Ravenna Army Ammunition Plant
Restoration Advisory Board (RAB)
Meeting Minutes
May 17, 2000

1. Call to Order and Reading of the Minutes
The meeting was called to order by Lt. Col. Tom Tadsen (Community Chairman) at the Windham Town Hall Building in Windham, Ohio at 6:05 p.m. Secretary Denise Gilliam took attendance with 11 present, 5 excused and 3 absent (Ms. Rachael Craig, Mr. Richard Kern and Mr. Richard Walton). The RAB Secretary informed the RAB that Mr. Mark Griffiths, who was a representative for the Portage County Board of Commissioners, had resigned. The Board asked if the RAB would please hold their spot as they would be appointing a new representative directly. Col. Tadsen said that he would entertain the motion of suspending the reading of the minutes; the motion was so moved by Mr. Walter Landor. The RAB secretary asked that the minutes be amended to show a new date of March 17, 2000 instead of March 03, 2000. The minutes are so amended.

2. General Business
RAB Secretary announced the results of the election for a TAPP provider. The winner between URS Greiner Woodward Clyde and The Kelly-Buck Company, showed URS as the winner with a 10 to 9 vote count. Mr. Landor asked if URS would be coming to the RAB meeting. Mr. Mark Patterson stated that they would not, because they were unaware of the RAB's decision. This was due to the fact that Mr. Patterson felt that it was appropriate to share the news with the board first. Mr. Landor then asked if they would be at the September meeting, to which Mr. Patterson stated that more than likely after they had been informed of the RAB's decision they would make arrangements to be at the meeting. There being no further business at this time, Lt. Col. Tadsen introduced the guest speaker, Dr. Barney Cornaby of the Science Applications International Corporation (SAIC). He stated that Dr. Cornaby would be presenting Ecological Risk Predictions and Field Truthing for Winklepeck Burning Grounds and Other Similar Areas.

3. SAIC: Dr. Cornaby
Dr. Cornaby began his presentation by stating that in the middle of Ravenna there are very few buildings and there is a lot of wildlife. He is here to represent the organisms without a voice. We have a responsibility to understand them and to help them. The EPA protects the environment. The environment usually means soil, water, food, air but most important the plants and the animals. The purpose of this discussion is to explain potential harm or risk and show where SAIC predicted harm and measure whether or not there is harm.

Dr. Cornaby stated that this was an unbiased investigation. He said that he didn't have any type of motive; he just wants to know if there are chemicals on the RVAAP that are affecting the wildlife. He wants to know what is really going on in nature. Measurements taken are analyzed by trained biologists. The outcome of the testing has not been stipulated by Army, nor has any payment contingent on a desired finding been made. At this point Dr. Cornaby gave the floor over to Dr. David Brancato. He began by stating that there was a panel of experts and individuals participating in this study. Brian Tucker of the EPA is helping them, as well, with a process called a tiered approach. The most important data are the field data. The study is moving forward in a systematic manner. In the past few days they have been setting up in the field and preparing to start testing. They are

not wasteful in their studies. They are at an advantage here at RVAAP because the Ohio National Guard is performing ecological surveys as well and that is helpful to them. At this point he turned the floor back over to Dr. Cornaby. Dr. Cornaby said that they were at the edge of developing a system so that they would know when to act. He then gave an overview of his presentation.

He described a chance of harm as being a risk. If individuals do something dangerous or are in a situation where they may be in danger that is a chance of harm. He stated that the chance of harm could be defined and evaluated by a risk assessment. There are two kinds of harm: chosen or voluntary risk or forced or involuntary risk. Harm can be immediate or it can be delayed. Chances of biological harm are either health or ecological risk. The health risk from pollution is usually man-made, voluntary and usually are in the form of some type of delayed biological harm.

Dr. Cornaby showed slides of areas of "stressed" areas at the Winklepeck Burning Ground. There are 70 burning pads at Winklepeck. He show slides where vegetation was sparse or not growing at all at two of the pads (37 and 38). He showed a nearby reference point where there was lush vegetation. This lush vegetation showed that there were no contaminates in this area.

He explained the food web (series of interconnected food chains). He noted that other larger animals then prey upon the animals that prey upon plants. These creatures are termed as ecological receptors. Pollutants piggyback in the food and nutrients from one to another. Dr. Cornaby showed a slide that indicated locations of predicted harm. The circles on the maps are the location of the burning pads. The map indicates that there are seven areas that show more harm than any place else on the site. The Ohio National Guard has completed field studies on plants and animals that help support these conclusions. Dr. Cornaby stated that most of the studies being performed at RVAAP show that there are many functioning ecosystems; however, there are some areas with imbalances.

