

**IOWA ARMY AMMUNITION PLANT  
RESTORATION ADVISORY BOARD  
MINUTES  
April 19, 2011**

The Restoration Advisory Board (RAB) meeting was called to order by Rodger Allison, in Elyn Holton-Dean's absence, at 5:00 p.m. on April 19, 2011 at the Comfort Suites Hotel.

**Minutes Review**

There was one change mentioned to the January 11, 2011 meeting minutes. Mark Hagerla indicated a misspelling of the word "*sometime*" and that it should be changed to "*someone*" on page 5. The sentence should now read: "Rodger said the Army has made certain commitments under this agreement, such as if there is legitimate need for *someone* to drill through the contamination, then the Army will help fund that."

**Agenda Review**

There were no changes to the agenda.

**Public Comment**

Vaughn Moore explained the locations of the two underground springs on Line 1...one is south of the 40 building on the east side on Line 1 and one is on the backside of Line 1. Vaughn indicated that after the meeting, he could point these out on a map. After the meeting, Vaughn pointed out the general area of where these springs were located based on his recollection to Rick Arnseth and Ron Frerker.

**FUSRAP**

Ron Frerker briefed the RAB from a slide presentation. Please see exhibit 3 for his presentation.

**FUSRAP Disposal Locations**

Rodger Allison asked about the disposal location options (see slide 4 of the presentation). Ron explained the locations and the criteria as detailed on slide 4.

Paula Graham asked how the material is treated. Ron explained that if the contamination was low enough, it would not be treated, but the normal treatment is a low temp thermal desorption (essentially slow burning or baking).

Vaughn Moore mentioned that this same process was used out at Division B Burning Field. Rodger Allison explained that this low temperature thermal desorption process was started, but later abandoned.

Rodger asked which offsite location accepted most of the soil. Ron explained that Rock Island took the majority of the soil that was shipped offsite (i.e. Upper Rock Island County Landfill). Slide 5 of the presentation explains the waste quantity to date and disposal locations.

Paula Graham asked what was in the water of the open excavations (see slide 6 of the presentation). Ron explained that RDX, primarily. He further explained the activated carbon water treatment system used to treat the accumulated water in the open excavations.

Sivert Iversen commented that it still would be easier if they had the building numbers to know where things are. Ron explained that he could never remember what the buildings numbers are; he said the RAB has seen the building numbers before and that he just wanted to show some of things that FUSRAP encountered and some of these are a re-cap of what has been shown before.

### Radiation Discussion

Paula Graham indicated that sometime back at a RAB meeting, she recalls it around Christmas-time one year, there was discussion about checking water samples for radiation. She recalls that most of the samples were at ground level for radiation, but there were so many samples that were above and she wondered whatever happened to this situation. Ron asked if she was referring to groundwater samples checked for radiation. Paula unsure; they just had so many samples and she recalls discussion of a few samples found above ground level radiation. She recalls somewhere in the neighborhood of 100 samples were collected and around 40 were found to be above levels. Ron doesn't recall taking these samples and doesn't think Paula is referring to FUSRAP data. Ron further stated that drinking water is allowed to have natural uranium in it. So, the fact that radiation is found is not an unusual thing...and depleted uranium is a lower activity, less risk. After the April 2011 RAB Meeting, the Army researched this inquiry and will discuss the findings at the July 2011 RAB Meeting.

Vaughn Moore mentioned that the FY10 Installation Action Plan said that 121 cubic yards (CY) of radiological material was removed and then later on in the report, it states that only 90 CY went to the Inert Disposal Area (IDA). Vaughn wants to know where the other 31 CY went. Ron said that they didn't remove any radiological material except one location on Firing Site 6 where they found a chunk and they put it in a barrel. This barrel is being stored at Firing Site 12. Vaughn found the reference mentioning the 270 CY of rad material...and further asked where the 30-something CY of rad material went that did not go to the IDA. Vaughn remembers at one RAB Meeting, that the IDNR explained how no rad material could be buried in the State of Iowa; it had to be shipped out of state. Ron said they haven't picked up any rad under the FUSRAP program except what is in a 55-gallon drum at Firing Site 12. Rodger said he will look this up; the reference is on Line 1. After the April 2011 RAB Meeting the Army researched this and will provide an explanation at the July 2011 RAB Meeting.

