IOWA ARMY AMMUNITION PLANT
RESTORATION ADVISORY BOARD
MINUTES

July 19, 2011

The Restoration Advisory Board (RAB) meeting was called to order by Elyn Holton-Dean at 5:05 p.m. on July 19, 2011 at the Comfort Suites Hotel.

Minutes Review
The minutes were accepted as written.

Agenda Review
There were no changes to the agenda.

Public Comment
Rodger Allison introduced and welcomed the new incoming commander, LTC Michael Bruens.

Sivert Iversen is stepping down from the RAB. Rodger thanked him for all his work with the board.

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

Unfinished Digs
Ron began his presentation with clarification to a question asked during the April 2011 RAB Meeting in regards to unfinished excavations/digs. Ron referred to slide 2 of his presentation regarding the activity and reporting timelines. During excavation fieldwork in 2008, there were some locations that required further excavation at the West Burn Pads South and Line 1, but were closed for the season due to weather conditions. Prior to closing for the winter, they placed geo-textile fabric on the open excavations that failed cleanup criteria and backfilled for safety reasons. Then, in 2009 they started going back to every excavation that failed and re-opened the excavations and continued to dig until they met the cleanup criteria. They finished excavations in 2010 at the West Burn Pads South and then moved to Line 1. They have been, and currently still are, addressing these excavation failures and re-opening the excavations and continuing to dig until they meet cleanup criteria.

Explosives Seam
In regards to the explosive contaminated seam that Ron mentioned, Paula Graham asked what contamination was found in the seam. Ron explained that the seam he was referring to was contaminated with explosives…RDX and TNT.

Unit of Measure
During the presentation, Ron referenced some of the material levels in regards to contamination and Rodger Allison asked for clarification on what unit of measure Ron was referring to. Parts per million (ppm) is the levels they are cleaning up to in the soil. When they refer to parts per billion (ppb), it is in regards to water level standards.

Landfill Protocol

Lueene McCracken asked about the FUSRAP soil taken to the Ft. Madison Landfill. She said this landfill sits above Ft. Madison and when it rains, and 1600 tons of contaminated dirt has been dumped there, it will start to flow and drain right on down to Ft. Madison and this is very concerning to her. Ron explained that they met the standard for the State and the landfill so all the material was material that was approved by folks in the waste disposal arena so they had EPA and State approval and in addition to that, FUSRAP's material was actually below the voluntary cleanup level for the State. What they sent, could have actually been left onsite in another location. Luenne asked why they moved the contaminated soil down to Ft. Madison if they could have left it in place. Ron explained that one of problems not anticipated was the PAH contaminated soil that originated from coal tar roofs, so they are seeing PAH's from railroad ties and oil and chip roads. All of the areas with PAH's were near down spouts so what they are actually cleaning up is runoff from the roofs. Luenne said that these contain carcinogenic materials. Ron agreed that at the right levels, these materials are carcinogenic. Ron further said that, unfortunately we live in a society, where PAH's are everywhere because of the processes of burning diesel fuel and coal. Ron said that the good news is that PAH's do not travel far in the environment. Ron said the levels they found are very low and below what would be considered a normal cleanup level. Rodger piggybacked on Lueene's comment and understands her concern of moving contamination from Des Moines County and taking it to Lee County for disposal. As Rodger understands the landfill process, Lee County landfill is constructed so that the transport of contamination that Luenne was referring to will not occur. They have liners as well as other mechanisms to prevent that kind of flow. Rodger said this is why we must have our contamination at a certain low level so that as we add it to other people's contamination in the landfill, that it won't break those barriers. Luenne indicated that she heard this same story before regarding the offsite area where the contamination couldn't get through the clays into the aquifer, but RDX did get through the clay and into the aquifer. Rodger said that we have never said that the RDX wouldn't get away from us at the plant; in fact that is why we are doing the work that we are doing today, however, the landfills are constructed to handle certain levels and it is designed to contain the contamination. Elyn concurred and said that up here at the Des Moines County Landfill they have spent countless monies to ensure that they have the lining and clay in there so that none of those liquids and toxins will leach out. Elyn further added that she can't speak for Great River Landfill in Ft. Madison, but they do have the right certifications/regulations. Contamination will not leach out to the public. Luenne asked the lifespan of the liners. Dan Cook said that once the landfills are closed, they are only required to monitor for 30 years. Dan said that today's landfills are built like bathtubs, they have clay liners, infiltration liners, and then they have a sand seam on top with a tile system so any water that does get in goes into the tile system and is known as leachate. This leachate goes into a collection system that must be treated prior to release. Until the landfill cell is closed, it is susceptible for rain to percolate through it, but will be captured in the leachate collection system. When that particular landfill cell is full, they cap it with another water proof layer and is created so that all the water runs off so very little water infiltrates once it is finally closed, but any water that does infiltrate is collected by the leachate collection system and is tested and treated prior to release. Dan said that starting this year they got rid off all the hazardous waste rules in Iowa, and so only non-hazardous material can be disposed in Iowa that is why FUSRAP has been taking soil to Illinois and Michigan. Dan said that before material goes to the landfill they have to complete and pass a TCLP test. Dan explained what this test entails. Elyn extended an invitation to the public to tour the Des Moines County Landfill so the RAB could understand the different landfill layers and the process. Paula Graham said that it would be nice to have an explanation

