solution to the previously referenced example is to extend treatment and immediate response is not necessary, however he asked if a new constraint was

implemented this spring that is not addressed by the current plan, would the issue be addressed prior to the next 5-Year Review.

Mr. Connolly responded saying he cannot visualize a situation where there would be a need to do something immediate. He stated that there are two possibilities, though; it is theoretically possible that something could change so much that the remedy would not be protective right now and we would have to do something right away, but added that the pumping is constraining the spread of the contamination and the institutional controls are preventing the exposure to the contamination that exists.

Mr. Miller questioned if the efforts will be stalled due to not addressing an issue of non-protectiveness sooner than every five years.

Ms. Williams stated that data that is collected by the Army at least semi-annually and is provided to the EPA, the State and the RAB, whom review the information. Reviewers are aware of new initiatives and laws that effect current remedial efforts. Any new regulations are considered when reviewing the reports; it is not held for review until the 5-year mark comes around. She added that it is a continuous process to maintain efficiency and shrink costs, while cleaning the site as fast as possible.

Mr. Miller stated that he understands what Ms. Williams said, but was questioning specifically about the 5 year increment. He would like clarification on whether it means 5 years or as soon as it becomes needed, or is it no sooner than 5 years?

Ms. Williams responded that the requirement for the 5-Year Review is a specific report; the evaluation of the remedy is an ongoing management situation.

Mr. Miller asked to confirm that any new issues would not delay in the progress of the remediation.

Mr. McHugh stated that it is in their interest to reach whatever standard is going to be used in final review.

Dr. Kannan Vembu requested a quantitative listing in regards to Question 1 that has resulted in recommending the removal of the air stripper.

Mr. Reed stated that he will cover that topic in detail in the next presentation.

Mr. Reed stated that the treatment system contains an air stripper and two carbon columns. If the air stripper is removed, the two carbon columns on the water side are capable of doing the task on their own. There is an extra cost associated with the two systems being run when only one is necessary to complete the job.

Dr. Strauss asked if Mr. Reed will circle back to community involvement. Mr. Reed stated that he could.

Dr. Strauss offered a suggestion as the listing of notices in the newspapers may not be convenient enough for the general public. She suggested they could utilize the notice area on the Town website and in addition, the Town Clerk could post notices on the bulletin board at the Town Hall, as a result notices can be more available to Natick residents.

Mr. Kaltofen said that he would like to discuss with the Town of Natick to increase community awareness and convenience for residents.

Mr. Connolly stated that it is a requirement that the Town Clerk and other Town Hall employees are copied on everything, including receiving copies of reports and notifications and it is possible that we ask them to post that information online as well.

Mr. Kaltofen stated that he would make an effort to utilize the Town website.

Ms. Stacy Greendlinger said that it would be feasible to add services, but it is a requirement for the RAB to utilize the local newspapers. She added that there is no stipulation stopping the Army or the EPA to ask the Town to post public notices on their website in addition to the minimum requirements.

Mr. Reed went on to explain Questions 2 and 3 of the 5-Year Review. For question 2, he stated that there are some exposure assumptions that have changed but none affect the effectiveness of the current remedy. He continued with question 3 asking does other information call protectiveness into question. He responded that no new exposure route was found nor were there any breakdowns in the treatment system, which brought them to the conclusion that there is no new information affecting the protectiveness of the current remediation plan.

Dr. Strauss stated the concern that the possibility of future changes of PCE standards should be considered when evaluating the protectiveness of the current plan and suggested that it should be added as a marker.

Mr. Reed stated that changes to the standards are discussed in the report of the 5-Year Review. He then announced that there is one recommendation for the potential of reducing cost while maintaining effectiveness at the treatment facility, which included eliminating the redundant air stripping and vapor phase carbon treatment steps from the current remediation process and added that Dr. Murray will speak on this topic further in the presentation.