### West Burn Pads South of the Road

Thurman Huffman asked if anyone ever mentioned what was in the IDA. Thurman later clarified that he was referring to the EDA (Explosive Disposal Area). Rodger clarified that the EDA is the "Explosive Disposal Area" that encompasses the East Burn Pads, North Burn Pads, the West Burn Pads Area (North and South), etc. Ron said that, for the West Burn Pads (South of the Road), they found mostly explosives; they also found a small amount of barium. The barium and the explosives that went to the IDA were treated in order to meet the waste acceptance criteria. Thurman said that he is asking about silica. Ron said they were not removing silica. Thurman said, historically, they sent silica out there everyday with the explosives to be burned. He went on to say that silica is all over the burning field [they used the silica on the filters]. Rick Arnseth asked what kind of silica it is...silica metal or silica sand? Eric Orth explained that it is a filtration material...silica itself is inert and the explosives that went along with it would have likely burned off if it got to temp, but the silica would have been left behind. Eric added that silica does not really have any environmental impact...it is very similar to sand in nature...but, you would want to be careful if you breathed it because of silicosis. Thurman said that if people are walking around out there, they would probably breathe it. Eric explained how silica would not be a problem just laying out there...but, when it is burned, it is turned into a microscopic level...something with sharp edges and then it is like asbestos and can get into your lungs and cause problems. Eric further explained how silica is something that relatively recently they have been looking at for health effects, but there is naturally occurring silica all throughout...it is

probably one of the top 10 naturally occurring elements. Eric said he would be more concerned of the people who were burning it.

### Geo-fabric

Mark Hagerla asked about the plastic material put on some of the excavations (see slide 10 for example of fabric). Ron explained how this was done to separate an area where contamination had been left in place...they frequently put a geo-fabric down in order to delineate the area if they need to visit the area at a later time. Ron explained the failures on this excavation (i.e. EU7 A&B) and the reason the fabric was laid.

### Explosive Contaminated Seam

Ron explained the 40% explosive contaminated seam of soil near excavation EU7 A&B. Bruce Workman asked what the remediation process is for that type of high concentration soil. Ron explained that it would likely be burned, but not onsite for obvious reasons. Ron further added that the material would likely be picked up and hauled offsite and burned.

### General

Mark Hagerla asked if EU7 A&B was still being used. Ron explained that this site is part of an ongoing operation. Mark added that it sounds like FUSRAP has a plan for this site, but a couple years back he brought up several times a building that FUSRAP was addressing in the fall, they ran out of money and weather, so they placed a liner or tarp down and covered it up for the winter because there was still contamination there. Mark added that as far as he knows, FUSRAP has not addressed this site yet. Ron thinks the site Mark is asking about is a site contaminated with PAH's...Ron said they would be talking to EPA about this PAH dig as FUSRAP does not think they should cleanup any further for these PAH sites because the sources such as railroad tracks and roadways are still present and being used as part of active operations. Mark asked what building this was near. Ron does not recollect the building number off the top of his head. He explained the location as near an earth covered blast shield that runs along the back of it...and a narrow walkway. Mark expressed his concern that FUSRAP said they would go back to finish that job. Ron explained that they do not think it is proper to clean the dig any further because the source of the contamination is still present...the roof is what is causing the contamination...this is contamination from a natural product. Rodger added that we need to let Mark know what building it is beside, that we know exactly what we covered up, and that we know precisely where it is if we have to go back out, and what our plan is. Rodger committed to providing this information to Mark. Post RAB Meeting, Rodger and Ron provided this information to Mark via email.

Lueene McCracken asked how many buildings had coal tar roofs. Ron unsure...he is guessing quite a few. Lueene asked how many oil & chip roads there are on the facility. Ron said that this kind of road is standard policy...most of the roads on the plant are oil & chip roads. Lueene asked if the buildings with the coal-tar roofs have PAH's...Ron indicated that they do.