Dr. Cornaby then showed a slide that explained the EPA's process for ecological risk assessment. His team has already completed the first three of the eight steps. He explained the difficulties of testing laboratory animals versus wild ones in the field. In the lab the test performed on the rodents and other test organisms deals primarily with one chemical, whereas in nature the animals are exposed to a variety of different chemical combinations. Lab studies are expensive and are relatively short. Lab animals don't adapt to chemicals the way the ones in nature do and they are bred for laboratory testing.

He explained that there are two types of partial recovery of vegetation. 1 – several neighboring plants try to occupy the area and 2 – one plant species goes into the area and takes hold. He went on to say that if there are no chemical stressors in an area there should be abundant vegetation, small mammals and large litter sizes. However, if there are chemicals in the soil the vegetation will fail to grow, there will be fewer numbers and species of small mammals and smaller litter sizes will be observed. It is his theory that as plants recover so will the small mammal population. This is the theory that will be tested at Winklepeck.

Dr. Cornaby and his team will be conducting biological field-truthing of mammals. They will be setting out metal traps with which to capture the rodents. The traps are 4x4x8 inches. The team member opens the gate and places food

inside; when the rodents retrieves the food they are trapped inside. To date the team has found 5 rodents. They will be measuring the number of mammals that they trap, the number of species, and their ability to reproduce. They will be mainly dealing with voles and white-footed mice. The basis of the risk assessment is to determine whether or not the animals have enough sperm to successfully reproduce. They will be collecting semen samples from the animals and will measure the sperms strength and shape. They need to see if their reproductive ability is stopped or impeded.

Later this summer, Dr. Cornaby and his team will be measuring the percent of area covered by plants, the number of plant species and the weight of the above ground plants. Dr. Cornaby ensured the members of the RAB in attendance as well as the public audience that he and his team will have guaranteed results. He stated that the sampling and analysis plan for biological measurements at Winklepeck will be made available to anyone who wants to see it. A copy of the plan is both the Ravenna and Newton Falls Libraries for public viewing. Questions will be answered and decisions will be made.

If the plants and/or animals are sick they will be able to utilize the data collected to help the risk manager make decisions, and they will conduct a feasibility study to come up with options to clean up. If, however, they are found to be healthy there will be no need for a feasibility study. At this point Dr. Cornaby summarized his presentation. (Please refer to the attached handout for a complete view of Dr. Cornaby's slide presentation.)

Questions from the RAB: Mr. Abercrombie asked how large are the stressed areas. The response was that each pad was about the size of the room that the RAB meeting was being conducted in, Windham Townhall building. Some of the places where there is no vegetation visible are about the size of the table circle. Mr. Abercrombie also asked if the traps were set randomly or spaced across the stressed area. Dr. Cornaby stated that because the animals move around the traps are set at combinations of burning pads. There are traps at 37 and 38, 58 and 59, and 66 and 67. There are about 30 traps placed inside each of the pads. The others are placed around the pad so that the rodent's home range can be covered. The team will be trapping for four nights, with 150 traps in each site. The traps are not placed randomly, but not highly regimented. In the morning each trap will be checked. If they capture a male vole or white-footed mouse they go to the lab. Then, the trappers will go to the reference site for four nights. Ms. Ferguson added that animals move in a random pattern. Most of the traps will be set where there is habitat with vegetation, but there will also be traps placed where there is none or to little vegetation. By the location of each trap the team will be able to determine if the rodents are avoiding the traps. The team wants to know where they are catching the animals and from what traps they are coming from. Dr. Cornaby stated that they have other, larger traps that are designed to capture raccoons, so that the raccoons do not molest or bother the other, smaller traps. Mr. Caryl Griswold asked if the animals become immune to some of the toxic materials in the soil. Dr. Cornaby replied in the affirmative and stated that his team was interested in that issue. He stated that a lot of the voles have numerous generations in between the time that the area was first contaminated and now. Mr. Walter Landor asked if the animals are released in the same area where they were first captured. Dr. Cornaby replied that males are kept for testing, yet females and juveniles are released where they were found. He went on to say that some animals are "trap happy" and will continue to come to the traps; these animals are marked with a bit of nail polish on their foreheads so that they can be

identified. He stated that the animals are treated kindly. Cotton balls are placed in the traps so that the rodents don't have to sit on the hard, cold metal until morning. Mr. Abercrombie asked if the reference points, on the map, were at Ravenna. Dr. Cornaby replied that all of the reference locations are at RVAAP and that the reference points used have a lot of slag (to match the Winklepeck slag places) but it doesn't have chemical contamination. His team chose not to have reference points on Winklepeck; Dr. Cornaby stated that the team has some fair industrial references.