of this in a newspaper article so people could understand it. Dan said they have a good diagram on the IDNR website with a cross section for a subtitle D landfill. Subtitle C landfills are the hazardous waste landfills, which are not allowed in Iowa.

Line 1 Surface Water

Vaughn Moore asked if they were having any problems with surface water in Line 1 due to the high water table. Ron said that they have had groundwater intrusion in some excavations, but not this year due to the dry weather conditions.

Building 1-70

Lueene McCracken asked what kind of contamination was found at building 1-70. Ron explained that explosives were found…RDX and TNT. Rodger said that the IRP program is handling the groundwater on Line 1 so the programs are somewhat overlapping during the field efforts there. Rodger said that groundwater is getting into that building so we have to find the answers as to how it getting there, etc., prior to removal of the building.

Unfinished Digs

Ron said that they continue to work on excavation failures. Every single failure has been listed, they know exactly where they are located and what contamination is present and they put a line of demarcation with geofabric when they put the backfill in for the season so they know exactly where to come back to. Previous comments expressed worry that they would forget any of these failures, and Ron indicated that they would absolutely not forget these.

Line 1 EU6-A Excavation, Slide 10

Paula Graham asked if Ron was referring to explosives contamination at this excavation. Ron concurred.

Unfinished Digs

Ron reiterated that they have not forgotten about any excavations. They had to button up some at the end of the construction season, but they will go back and address every one. Rodger indicated that he wished Mark Hagerla could have been here tonight to hear this because he previously expressed concern that the Army was forgetting some excavations and covering them up and Rodger just wanted everyone to understand that all programs do this, not just FUSRAP, for safety and cost reasons for the winter season.

Rodger asked if FUSRAP was leaving any contamination in place due to structural issues. Rodger indicated that IRP had to leave some contamination in place because of structural reasons up close to buildings and rail lines. Ron said that they have had to stop excavating because of compromising foundations, blast berms, etc. FUSRAP is working closely with AO and the engineers to know what they can and can't do. Obviously, they want to get as much contaminated soil as they can.

IRP Project Update

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

Paula Graham asked what contamination was found at the Contaminated Clothing Laundry. Rick explained that RDX was found.

Contaminated Clothing Laundry, Slide 6

Paula asked if the laundry from all over the plant was taken to the Contaminated Clothing Laundry. Rick said that this is correct, as he understands it, that this was the only laundry on the facility. All that was found was explosives RDX and TNT in the soil. They looked for metals, but never found any. Paula said that the materials she worked around were in powder form, fulminated mercury and lead azide. Rick said that they don't show up in the soil and groundwater. Rodger said they completed the full suite of metals very early in the process and didn't find any. The metals either stayed in the water and flowed through, or moved somewhere else or never made it to the soil like the RDX and TNT did.