### IRP Project Update

Rick Arnseth briefed the RAB from a slide presentation. Please see exhibit 4 for his presentation.

### Contaminated Clothing Laundry

Paula Graham asked if all the contaminated laundry from all of the lines went to the Contaminated Clothing Laundry. Rodger said, “yes.” Paula asked if they found anything else besides RDX in the wastewater. Rick said they didn’t find anything other than RDX in the groundwater. Paula asked if there used to be a sump at the Contaminated Clothing Laundry. Rick said that there used to be a sump there, but has since been removed and replaced by a much better system. Rick explained that a lot of soil was removed when the sump was removed...because the soil under the sump was contaminated, it then contaminated the groundwater. Vaughn Moore asked if there were cracks in the container or was this (*i.e. contaminated groundwater*) because of leakage through the cement. Rick said that the sump itself was cement and it probably was cracked. Rodger Allison explained his understanding of the history of the site and the reason they didn’t find any contamination in the soil immediately surrounding the old sump. He thinks it is because when the filtration system was built nearby, they put the clean soil around the old sump. Thus, they weren’t finding any contamination in the soil on the surface (*i.e. top 12-24 inches*). Rodger went on to say that they found contamination before they put the building with the filtration system there. Some projects kept looking for surface contamination, but they were sampling the clean soil from the building construction. Therefore, deeper soil was found to be contaminated for two reasons...the original grade was covered up and the cracks in the old sump. Vaughn Moore asked how they took care of the pipe that fed out of the building into the sump when they took the pit out. Rick said that American Ordnance took care of this. Rodger explained that the old sump was replaced by a new sump and they connected the piping. Vaughn asked where they pumped the stuff. Rodger explained the process of how the water comes out of the laundry into the sump, then the flocculation from the soap is settled out, and then it moves into a filtration system. John Carroll added that from here it moves to the main sewer.

Paula Graham said that all the coveralls went to this contaminated clothing laundry...and that when she worked in places sometimes it was like fog and everything would be turned white and they would have to use Windex to wipe everything off... so all of this stuff would be put into a hopper and shook around...but they didn’t find anything but RDX? Rick said “no” not in the groundwater anyway. Luenne McCracken asked what was found in the soil that surrounded the sump. Rick doesn’t remember what was in the soil; they cleaned it up such that the RDX was the lowest value they used to clean up. Luenne asked if they could find out what was in the soil. Rick said that he believes there is a report, he will go back and check on the levels and follow-up during the next RAB meeting. Luenne asked if this laundry was in Line 1. Rick said “no” and Rodger pointed out on a map where the contaminated clothing laundry is located.

### Inert Disposal Area

Vaughn Moore asked if the critters had torn any more holes in the Trench 6 plastic cover. Rick said he hasn’t seen any holes recently; they have been having trouble with the wind blowing it and tearing seams.

Vaughn Moore said that he knows RDX is a big problem, but very seldom do they hear about mercury, lead azide, TNT, baritol...these don’t seem to be a problem? Rick explained that they have picked up TNT, RDX, lead, copper, and mercury in the soil...most of that stuff is not soluble, “therefore it doesn’t get in the groundwater...it attaches to the soil and stays in the soil...if it moves, it moves very slowly and so they aren’t seeing concentrations in the groundwater for a number of reasons, but mostly because that material is not soluble and it tends to stick on the soil particles.” Vaughn asked if they would eventually have to remove this. Rick explained that they did remove a lot of soil that had mercury, lead...FUSRAP removed a lot of soil with barium...Tetra Tech removed a lot of TNT contaminated soil. Rick explained the reason they went to the Alkaline Hydrolysis process for soil