Mr. Reed presented the conclusion of the 5-Year Review. He stated that there must be a protectiveness statement in the review. In this case, the draft states that the T-25 Area Groundwater remedy is expected to be protective of human health and the environment upon completion, and in the interim, exposure pathways that could result in unacceptable risk are being controlled.

Groundwater Treatment Plant Operation

Mr. McHugh introduced the next discussion of the groundwater treatment plant operation lead by Mr. Fred Santos and Dr. Murray.

Dr. Murray began the discussion by presenting the potential for optimization in general and the more sustainable remediation processes as they apply to this groundwater treatment plant.

He stated that the process that currently exists is pumped into an equalization tank and then pumped through an air stripper which creates two fluid streams: an air stream which is contaminated and a water stream which turns out to always be clean. Dr. Murray explained that the system is doubly redundant. Dr. Murray added that the discussion to follow would explain how the system can be optimized and be more sustainable and said that he would speak on some of the principles that apply to the treatment plant. He stated that there are two basic components in the treatment facility: air stripping and carbon filtration. There is carbon filtration of the air and carbon filtration of the water. He added that the effluent from both streams from the plant is essentially non-detect. He added that since the influent concentrations are fairly low - according to EPA guidance of solvents is less than couple hundred ppb – then the liquid phase carbon is very effective at treating contaminants. He added that

the contamination entering the plant through the equalization tank is and has been for the two years, less than a total of 15 ppb, therefore the liquid phase carbon should treat that completely.

Dr. Vembu asked Dr. Murray about the change in concentration levels of contaminants coming into the equalization tank over the past years of treatment.

Dr. Murray stated that the reports show the concentrations, in general, are a decreasing trend, some nicely uniform but others scattered since the initial treatment of pump and treat.

Dr. Vembu requested the levels of TCE and PCE being pumped over the last five years, as compared to the current levels.

Dr. Murray stated he didn't have those numbers on hand, but would be able to get them at a later time. He mentioned that the older numbers were significantly higher.

Dr. Murray presented the idea that the systems are redundant, and they should be optimized and made 'greener' and more sustainable. The challenge is to decide which components should be reduced or removed from the system. He continued that from all of the analytical data collected over the years, it is known that the air stripper transfers all of the contamination to the water, and the vapor phase removes all the contaminants out the water and transfers it to the air. The air then goes to vapor phase carbon. The vapor phase carbon completely removes all the contamination. He asked if the liquid phase carbon does the same for the contamination left in the water. Dr. Murray added that the guidance documents obtained from the EPA supports the idea that liquid phase carbon filtering is sufficient to remove contaminants. He added that their carbon vendor's calculations show LGAC will remove low volatiles to non-detect and that one 2000 lb. canister, of which this system has two, will last 588 days before break-through. He added that this information serves as proof that removing the air stripper instead of the liquid carbon would not compromise the effectiveness of the treatment system, and would be the greener option, since air blowers require massive amounts of energy to operate in addition to the air heater which takes more power because of great amount of humidity.

Dr. Murray suggested the plan moving forward onto a liquid carbon only system (LGAC only) in place of an air stripping Vapor GAC (VGAC) system with and LGAC polish would result in four energy using devices being removed from the system. There are two air blowers, one heater, and one water pump. He added that they calculated a savings of 207,739 pounds of CO_2 emissions from power plants, or 199,465 kilowatt hours of electricity per year. This is the equivalent of 29 New England households. The details of these calculations are explained on the 11x17" handout 'Emissions from Energy Production Calculations – Energy Audit'. Dr. Murray offered his assistance to answer any questions anyone may have.

Dr. Murray showed a diagram of the air stripper included in the PowerPoint presentation. He explained that the air strippers will not be removed from the facility, but would be turned off. The intake will be piped around the air strippers to the carbon filters. He added that another benefit will be the reduction of noise pollution.

