Ravenna Army Ammunition Plant
Restoration Advisory Board (RAB)
Meeting Minutes
Sept. 15, 2004

1. **Call to Order and Reading of the Minutes**
   The meeting was called to order by Lt. Col. Tom Tadsen at the Shearer Center, Paris Township, Ohio at 6:07 p.m. Secretary Christy Esler took attendance with 9 present, 3 excused and 12 absent (Mr. Floyd Banks, Mr, Joe Beutler, Mr. Kevin Cooper, Mr. Robert Daughtery, Ms. Maureen Frederick, Mr. Howard Furl, Mr. JJ Leet, Ms. Sarah Lock, Ms. Irene Glavies-Lutz, Mr. Milan Markov, Mr. Charles Ramer, Mr. Mark Zigmont). Reading of the minutes was sustained. Motion to accept the minutes were made by Mr. Walter Landor and Mr. Tom Smith second the motion. Lt. Col. Tom Tadsen announced the minutes are approved as they stand.

2. **General Business**
   Mr. Mark Patterson reminded the board that Denise Gilliam has resigned as RAB Secretary to pursue a job in Florida. Mr. Mark Patterson then introduced Christy Esler as the new RAB Secretary.

3. **Presentation on Fixed Price Remediation with Insurance (FPRI) project at Load Lines 1-4, Shaw Environmental, Inc.**

   Lt. Col. Tom Tadsen introduced Ms. Kelly McQueeney to the board. Ms. McQueeney updated the board on the Fixed-Price Remediation with Insurance (FPRI) Activites at the Ravenna Army Ammunition Plant and passed out a presentation packet.

   RAB Member Open Floor Discussion
   Questions were fielded by various attendees as follows:

   Mr. Earl Miller: Asked why Shaw is hiring new employees/laboratories to work on this project? Is there special testing being done that has not been done in the past?
   Ms. McQueeney: Shaw Environmental uses particular labs / employees to ensure they meet all Shaw and U.S. Army Corps of Engineers (USACE) - Louisville Quality Control criteria. When it is possible Shaw Environmental is attempting to use local contractors or subcontractors that are familiar with RVAAP, i.e.: Frank's Maintenance will be the Landscape contractor for this project.

   Mr. Mark Patterson: Please explain the Feasibility Study
   Ms. McQueeney: The Feasibility Study is a decision making process for selecting the appropriate remedy for the site using seven criteria including achieving a temporary or permanent solution, technical feasibility, and providing best value to the Army.

Mr. Walter Landor: What kind of Professional Engineer (PE) certification do you have?
Ms. McQueeney: I have a PE in Civil Engineering and a degree in Environmental Engineering.
Mr. Walter Landor: You said that you are from MA; where is that, I am not familiar with the abbreviation "MA" and where else does Shaw have offices?
Ms. McQueeney: I am from Shaw's Stoughton, Massachusetts office, but Shaw Environmental also has offices in Findlay and Cincinnati, Ohio. We will be using local offices during field activities.

Lt. Col. Tadsen: What effects will the weather have on the chosen remedy for these sites?
Ms. McQueeney: We have taken the weather in account for the potential delays that we may experience. She stated that Shaw has completed the preliminary Feasibility Study while bidding the project and realize the schedule implications that will need to be made based on the remedy that is chosen in relation to the expected weather delays.

Lt. Col. Tadsen asked the board and audience if there were any further questions. Nothing further was recorded at this time.

4. Presentation on the Clearance of Munitions and Explosive Constituents (MEC) from Winklepeck Burning Grounds (WBG), MKM Engineers, Inc.

Lt. Col. Tadsen introduced Mr. Mark Lamb to the board. Mr. Lamb updated the board on the clearance of munitions and explosive constituents from WBG at the Ravenna Army Ammunition Plant and passed out a presentation packet.

RAB Member Open Floor Discussion
Questions were fielded by various attendees as follows:

Lt. Col. Tadsen: How dangerous are the explosives you're finding?
Mr. Mark Lamb: There are a number of explosive devices that could be found on these sites. A rocket assisted artillery projectile – like munition was found, was not fused or fired, and appears to be empty.