treatment was because the bugs were having a hard time destroying the high TNT concentrations in the soils in Trench 7 in an efficient manner. Vaughn asked if this was the same process used to get rid of the tetryl in the dirt at Line 5A and asked if it was hard to get rid of the tetryl. Rick said that Tetra Tech did not remove soil from Line 5A but he doesn't think tetryl is that hard. Rick said they cleaned up for RDX and TNT in the soil...anything else that went was gone...HMX is not that big of a problem with that process. Eric Orth explained the chemistry. Rick added that the contaminant driving the cleanup is typically RDX or TNT, so they do tend to focus on those because those are some of the lowest concentrations they have to achieve. Rick further stated that they do spend a lot of time talking about metals when they talk about ecological risk...if they look at the Indiana Bat they do a lot of metals analysis to see if they have cleaned up sufficiently for protecting it. Rick explained the food chain model for the Indiana Bat.

#### Line 9

Vaughn Moore said an individual told him about a hole dug between Lines 7 and 9 that filled up with water and they found three dead deer lying around it so that tells him there is still stuff in the ground out there that is toxic. Rick hadn't heard about this. Vaughn doesn't know how recent it was, but an individual told him that there was a hole dug between Lines 7 and 9 and it filled up with water and when they were in that area there were three dead deer lying around that hole. Vaughn said that this has happened in the past when he worked out there, it was nothing for them to come across a dead critter somewhere every once in awhile depending on what was running out of where or who was dumping what. Vaughn said he doesn't know if it was the Freon that got the deer or what. Rick said he doesn't think that drinking Freon contaminated water would have killed the deer... "you can drink a lot of water with Freon in it and not be killed, but you can't breathe...so he could believe that they could have been asphyxiated if it was down in some hollow, and there was Freon, and conditions were just right." Vaughn said that according to the Installation Action Plan, there are 5 acres of Freon in the ground down there. Rodger explained in the past that they had to stop a project and make adjustments because the monitors indicated that oxygen levels in the breathing zone were below workable levels. They have alerted American Ordnance safety...all contractors who come in and work on Line 9 are aware of this issue...so they have taken the appropriate steps to address that element...and Rick is dealing with the treatment of it or whatever steps we have to take to address the Freon in the groundwater. Paula Graham asked if we were going to cleanup the Freon in the groundwater. Rodger explained that it is his understanding that the Freon action levels are quite high, and the levels they are finding in the groundwater are below those, so they are going to use Monitored Natural Attenuation to address the Freon. Rick added that "it is not a drinking water problem...it is not good to breathe, but it is not a drinking water issue."

#### Offsite Groundwater

Vaughn Moore said that he was out there the other day and the one well that was underwater last fall in the basin, can be accessed now. Rick said that this summer they are going to try and plug those wells because that basin has been holding water as of late. Vaughn said that that area did not use to hold water...it just started holding water about 3 years ago.

### **Pipe Effluent Downstream of Mathes Lake**

Rodger Allison briefed the RAB from a slide presentation. Please see exhibit 5 for his presentation.