Dr. Murray continued on to the Summary of Optimization. He stated the benefits of the optimization include a reduced energy/electric cost for the Army and reduced greenhouse gas emissions for the environmental interests. He added that the planned schedule proposes re-piping beginning this month (February 2012), and finish before end of month and then take the air stripper off-line, but leave it on-site, should it be needed in the future.

Dr. Murray asked Mr. Santos if he had anything to add in conclusion.

Mr. Santos added that for the first 6 months of the new operation, it has been proposed to increase the sampling frequency between two liquid carbon vessels to create additional data to prove the new process works properly. The sampling is currently on a quarterly schedule, but a monthly sampling schedule will be implemented temporarily.

Dr. Strauss asked if sampling will be conducted between the carbon filter tanks and at the effluent point.

Dr. Murray responded that was correct.

Mr. Reed added that both carbon filters will be replaced at the same time for this new process.

Dr. Murray stated that since the carbon is spent regardless of the amount of contaminants passing through, thus to eliminate concerns that they would be replaced.

Mr. Kaltofen questioned the accuracy of the math on the handout of carbon filtration. He stated that the flow rate listed is greater than what is treated at the plant. He explained the discrepancy to Dr. Murray. Dr. Murray stated that he did not check the numbers.

Mr. Kaltofen stated that the flow rate is calculated incorrectly; therefore the lifetime of carbon cartridge is incorrect is actually longer than previously stated. He explained that the carbon cartridge lifetime is an important part of the presentation, but the math is incorrect. He stated that it does not matter that the correct lifetime of the activated carbon is longer than previously stated, but that the change out must be calculated correctly.

Dr. Murray stated that the numbers given were an estimate only, and that the decision to change the carbon unit is based on the measurement from the carbon counter and added that he will further research the numbers and will provide the data at a later time.

Dr. Vembu asked if the EPA requires any tests before approving the new plan.

Ms. Williams responded that the increased sampling routine and the fact that the air strippers will still be available for use on site if needed, is sufficient.

Dr. Vembu asked if there was a closed loop to avoid discharge of contamination.

Mr. Connolly stated that the effluent is closely monitored. The liquid phase canisters were sampled quarterly just to determine if there is breakthrough. He added that he thought it would only be a matter of hours to get the air stripper back on line.

Mr. Miller commented that he is pleased that the plan will keep facilities in place in case there are complications and the previous system must be re-implemented. He then asked why the excess capacity would be removed from the system rather than double the rate. He suggested that doubling the rate would reduce cleanup time.

Mr. Connolly responded by explaining that there are limiting factors on the system, such as the intake flow rate, and how fast the water can be pushed through the system, which inhibits the rate from doubling, despite the capacity the equipment may have in other system setups. The issue in this situation is redundancy, not capacity. Another major constraint is the air stripper. Also, doubling the pumping rate on existing wells, won't clean the water faster because the limitation on removing contaminates is not based just on well pumping – when the well draws water faster it draws down

farther, but radius does not increase, only the slope increases; if anything, it will extract more clean water instead of more contaminated water.

Mr. Miller agreed with that conclusion, but also suggested that additional wells could be installed to increase intake volume.

Mr. Connolly indicated that a well was added in 2011, and due to the rate of change of the concentrations in the groundwater, the current rate is still being evaluated. The possibility of adding additional wells in the future still exists. Besides to the addition of wells, the location of current and future wells must also be evaluated.

Mr. Miller said that he understands that the process is complicated, but felt as it was presented the plan did not include an option for rate increase. He asked if it was confirmed that adding any number of wells would have no benefit to the treatment process. He clarified that he understands the maximum benefit is unknown, however would like to know if the team have quantified it to have no benefit.

Mr. Connolly stated that he disagrees with Mr. Miller, and that the discussion is about saving money and energy, not about improving or shortening the length of the clean-up.

Mr. Miller questioned this strategy and asked why the plan should not be shortened.

Mr. Connolly stated that it has come up in discussion and it will be discussed with the RAB in the near future.