Mark Lamb explained that a 40 mm grenade was found at Winklepeck Burning Grounds (WBG) and Mr. Rick Callahan elaborated on the size of a 40 mm grenade and once detonated, how it reacts. There is a ball inside the grenade the size of the insides of a golf ball that is etched and will send out fragments. Mr. Callahan also added that with a 40mm grenade there is nothing to defuse, and specially trained UXO personnel need to handle it with the greatest care and destroy the grenade by packing explosives around the device and detonating the grenade in place.

Mr. Mark Patterson added that the Army's Explosive Ordnance Disposal (EOD) Detachment from Wright-Patterson Air Force Base had been called out in the past to RVAAP to detonate a 40mm grenade and other munitions.

Mr. Earl Miller: Do you put mats on the device when you ignite?
Mr. Mark Lamb and Mr. Rick Callahan: Something this size you place sandbags on the device to contain the explosion and minimize dispersion of parts of the grenade.

Mr. Tom Smith: I understand that these devices are obviously very dangerous, from a farmer's point of view when they are brush hogging.
Mr. Mark Lamb: Yes, these are very dangerous and finding these after the brush hogging was finished was not the way it was supposed to happen. The brush was very thick and it was impossible to find any dangerous devices under the heavy brush. We did take every appropriate step to ensure the safety of the operator.

Mark Patterson added that WBG is not the only site that had been continuously mowed through 1992. Open Detonation Area # 2, was also mowed as well as WBG, with no incidents reported.

Ms. Marti Long: To better protect people could bomb sniffing dogs find these devices?
Mr. Mark Patterson stated that he honestly did not know if that would work or not and asked if any other board members could answer that.

Lt. Col. Tadsen: Some of these 40mm grenades are at different stages of deterioration and was unsure if the dogs could pick up a scent or not.

Mr. Rick Callahan: There are a number of constituents at RVAAP and the scent might be masked because of such a large area to cover.

Mr. John Jent: That would be great if dogs could find these devices but tests in Iraq and Afghanistan determined that a dog cannot even find a buried mine.

Mr. Mark Patterson: Please elaborate on status of the ESS and what that stands for.
Mr. Mark Lamb: ESS Stands for Explosive Safety Submission Plan, and the current plan has been approved through Huntsville Center of Excellence for Explosives.

Mr. Walter Landor: Mark Patterson, you had mentioned that the EOD unit that services Ohio came to RVAAP to dispose of a 40mm grenade that was found, how did they dispose of the grenade?
Mr. Mark Patterson: they used detonation cord and blew it in place, because in most cases moving the 40mm grenade is too dangerous.

Mr. Rick Callahan: Because of the many sandbags they used to cover the explosive, all you hear is a "pop" sound then it is over but it does the job.

Lt. Col. Tadsen asked the board and audience if there were any further questions. Nothing further at this time was recorded.

Ms. Marti Long: directed a question to Rick Callahan of MKM Engineers- MKM had done a project in the past where composting of explosive-contaminated soils was done. Where does that stand and will there be any other projects like that in the future?

Mr. Rick Callahan: That was an effective way of turning the explosive-contaminated soil into compost and the composting cycle of that project ran 10 days. When or if there is funding another project could be awarded. The set up is there and the technology is available to the Army.

5. Presentation on the Characterization of 14 Areas of Concern (AOC), MKM Engineers, Inc.

Lt. Col. Tadsen introduced Mr. Rick Callahan to the board. Mr. Callahan updated the board on the characterization of 14 of the remaining AOC's at the Ravenna Army Ammunition Plant rated as "high" priority and passed out a presentation packet (please see attached).

RAB Member Open Floor Discussion
Questions were fielded by various attendees as follows:

Mr. Mark Patterson: Rick could you please explain incremental sampling?
Mr. Rick Callahan: Incremental Sampling is an engineered composite sample, composed of multiple individual samples, where you have defined the area you want to sample.

Rick Callahan informed the board members and public that Building 1036 at RVAAP has been re-done and that facility will be utilized by MKM for the 14 AOC Project. He also explained and pointed out in the presentation packet the page titled "Sampling Procedures" explaining the process and the layout of Building 1036.

Lt. Col. Tadsen asked the board and audience if there were any further questions. Nothing further was recorded at this time.

Mr. Tom Smith: I was approached last spring by an employee who worked at the Ravenna Arsenal in the early 1940's and 1950's that cleaned the magazines. He wanted to know if or why the explosive magazines were not considered AOC's? I haven't heard anything at the RAB Meetings about the igloos and if they are AOC's.