Rodger asked if this blow down pipe that Rodger presented information on, is the pipe that Vaughn had previously inquired about. Vaughn said that this is not the location that he had previously asked about. Vaughn explained that the pipe he inquired about came out of the 2 brackets above (see slide 10) on the Lake Mathes spillway. Thurman pointed to a location where he thinks a hole is located in the east support wall of the spillway and said that the pipe was gone when they went on a tour awhile back but you could see where the pipe had been cut...and you could see a hole in the wall where the pipe came out. Vaughn added that he knew the gentleman that installed the pipe on Line 1 and could show Rodger how that pipe was put in and where the pipe ran to and where the pump house was to pump it out...he doesn't know if the cement is still there. Vaughn added that, "the pipe went right down at the spillway and right down through Yard G and you could sit at the bridge at Yard G with your spot light on and aim in right down at that creek and everything in that creek would go belly up." Vaughn said that creek (Long Creek) has a slate bottom...and that the whole plant was designed and built around using the creek systems as a flush system for the plant. Vaughn added that the gentleman that helped put this pipeline in stated how much water problems they had inside of Line 1 running it because of the groundwater problems in there and there were times that they had to dig the pipe back up and put cement cradles on it to push the pipes down to get them level so they would drain. Vaughn said on the night shift the gage guys had to drive the truck up there [to the pump house] and the pipe went out of Line 1 up between Lines 2 and 3 to the top almost to the trees and that is where the gage was and he would have to go up there and change the gage things every night. Vaughn said he was aware, and was told by the other guards, that they only pumped that pipe on the night shift. Vaughn went on to say that, "some of the guys on the night shift would complain about going to the plant lake after the Firing Site was shooting the hydro shots because the lake glowed...and they have been told that was fungi or a minnow or something, but it was the depleted uranium hydro shots that was going into the plant lake with the drinking water. The guys at the water treatment plant were told in 1972 that we had contaminated our main water supply at the plant and they had to get Burlington water...so from 1972 to 1978 we were drinking our own contaminated water, and so was Middletown because they were hooked up to it, and he has told us this so many times but no one believes him and understands what he is trying to tell them." Vaughn expressed his frustration that he has been telling us through the years what happened where and he never hears back or gets a response. Vaughn said he is here trying to tell us what happened and what was done and he feels that no one is listening. Rodger expressed that he missed the mark...he thought the blow down pipe that he was presenting information on was the right pipe in question. Rodger explained that when Vaughn brings information to him he takes the information and then he starts asking questions to folks back at the plant to look for an answer. Vaughn said that this was the first nuclear facility in the world to mass produce atomic weapons... "we had no SOP's...this was a new facility and we started out by experimental trial and error and that is what happened to a lot of the people...people started getting sick and people started dying but this was the Cold War...we need these nukes and we are going to build as many as we can." Vaughn said they had radiation leaks, breathing problems; there was stuff in the buildings contained in them that they breathed day in and day out. "The Atomic Energy Commission (AEC) told you nothing and the Army didn't know what was going on down there half the time because they were not involved. All of sudden AEC said they screwed up and contaminated the water out here so they hauled down to Texas and they left...what they didn't tell us was that they didn't clean up a thing." Vaughn said they ground up, burnt, and dumped, threw everywhere out there in the name of the Cold War. Vaughn said the same thing happened on the Army side to them people. Vaughn expressed his frustration and said he has tried to tell us this over and over again and doesn't feel people are listening to what he is telling them. Vaughn said, "they lost so many people...you went to your buddies house

lying in bed...ate up from what he was exposed to at the plant...and nobody listens...what do you have to do. And the things that happened in there...the guys you lost...the kids that got sick because you took it home on your clothes...the neighbors that died that never worked there from the stuff blowing out of here...what do you got to do to tell you what happened here? If AEC wrote history, they wrote it rainbows and flowers, they didn't write it to what happened...if you weren't here you don't know nothing about this place...you don't know what we breathed, you don't know what they did to us, you don't know how they falsified documents...you don't know they covered up stuff...they had no budget, it was unlimited...they got anything they wanted if they could get the bombs out of there... them buildings are hot...there are people that died from what was in those buildings and it is killing him that no one is listening to him." Paula Graham said that she thinks they understand now...she said her sister worked on Line 1 and she died when she was 25 years old. Vaughn said that's how they got rid of women because they started having female problems. Vaughn said the only thing that they are going to remember is that, "they worked there...they aren't going to remember anything that happened, nothing we told you...you can't imagine what they did to us." Rodger expressed his understanding... "he knows the challenges that former workers go through and that it doesn't matter what he says, it won't be enough...all he can do is take the information that Vaughn provides and do the best research that he can to find out what it was." Rodger said that he really strives to be responsive to whatever everyone has given him and then he takes that and he tries to find documentation and to ask people and find a connection as to what happened. Rodger apologized that he missed the mark here, he thought he had the right information, but he didn't...he had the blow down information that Vaughn knew about. Thurman said that, "the blowers had no breaks in them...they burnt pulverized coal...the flyash went to the flyash pile and they would flush those lines...in 1-62 they flushed twice a shift, but he doesn't know what they did at the main." Rodger asked for clarification on the Line 1 pipeline. Thurman explained the location, "high up on the wall where there is a hole in the east support wall of the spillway, the pipe came out of the wall and hung down 8-10 feet...this is the pipe that came out of Line 1...it was about a 6 inch pipe." Rodger explained that he is going to find the guy that gave him the information on the blow down pipe, and see if he can provide any information on the pipe that Vaughn and Thurman are referring to. Thurman explained that if you walk out on the trestle and look on the east wall you will see a hole in the wall where that pipe originally came out. Rodger said that, "it's not that he doesn't believe them; it's that he wants to see if he can find something to determine what it was or what it might have been so he can go to the data that they already have and see if we have anything...if we haven't, then we need to go back out there and see what needs to be done." Rodger said the key that we have is to make sure that what happened back then doesn't happen now. Paula said that Vaughn was a guard and so many guards have passed away and have gotten cancers and such and she thinks it affects him terribly, and many times the guards had to go out with the ambulance and they had to pick up body pieces after blows. Paula said that she had a sister that worked there and died when she was 25 years. Her sister worked there during her first pregnancy, and her boy was born with deformed legs and very anemic and her other boy was very anemic too...they were 4 years old and 21 months when she died. Sivert Iversen asked if Paula's sister worked on Line 1. Paula said that she did. Paula said that she is the type of person that accepts what goes on...you have to. Sivert said that he has known Vaughn and Thurman for years and he sits in on the former worker board..."a lot of things went wrong and it is hell when people have died and you can't do anything about it...he just doesn't know what to say sometimes...he does the best he can." Paula added that we know a lot more now than we knew back then...and we were in a race, the Cold War, and was against the Soviet Union so there was a lot going on.