Brush Creek Contamination

Rodger asked Rick to explain some of the sources that could contribute to Brush Creek contamination in the 5-10 ppm range. Rick said that none of the groundwater plumes that they have identified in any of the watersheds actually impinge on the creek and none are actually discharging to Brush Creek. One of the source studies that they did early on was do install a water treatment system at the main sewage treatment plant, which discharges into Brush Creek, to see if something was getting into the creek untreated. Tetra Tech ran this study for 2 years and didn't really see any changes to Brush Creek concentrations. The only things remaining are that Brush Creek runs through an active production line that may have some permitted NPDES discharge outfalls. Rick explained the soil cleanup level of 1.3 ppm (deemed clean enough for this facility) and if clean water is run over soil that is cleaned up to 1.3 ppm, the results will be water that exceeds the 2 ppb level. Paula asked if they are using RDX in these active areas. Rodger said that RDX is still actively used in the manufacturing processes. However, the processes don't release the water, they are closed loop systems and only periodically would they release. John Carroll said that currently no RDX is used at Line 1 or 2, and that there could be some used at Line 3 which is still in the Brush Creek watershed. They (American Ordnance) do discharge more waste water at Line 3 than 3A, which are both closed loop systems, but somehow the volume increases at Line 3, but doesn't at Line 3A. The reason for this is because they are adding steam condensate all the time. So, they may discharge 10,000 gallons/year at Line 3A, but they may discharge 4 or 5 times that at Line 3, which is sill a very insignificant amount of water understanding the volume of Brush Creek water flow, and they do treat the water below permitted limits. Also, during the main sewage treatment plant two-year study, Tetra Tech put an additional carbon filter on the Line 3 discharges so they didn't discharge any water to Brush Creek watershed that wasn't treated through an additional carbon filtration. Rodger said, even at these points, they eliminated any discharge that they would have had and still didn't find any impact. This study was conducted from 2005-2007.

Vaughn Moore asked if Long Creek or Brush Creek watershed was bigger in terms of area drained. Rick, said the biggest in terms of drainage, he would guess is Long Creek. Steve Muffler added that Long Creek or Spring Creek had virtually no sources for RDX. John Carroll added that some of Line 3A could discharge to the Long Creek watershed, but it is above Lake Mathes and would have to go through the 80-acre lake before it would actually go offsite. Steve Muffler added that out of all the watersheds, Brush Creek has seen the most industrial activity. Vaughn said there are still places where stuff was dumped and buried all over out there. Steve Muffler said that they have done additional studies along Brush Creek where they have looked at RDX in surface water and sediment all up and down Brush Creek to see if there is some unknown source that is feeding in and the answer that they keep coming up with is that it is pretty uniformly distributed as far as surface water contamination goes all up and down the creek. More recently they have started to understand at the very headwaters of Brush Creek,

which Line 1 is, that there are some sumps which are dewatering building foundations that are discharged and enter into Brush Creek at fairly high concentrations (e.g., 50-100 ppb). Vaughn said that they have always had a high water table on Line 1 and there are sumps all over that line.

Dan Cook noted that the current NPDES discharge is 1000 times higher than the cleanup level.

Action Item Follow-up

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

FUSRAP Radiological Soil Clarification

Vaughn Moore had questioned the radiological soil slated for removal and disposal to the Inert Disposal Area as documented in the FY10 Installation Action Plan. After researching, we found that the levels of radiological material referred to were at background values (e.g., Actinium-228, Bismuth-214, and Potassium-40) and therefore did not require excavation. The Army made an error in the placing removal of this material in the OU1 Soils Record of Decision (ROD). There is a 2006 Explanation of Significant Differences that documented the removal of radiological material in regards to Actinium-228, Bismuth-214, and Potassium-40 from the ROD since the levels were at background values. Rodger indicated we have made note of this and will correct it in the next version of the Installation Action Plan.

FUSRAP Radiological Groundwater Sampling

Paula Graham had questioned radiological groundwater sampling at a previous RAB meeting. Rodger found that this was discussed during the May 2004 FUSRAP presentation and Rodger provided a copy of this presentation to Paula. Ron Frerker said that the important thing is that the levels found were below drinking water standards and appears to be naturally occurring. Paula recalls that a few samples were found above background levels. Ron said that radiological background depends on where you are because the background level for uranium in soil at Iowa is higher for uranium than down in St Louis. The levels found were safe for drinking water and determined to be naturally occurring.

Contaminated Clothing Laundry – soil contaminants removed

Rick covered this action item during his presentation. Please see exhibit 4, slide 6.

Line 1 Pipeline – associated with Lake Mathes Spillway

Rodger explained that a meeting was conducted with everyone [AO engineers, Larry Taeger (former engineer who installed the Line 1 pipeline), Vaughn Moore, and Thurman Huffman] to discuss. We cannot find evidence that the pipeline in question leaves Line 1. It looks like the pipeline stops just outside of Line 1 in Brush Creek. Rodger indicated that Vaughn and Larry had reported that they thought there was pipe that came from Line 1 down in between Lines 2 and 3 and made its way over to the spillway at Lake Mathes. We couldn't find any evidence of one that went that far, not saying that it doesn't exist, we just cannot find evidence of it. We think the pipeline stops in Line 1 and the effluent would have gone into Brush Creek at the time. We found documentation from the building that Larry had reported to us and we found where we think the pathway went. The brackets that were up higher on the spillway were for an intake to take water from Lake Mathes over to a reservoir right behind the powerhouse. The lower brackets were for the powerhouse blow down pipeline. Vaughn and Thurman still remember a pipe at the spillway, and we just do not have evidence of it existing. What Rodger wants everyone to walk away with, is that we think we have measured or looked for the right