Mr. Miller inquired as to whether tonight's meeting would result in a decision of this topic.

Mr. Connolly stated that it does not, that the discussion at the meeting is about reducing redundancy and saving energy and money. He added that Mr. Miller is concerned with optimizing the entire process and monitoring plan. The point has not been reached yet for a proposal addressing the overall system but when it is it will be presented.

Mr. Miller responded that he thinks there is a direct relation between optimizing the system by adding wells to shorten the remediation and saving energy and money.

Mr. McHugh stated that evaluating the optimization of the entire system is done on a continual basis. When those reports arrive and a proposal is brought forth, the discussion will be brought to the RAB. He clarified that decisions made at this meeting have no impact on whether the complete system optimization can happen in the future.

USARIEM Building Investigation

Mr. Kaltofen introduced Ms. Wendy Luce and Mr. Kevin Palaia for the USARIEM presentation.

Ms. Luce introduced herself as an employee of ICF International and stated that she would be discussing the investigation at the ARIEM Building. Ms. Luce explained the purpose of the sampling and other activities being conducted and stated that the Work Plan and the QAPP were finalized and made available this past January. She said that the purpose of the investigation is to characterize the nature and extent of VOC contamination in the vicinity, especially within 30 feet, of ARIEM (Building 42) and to determine if the potential for vapor intrusion exists within Building 42.

Ms. Luce continued with the background of the site being built in 1954 and has been in use since 1961 as a research laboratory for human performance testing, but there are also administrative offices, an equipment room in the basement and an altitude chamber in the building. She stated that there have been previous investigations since the 1990s including areas to the West at Building 63, 2, and 45, Northeast at MW-114B Area and the Water Supply Wells Site to the south of the building. She said that there are existing wells in the area that contain TCE concentrations above the EPA reporting limit. Ms. Luce displayed an area map on a slide and pointed out these investigation locations and its vicinity to the ARIEM building.

Ms. Luce showed the TCE concentration contour map of the area from the fall 2010 (# 61) sampling event. She added that to the east of the ARIEM building the groundwater is more shallow at approximately 10-12 feet verse 25-30 feet to the west of the building. She added that there are data gaps at the building and thus no conclusion on the concentrations in/around ARIEM building has been made nor is there a strong concept of the water levels around the building. This information has an impact on whether or not there could be vapor entry.

Ms. Luce further explained the investigation activities, stated that mobilization already took place and monitoring well installation, groundwater sampling, sub-slab vapor sampling from the ARIEM basement, laboratory analysis and reporting would follow. She said that the investigation began the week of January 23, which included the installation of 4 monitoring wells west, north and two east of the ARIEM building. Ms. Luce pointed the locations of the wells on the slide. She stated that they took four water table groundwater samples for VOCs during installation of each well, which will help determine if there is a vapor intrusion pathway to the building. She added that the four wells were developed today and they will be collecting samples from these wells by the end of February.

Ms. Luce said that they would have to install some sub-slab vapor points in building 42 and she showed the areas on the slide. She added that sub-slab vapor sampling would be collecting vapor samples from beneath the concrete building slab via Summa canister and the VOCs would be analyzed at an off-site laboratory adding that this would help determine if there was a risk of VOCs penetrating the building. The initial samples would be conducted out of the way of people working in the building. She explained that the ports will stay in place and remain below the slab surface and accessed via fittings and then a rubber stopper will be installed and it will be permanent. She said that 6L canisters will be used to collect the one hour grab samples, but at a slow flow rate, so air is not pulled in from elsewhere and stress is not put on the fittings and tubing. Parameters include PCE, TCE, and all breakdown products.

Dr. Strauss asked why an 8 hour indoor air sampling event was not conducted instead.

Ms. Luce responded, stating that it is based on the Massachusetts DEP protocol.

Mr. Palaia said that the purpose of the initial screening is to determine whether indoor air testing is required. If there is no TCE or PCE present in the sub slab vapor then there is no need for indoor air testing.