Mark Hagerla said he appreciates Vaughn and Thurman to publically speak about this, and he knows there are a lot of people who are fearful to come forward and speak about this. When people went to work at the plant, as he understands it, they had to sign a confidentiality agreement or secrecy agreements, but he understands now that those restrictions have been lifted. Rodger concurred. Sivert said there are still people that won't talk about this. Mark said he thinks these people should be interviewed...there are a lot of people that have died and more that will die...he thinks there should be an interview done with these people to interview what they have been saying. Mark expressed that he is here to see that what we (the RAB) talk about gets out to the public...that is the job of the RAB...and sometimes he doesn't think this job gets done very well...he wishes more people had the guts to keep bringing this to the RAB's attention. Rodger said that he fully agrees with Mark and appreciates his comment. Rodger explained that he really tries to take the time to listen and follow-up...it may not be as fast as he would like it to be, but he really tries to follow-up. Rodger expressed his gratitude to the folks who sit on the board and come to the RAB meetings and share information where Rodger can, in turn, go back and do that research and find answers. Rodger said that for those people who don't feel comfortable talking to the Army or the EPA, the RAB members are a perfect venue to go to and Rodger sincerely appreciates them.

Alan Koenig said that he worked in the drafting department from 1977 to 1998 and they lost at least 5 engineers...they had guys with different kinds of cancer. Rodger said that he cannot speak to the sources of cancer, but he fully understands what Alan is saying.

Rodger expressed that he cannot say what was done in the past...but he can sympathize...he wishes that it had not happened the way it happened... but because there was a war to win they made it happen, "I wish that didn't have to occur...I wish you didn't have to watch friends die...I wish you didn't have to go through all of this...I wouldn't wish it on anyone and what we are here to do today, is to ensure that what made it to the groundwater and soil...what was released back then doesn't create problems for people today." Rodger hopes that Vaughn keeps helping us do this... "this is very important and is important to Rodger personally, important to the Army as a whole, and is important to our neighbors and our friends." Rodger knows that this is an agonizingly slow process, but he takes this source information and he looks for the answers. Rodger apologized that tonight he missed the mark, and he will go back and get the answer as to what occurred.

Rodger asked what might have been in the outfall of the pipeline that Vaughn referred to. Vaughn said that it was red water... "they pumped red water out of the pipeline out of Line 1 that went up and over the spillway." Vaughn said that we still have a problem coming out of Long Creek due to the pistol range and the contamination coming out of the old dump site (PDS). Rodger said we are addressing this and are aware of it; we should be talking about it at one of the next RAB meetings.