Mr. Rick Callahan: Asked Mr. Mark Patterson to answer that question.
Mr. Tom Smith: This man told me that hoses and brushes were used to clean the igloos. They used to also steam clean the igloos and the water drained out the front of the igloos and also down the drains.

Mr. Mark Patterson: Composition B (TNT / RDX Mixture) and Nitroguanidine were most commonly stored in the igloos. They were stored dried and the Composition B was like peanut brittle containerized in a box with a liner since the 1960's (during Vietnam). Money was spent to make sure igloos are in great shape and when you walk in they are very dry, and it looks like they were just recently placed in the igloos for storage. Very few containers were spilled or had holes in them.

If that did happen the cleaned up material was packaged up and taken out to WBG for disposal. The greatest chance of explosives being spilled at an igloo was at Wet Storage. At Wet Storage, lead azide which was wrapped in cheese cloth suspended in liquid, it was used in the Fuze and Booster area. We have done limited sampling outside the Wet Storage igloos with no signs of explosives.
Ms. Eileen Mohr: Added that lead contaminates were found, and Mr. Mark Patterson agreed.

Mr. Mark Patterson: Other igloos that contain stored explosives in cases are just not a concern or a focus at this time.

Mr. Tom Smith: There are how many igloos?
Mr. Mark Patterson: 750 igloos at RVAAP

Mr. Walter Landor: Are the igloos actually the bunkers that have grass on top?
Mr. Mark Patterson: Yes and they remain at 55 degrees, constant temperature and the design of the igloos would prevent the domino effect (or sympatheic detonation) in case of an explosion.

Mr. Tom Smith: What is the future?
Mr. Mark Patterson: The National Guard (NG) has responsibility for the property and the igloos will soon be empty.

Mr. Tom Smith: What again is stored in them?
Mr. Mark Patterson: Composition B and Nitroguanidine
No new or additional stocks will be stored.

Lt. Col. Tadsen: The National Guard plans to demolish most of the igloos. By the time that takes effect I will be retired, so I want to make sure that the program gets started before I leave. The Ohio Guard does not need the number of igloos available here at Ravenna. The National Guard has a "1 for 1" program which means 1 sq. ft. of new building can be built if they demolition on another building 1 sq. ft. RVAAP will be a demolition area. Basically we can kill 2 birds with 1

stone. If another National Guard facility (within the 54 states and territories) needs a new building constructed, we can tear down a building here at Ravenna.

Public Question: Why not use the buildings for housing?
Lt. Col. Tadsen: The U.S. Department of Housing and Urban Development (HUD) determined that these buildings are not adequate for housing. We have finally received the approval through HUD to tear down the RT. 5 Guard houses.

Public Question: What about Water Works 3-A, ever find a use for that building?
Lt. Col. Tadsen: No- that building is unsafe and will be torn down.

Public Questions prompted Mark Patterson to explain the 1943 Cluster Bomb explosion here at Ravenna that killed 11 people. Although that was a horrible accident the igloos did function properly. The net weight of explosives that caused that explosion was 40,000 lbs., Mark Patterson commented that thankfully, the igloos did what they were built to do.

Ms. Eileen Mohr: Directed a question to Rick Callahan regarding his 14 AOC Project Presentation- How are you going to handle chain of custody issues for the incremental sampling building (1036)?
Mr. Rick Callahan: There is one door in and one door out of the building that will be used for new samples and processed samples. There are only 3 keys to the building and there are 24 hour security guards at the main gate.

Lt. Col. Tadsen asked the board and audience if there were any further questions. Nothing further at this time was recorded.

6. Scheduling of Next Meeting and General Notes

Mark Patterson stated that every 2 months, the 3rd Wednesday of the month, the RAB has a meeting. The meeting would fall on Nov. 17th, 2004 from 6:00p.m to 8:00 p.m.

Mark Patterson asked if there were any objections for that date.
No objections were recorded.

Mark Patterson asked if anyone would like to offer a facility. No offers were made at this time. We will determine a location for the meeting at a later date and that facility will be on the Agenda.

Lt. Col. Tadsen adjourned the meeting at 7:47 p.m.

Respectfully submitted,

Christy Esler
RAB Secretary