Ms. Williams stated that due to the indoor lab environment in that building, the indoor air sources may not be accurate.

Mr. Kaltofen suggested conducting indoor air sampling while other samples were conducted to save money.

Mr. Palaia said that the data around the building may suggest indoor air sampling is not relevant, but as stated in the work plans, the strategy will be reviewed pending sub slab sample results.

Ms. Luce highlighted the schedule slide stating that samples could be collected over the next week and that sampling points would be left in place in case a future need arises. She added that by March or April the data validation/evaluation and draft report would be developed, and completed by mid-summer.

A question was asked if this plume was being pumped into the treatment plant.

Mr. Connolly responded the possible plume located at monitoring well 122A could be headed in two directions; once that is answered then it can be decided if more extraction wells are required.

Ms. Williams responded that one was planned before western side extraction wells were installed but a decision was made that the western side extraction wells may take care of 63, 2 and 45 plume.

Mr. Connolly stated that the reason why the western side extraction wells start with extraction well 2 is that space was initially reserved for extraction well 1 on the eastern side but not sure where it would be best placed, and if it would be necessary.

Former Sediment Dewatering Area Investigation

Mr. Kevin Palaia of ICF International introduced himself began the discussion of the area formerly known as the proposed gymnasium site (FPGS), which now referred to as the Sediment Dewatering Area (SDA). He stated that an investigation was prompted during a recent sediment remedial action. He said that during the site preparation activities, the contractor needed to grade the surface to provide the right slope for the dewatering process, and during that process a backhoe hit some bottles and jars. These containers were discovered about 1-2 feet below the surface and commented that there was an odor so the backhoe operator left the area. He added the Army and the regulators were notified and a decision was made that because the sediment remedial action was in progress, the sediment dewatering plans were adjusted to avoid the area where the bottles were found and leave the bottles undisturbed knowing they would come back to the area.

Mr. Palaia continued to explain that the Draft Work Plan is in preparation phase now, so he would explain draft concepts of the investigation. The current purpose of the investigation is to identify the extent of contamination within the Sediment Dewatering Area (SDA) and characterize any potential impacts that may have occurred because of the bottles and jars up to the surrounding and adjacent soils and groundwater.

Mr. Palaia gave a site history background for the Formally Proposed Gymnasium Site (FPGS). He stated that the site has been undeveloped since the facility was built. He added that since late 1980s there have been several investigations and actions. The slide showed Soil Gas Surveys in 1989 and 1990, Remedial Investigation in the late 1990s and Soil Removal Action in 2002 and that the latest is the laydown area for the geotextile tube dewatering process for the sediment remedy and it was during that process the bottles were uncovered.

Mr. Kaltofen asked what types of materials were deposited in the area, if they were municipal or lab type containers. Mr. Palaia stated that they appeared to be glass and plastic laboratory type bottles and containers, ranging in size.

Mr. Kaltofen requested confirmation that they were not sample bottles. Mr. Palaia confirmed they were not sample bottles.

Mr. Palaia said that the contractor who discovered the bottles took samples from the soil adjacent to the bottles to determine what was in the soil. Samples were analyzed for a broad range of chemicals, and identified 1,4-dichlorobenzene and mercury which exceed the state limit for residential soil standards.

Mr. Kaltofen asked what the specific results were for the analysis.

Ms. Luce stated that the results would be included as an appendix in the report.

Mr. Palaia explained the next figure in the slide, depicting the layout of the Sediment Dewatering Area/FPGS and the previous investigations and remediation locations. He stated that the bottles were discovered on the northern half of the area, but when the area was delineated, the investigation boundary was set outside the anticipated debris area. He also pointed out locations that were previously drilled and/or sampled. He showed the location of the soil removal action from 2002, which is adjacent to the debris area and added that the current area of concern is approximately 20ft x 30ft.