Rodger explained that downgradient of the spillway, "we sampled for explosives and metals in the sediment and surface water." In the sediments we did not find anything above action levels for RDX...for the metals, none of the numbers came up above any risk factors." Now Brush Creek is a little different...we did find stuff in Brush Creek, but we didn't find anything on Long Creek that would trigger any action." Rodger said some folks are looking at the historical pistol range, from an MMRP perspective, and that action will start very soon. But, because there was nothing that went above the levels of risks where they would need to take action, they don't expect to take any action along Long Creek, right now anyway, under IRP. Rodger said that if MMRP finds something close to the historical portion of the pistol range, they will be investigating, then they may take action, but it will go through the process of evaluation. Vaughn said that the IDNR told them at one meeting a long time ago that they found silver in Lake Mathes. Vaughn said this silver came from the x-ray tanks on



Line 3A and ran into Long Creek, but IDNR didn't think this was so because the x-ray tanks are on the south side of the Line. Vaughn went on to say, "the new ones are on the south side of the line, but the old ones were on the north side of the Line...so if they found silver in the plant lake, what other chemicals were used to take the silver out...that has never been answered." Vaughn further added that the other thing is the ammonium nitrate at the tank farm at Line 8; "this runs right into Lake Mathes...everything from the Laundry, Line 6, and the Power House...all runs into Lake Mathes." Bruce Workman asked if there had ever been sediment samples taken from Lake Mathes. Rick said that yes, there have been some. Bruce asked what kind of results. Rick responded that mostly metals were found, but he doesn't think they have seen anything significant. Rick recalls a sample right above the spillway where the main powerhouse pipe may have come in, and these results have unusually high iron content, which you would expect if they were dumping iron-rich blow down sludge water here. Rick added that all the sediment samples were mostly collected during the Ecological Risk Assessment in early 2000 and nothing ever came up in Lake Mathes. Rodger added that the actual samples were probably collected in the 1998-1999 timeframe. Paula asked what was in there (*the lake*) 10 years before the sampling effort. Rodger said, "We don't know...and there is no way to find it...all we can do is assess what is there now and react to that. There may have been a laundry list of things that used to be there, but if we can't detect them now, we can't react to them." Paula asked if there were any records anywhere about what was in that water of Lake Mathes that made them go over to Burlington water. Rodger said that he has not seen anything, but that doesn't mean that it doesn't exist. Paula indicated her reason for asking is to help people filing for different cancers and such. Paula recalls one person who filed a FOIA request trying to get this information. Rodger stated that FOIA requests are taken seriously and do take time to research. Rodger explained the FOIA process.

Rodger said he will keep looking for this pipe, talked about by Vaughn and Thurman. Rodger said that even if red water was released from this pipeline many years ago, they aren't seeing evidence by the data they have today...but, this does not mean that it did not happen. "It may have been released many years ago, but think of the 8 inch rainfalls that wash things through." Rodger said that RDX is water soluble and runs with the water. Vaughn said, "don't forget that the boy scout camp used to be right there at Lake Mathes, no more than 1 mile from the Firing Site...this is no longer there, but think of all those kids out there all summer when hydro shots were going off...so how many boy scouts got sick?" Rodger said he wished he knew the answers; but all we can do is to react to what is there today.

### **Groundwater Remediation Process**

Rick Arnseth briefed the RAB from a slide presentation. Please see exhibit 6 for his presentation.