Mr. Thomas Smith questioned why the study was being accomplished. Dr. Cornaby replied that it was cheaper to conduct the study than to excavate all the pads or argue about it. Mr. Smith said that seeing as the pads are so small in comparison to the RVAAP, why are they testing there. There are so many other places in Ohio that are more badly polluted. He stated that he didn't understand the point. Col. Tadsen interjected that the reason for the testing is because the Army is taking responsibility for putting contamination into the soil. If you look at the Deerfield site, everyone is pointing fingers at the other. Yet the Army is saying that they did it so let's clean it up. Mr. Smith stated that he felt it was a terrible waste of money. Mr. Patterson added that the effort is required by law and, whereas, RVAAP might not have as serious issues as other places, they are governed by the same regulations. Ms. Ferguson added that the mathematical equations in the first part of the risk assessment were not taking care of the problem. Therefore, they decided to do the ground-truthing by actually measuring the small mammals and vegetation. She stated that what they find in this effort will be able to be utilized in other and bigger areas. Once this study is complete the information will be used all over so that this kind of money won't have to be spent again. Col. Tadsen stated that other installations are taking the cost savings and intend to utilize the findings from this study, so in the end the taxpayers are saving money. Mr. Smith stated that they have to prioritize. He stated that he did understand the way things are prioritized, because in the end it is all the taxpayers' money. An audience member asked if when the animals are tested are they being checked to see if they have absorbed any of the chemicals. Dr. Cornaby replied not at this time.

An audience member asked why the team was not examining the females as well as the male if this is a reproductive study. Dr. Cornaby replied that it is basically an issue of money, plus testing is easier with males than females. He also went on to say that in the end the study would answer the questions that are being asked about their reproductive state. Ms. Barbara Andreas asked why the team was not looking at the hawks in the area. Dr. Cornaby replied that hawks were receptors in a previous study. Due to their large roaming area and the small size of the areas of contamination the team can't predict any harm or risk to them. The rodents, however, have small roaming areas or home ranges and are in more immediate danger. This, in combination, with the fact that studying hawks is expensive makes them more difficult to study. Mr. Griswold asked how many rodents are out in the testing area. Dr. Cornaby replied hundreds and they migrate to and from different areas. At this time Col. Tadsen thanked Dr. Cornaby and his team. They closed at 7:37 p.m.

4. General Business

Mr. Patterson again called for application for new members. Four replacements are needed. There has been an announcement made in the media, but as of right now there haven't been any applications received. Applications can be acquired at

the Ravenna, as well as the Newton Falls Public Libraries. The announcement will be made again and the response will be reported at the next RAB meeting.

Mr. Patterson stated that a 40 mm grenade was found at pad 59. He stated that the area that is being tested by Dr. Cornaby and his team has UXO (unexploded ordnance) on it. The grenade will be sandbagged and on Monday or Tuesday it will be detonated. A small amount of explosives will be placed on top of it and it will be blown up. Ms. Marti Long asked if the grenade would be blown in place, and Mr. Patterson responded in the affirmative. Mr. Smith asked what the explosions have been at the RVAAP over the last few weeks. Mr. Patterson stated that the Special Forces have been training and exercising on the administrative side of the plant.

Mr. Patterson stated that he would like for the RAB as well as the media to possibly tour the RVAAP this summer. He stated that most RAB meetings would end for the summer and reconvene sometime in September; however, the tour would show the members what has been going on and give them insight into what has been being accomplished on the plant. He stated that there has been removal of UXO from Demolition Area #2. Composting will be starting soon around early to mid July and Mr. Patterson stated that he would like the RAB to see the actual process. He stated that generally the tour is held on a Saturday for about 3 or 4 hours in the morning. Mr. Patterson stated that July 15th, 2000, Saturday was a tentative date for the tour; members will be notified by mail of the firm date.

Mr. Paul Zorko, who presented at the last RAB meeting, requested that a supplemental page be given to the RAB members. This added page deals with the monitoring wells at RVAAP.

5. Scheduling of Next Meeting
   Discussion on the date of the next meeting took place. It was decided that the next meeting would be held on Wednesday the 20th of September, at 6:00 p.m. Paris Township offered to host it once again at the Paris Township Building.

6. There being no further business Col. Tadsen moved to adjourn at 7:45 p.m., seconded by Mr. Landor, and carried.

Respectfully Submitted,

Denise L. Gilliam
RAB Secretary