Mr. Palaia described the Army's current investigation proposal, which includes test pitting and soil sampling, as well as some temporary well installations and groundwater sampling. He added that the test pit plan is flexible, and may change based on what is found. It may involve additional or expanded test pits restating that the main objective of the investigation is to identify the extent of debris. He added that if the area of debris extends beyond the current area, it may become a remedial action instead of an investigation, which a plan would be addressed with the regulators.

Mr. Palaia said that soil samples will be collected from each test pit which will be analyzed for various contaminants. Head space analysis will also be performed on the soils as they come out of the backhoe, the team will look for visual evidence of bottles and/or staining and any odor concerns. The team will also be installing temporary monitoring wells to determine the impact or potential impact to the groundwater. He added that though this is an investigation, if bottles are discovered, they will be disposed of at that time and that the team will be outfitted properly to collect any soils, bottles or impacted soils necessary.

Mr. Palaia showed a schedule slide. He said that the Draft Final Work Plan and the QAPP should be issued by the end of February. Field work should start sometime in spring 2012, and data validation/evaluation and draft report should be complete in the summer 2012.

Dr. Vembu asked when bottles would be disposed of if any were found during the investigation.

Mr. Palaia said that they would have the appropriate means to dispose of bottles at the time of discovery.

Mr. Kaltofen asked what form of mercury was of concern.

Mr. Palaia stated total mercury.

Mr. Kaltofen stated his concern regarding the proximity of the site to the public roadway and asked if mercury vapor testing would be conducted during the work.

Mr. Palaia said that it would not.

Mr. Kaltofen stated that mercury contamination has been an issue in the area and suggested the team conduct mercury vapor testing.

Mr. Palaia stated that the health and safety plan has been in place for 15 years but test pitting has not been done out here and understands that there are unknown risks and all precautions will be taken.

Mr. Connolly said that they will evaluate the safety plan.

Mr. Kaltofen questioned the location and proximity of the fence line to the public and the investigation site.

Mr. Connolly clarified that the fence is at the bottom of the hill and estimated 100 feet from bus stop.

Mr. McHugh recommended that scales be used on figures in the future.

A question was asked if mercury had ever been a concern in the 2002 remedial action and has there ever been mercury found in that area before?

Mr. Palaia responded that it has not been a concern and they did look at data from that previous excavation.

Mr. Connolly said that there was a french drain system in the area and during the excavation of the process area there were very low levels of mercury detected.

Mr. Kaltofen asked if there were any questions.

Dr. Vembu asked if there is a process to go through to modify a Record of Decision.

Ms. Williams said there is a process to modify a Record of Decision and it depends whether the modification is a significant change – in which case an explanation of significant differences must be completed. If it is a fundamental change, a Record of Decision Amendment will be completed. The fundamental change with a ROD Amendment involves a feasibility study and public comment process, followed by the administrative change and community involvement.

Dr. Vembu asked which process would apply to the discussion at this meeting.

Ms. Greendlinger said that this situation does not qualify for either process.

Mr. Connolly said that they are treating all areas of groundwater under one system. There was a RAB meeting which included a presentation on ESD which presented the optimal time frame to the EPA.

Ms. Williams stated that she wanted to do one groundwater Record of Decision to encompass all groundwater across the Natick Army Post. More contamination was found than originally anticipated, resulting in the ESD being pushed out until all the groundwater contamination can be defined and controlled by whichever means is appropriate and sufficient, and in agreement with the Army.

Mr. Kaltofen requested that Mr. McHugh distribute a revised, corrected copy of the Treatment System and schematic of the plumbing system without the air stripper, coordinate efforts with the Town of Natick to post public notices related to the RAB on the Town website, and verify the decision on indoor air testing for research institute and mercury vapor.

IV Public Comment Period

Mr. Kaltofen asked if there were additional questions or comments. There were none.

Mr. Kaltofen adjourned the meeting at 09:20PM.