Vaughn Moore asked if we have any idea how much RDX is going into the offsite plume at any given time. Rick explained that it is really hard to measure that...the concentrations they are seeing in the wells right near Brush Creek have been dropping consistently. Rick recalls the levels as 8-12ppb in the creek itself; the numbers they are seeing in the wells around there are about 4ppb, so there is some dilution going on and it goes out the bottom of the creek. Vaughn asked if the flooding causes the creek to carry this out to the Skunk River. Rick explained that the plume goes under the Skunk River so the offsite groundwater plume does not discharge into Skunk River...it actually goes under the Skunk River...that is why they have wells on the south side of Skunk River. Vaughn wondered if when the Mississippi River is high, would it bring up the offsite plume or carry the plume to the Skunk River. Rick said that if the Mississippi River is high, then it will pull the plume up because that is ultimately where it discharges...if the Mississippi River is high, it would back everything up, and raise the water level out in that entire offsite area. Vaughn asked if the standing water affects the plume as much as the flooding. Rick said that the standing water is being driven down into the ground and is

diluting the plume at some level. Vaughn said that the gravitational pull of the Mississippi River was actually moving the plume. Rick explained that any change in the level of the Mississippi will have some impact on the rate at which the plume is going.

Bruce asked what kind of sugar solution they use in the offsite area. Rick said they have used high fructose corn syrup and they have also used sodium acetate.

**Public Comment**

Rodger asked if the format, the way our dialog goes back and forth, is working for the RAB (i.e. presentation/discussion mode). Rodger wants to ensure that the Army has the proper dialogue that works for the RAB. Rodger said we didn't have to decide anything today, just to be thinking about it.

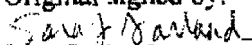
Sandeep Mehta asked if we planned to take a survey for public outside sharing with the community as well as RAB members. Rodger responded that there is no plans to do this at the moment...but they could certainly discuss. Rodger said that since the RAB is the conduit between the Army and public and working with the RAB members themselves that is the type of feedback we would be looking for too...whatever works best for the RAB because this is supposed to be a two-way dialogue. Vaughn Moore said that the only thing he wished we would do differently is to give them the building numbers in presentations so they know where they are digging.

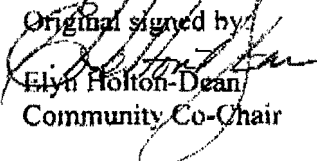
**Next Meeting/Draft Agenda**

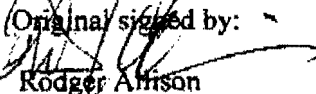
The next meeting was scheduled for July 19, 2011 at the Comfort Suites Hotel. Agenda topics suggested were. IRP project update, CC Update, FUSRAP update, MMRP Update, ORAP update.

Mark Hagerla asked if our meeting dates conflict with the Commander's calendar. Rodger said that he usually comes in, unless something pulls him away, because it is on his calendar. Rodger said he usually has every intention of being here.

The meeting was adjourned at 7:50 p.m.

Original signed by:  
  
Sara Garland  
Secretary

Original signed by:  
  
Elyn Holton-Dean  
Community Co-Chair

Original signed by:  
  
Rodger Amison  
Army Co-Chair

- |           |   |   |
|-----------|---|---|
| Exhibits: | 1 | Attendees                               |
|           | 2 | Agenda                                  |
|           | 3 | FUSRAP                                  |
|           | 4 | Restoration Project                     |
|           | 5 | Pipe Effluent Downstream of Mathes Lake |
|           | 6 | Groundwater Remediation Process         |

Exhibit 1

**RAB MEMBERS PRESENT**

Mark Hagerla  
Eric Orth  
Dean Vickstrom  
Bruce Workman  
Vaughn Moore  
Alan Koenig  
Sivert Iversen, Jr.  
Kim Perlstein  
Hans Trousil

**RAB MEMBERS NOT PRESENT**

Elyn Holton-Dean

**GOVERNMENT MEMBERS PRESENT**

Rodger Allison  
Sandeep Mehta  
Hylton Jackson (in Dan Cook's absence)

**GOVERNMENT MEMBERS ABSENT**

LTC Tommie Hewitt, Jr.

**PUBLIC**

Christinia Crippes  
Dean Johnson  
Linda Wobbe  
Thurman Huffman  
Paula Graham  
Lueene McCracken  
Cyril Onewokae  
Ron Frerker  
Chelsea Cox  
John Carroll  
Sara Garland