contaminants in Long Creek and downstream of that spillway. We looked for metals, explosives, and rad. Thurman asked if we found anything between Lines 2 and 3 at the pump house. Rodger said that we haven't discovered anything yet. Rodger said we are still going to look. Rodger said that Dave Pranger (American Ordnance engineer) went onsite in search of this pump house, but Rodger couldn't recall what he found. Linda Wobbe thought it was a lift station for the sanitary sewer but she may be mistaken. Vaughn asked if we found out where the pipeline discharged and wondered if it was still draining into Brush Creek. Rodger said that this is still on our "to do" list and this is one of things that Tetra Tech will be looking into during their groundwater investigation on Line 1.

Lake Mathes Hydro Shots

This action item stemmed from a previous RAB meeting where Rodger thought Vaughn said that some hydro shots were fired into Lake Mathes. Vaughn said that some of the hydro shots blew into Lake Mathes because the wind carried them. Rodger said he was not familiar with that and indicated that he may have misunderstood Vaughn when he thought they were fired into Lake Mathes. In any case, Rodger explained the meaning behind "hydro shots".

General

Rodger explained the RAB's focus of getting the contamination that is left today and looking for the right contaminant analysis in the right spot.

Meeting/Communication Structure

Rodger Allison started dialogue regarding the current meeting/communication structure and presentation/dialogue.

Vaughn Moore indicated that he liked the way we changed the Hawkeye Notice for this RAB Meeting.

Rodger said that if the public does not know what the RAB is, then maybe we need to get some better publicity out. Rodger mentioned that we may need to reenergize the RAB Display and the RAB members need to take the lead on that and the Army will support the effort. Vaughn asked if Rodger could do a radio interview to talk about the RAB. Rodger said that he would like the RAB members to do this. He would rather have the community to represent the RAB and present from the community's perspective and Rodger would wholly join and support it, but he would rather the RAB take the lead.

Paula Graham asked about placing the RAB notice in the Ft. Madison Daily Democrat. Rodger said that we send press releases to them and the Hawkeye, but these are just public service announcements and aren't paid advertisements. Rodger indicated that we do place a paid notice in the Hawkeye Happenings section of the Hawkeye because it has the widest distribution.

Elyn Holten-Dean asked if anyone would like to volunteer to be a part of the committee for the RAB display. Elyn will take the lead and put together a committee for this.

Public Comment

No public comment at this time.

Next Meeting/Draft Agenda

The next meeting was scheduled for October 18, 2011 at the Comfort Suites Hotel. Agenda topics suggested were, IRP project update, CC Update, FUSRAP update, Line 1 Update, and Technical Assistance for Public Participation (TAPP).

ORAP Update has been on the list of topics to discuss. Rodger said that he could give a quick update regarding this…the only site that was found to not have a home for a project attached to it was at the pistol range regarding lead. Rodger said that this site has been attached to the MMRP.

The meeting was adjourned at 6:50 p.m.

Original signed by:	Original signed by:	Original signed by:
Sara Garland	Eryn Holton-Dean	Rodger Allison
Secretary	Community Co-Chair	Army Co-Chair

Exhibits:

	1	Attendees
	2	Agenda
	3	FUSRAP
	4	Restoration Project
	5	Action Item Follow-up

Exhibit 1

RAB MEMBERS PRESENT
Elyn Holton-Dean
Vaughn Moore
Alan Koenig
Sivert Iversen, Jr.
Kim Perlstein

RAB MEMBERS NOT PRESENT
Mark Hagerla
Eric Orth
Dean Vickstrom
Bruce Workman
Hans Trousil

GOVERNMENT MEMBERS PRESENT
LTC Michael Bruens
Rodger Allison
Dan Cook

GOVERNMENT MEMBERS ABSENT
Sandeep Mehta

PUBLIC
Paula Graham
Lueene McCracken
Linda Wobbe
Thurman Huffman
Jeff Cornell
Ron Frerker
Jim Nelson
Steve Bellrichard
Dean Johnson
Cyril Onewokae
Leon Baxter
Sara Garland
John Carroll
Christinia Crippes