

**Former Badger Army Ammunition Plant (BAAP)
Restoration Advisory Board Meeting
Conducted Virtually using Microsoft Teams
October 7, 2021**

Time/Place: 6:00 pm, October 7, 2021 – Microsoft Teams

Attendees: Approximately 36 people attended the meeting, including 12 Restoration Advisory Board (RAB) Members, one representative of and one elected official and one media outlet. Names of known attendees are included in the attachment.

Agenda: Co-Chair Statements, Badger Groundwater Activities Update, US Army Environmental Command (USAEC) Update, US Geological Survey (USGS) Groundwater Modeling Update, Settling Pond Two Site Inspection Update, Wisconsin Department of Natural Resources (WDNR) Update, Wisconsin Department of Health Services (WDHS) Site Evaluation Program Activities at BAAP and Questions.

Introduction: Mr. Bryan Lynch provided plans for the evening.

Co-Chair Statements

- Ms. Michele Hopp, Community Co-Chair, welcomed the RAB and community members and encouraged participants to voice any comments/questions.
- Mr. Bryan Lynch, Army Co-Chair, also encouraged comments/questions be voiced, and provided a new email address: Bryan.P.Lynch.civ@army.mil. USAEC will be migrating from “@mail.mil” to “@army.mil” however the public mailbox will remain @mail.mil. Ms. Cathy Kropp noted that when the public mailbox address changes the RAB will be notified.

Groundwater Sampling Update, Joel Janssen (Spec Pro Services)

- In June 2021, groundwater was sampled in the Central Plume and Deterrent Burning Ground (DBG) plume. A total of 38 monitoring wells were sampled.
- In August 2021, groundwater was sampled in 57 residential wells.
- In September 2021, the semiannual groundwater sampling in the DBG Plume, the Nitrocellulose Plume, and the Propellant Burning Ground Plume (PBG) was completed. A total of 126 monitoring wells were sampled. Results are not yet available.
- In November 2021, groundwater will be sampled in the Central and DBG Plumes. A total of 14 wells will be sampled.
- The June 2021 results indicate that Dinitrotoluene (DNT) concentrations are increasing in the northern section of the Central plume and are stable downgradient. WDNR requested six wells be added to the annual sampling schedule to address increasing concentrations.
- In the August round of sampling, the Army added three wells. There was an exceedance of total DNT in a well near the PBG plume. It was resampled in August and no DNT was detected. The Army will continue to monitor more frequently.
- There is one residential well near the water’s edge that had a 2,6-DNT exceedance above the Preventative Action Limit (PAL) but did not exceed the state enforcement level. This well has a history of DNT detections. The Army will continue to monitor quarterly.

USAEC Update

- The groundwater Remedial Investigation and Feasibility Study (RI/FS) was finalized and submitted to WDNR on June 2, 2021.
- The Proposed Plan and decision document are under contract and in the process of being developed.
- The Per- and Polyfluoroalkyl Substances (PFAS) Preliminary Assessment/Site Inspection (PA/SI) report is awaiting approval. There have been no changes since the last presentation. USAEC will be submitting a non-source letter to the WDNR with an explanation of why the Army does not believe the former BAAP is a source of PFAS in the area.
- The USGS groundwater transport model is ready to execute with new funds in place (with the new fiscal year).
- The contract for a 60% design to dredge Gruber's Grove Bay and the DNT Treatability Study for the Nitrocellulose Plume are ready to move forward once funding becomes available.
- The site inspection for the settling pond area will be expanded from Settling Pond 2 to the other areas within that unit.
- WDNR recently inspected both landfills and there were no deficiencies identified.

USGS Groundwater Model Update (Megan Haserodt, USGS)

- USGS is on track with the schedule originally proposed, including completing a calibrated flow model by Fall 2021 and a calibrated transport model by Fall 2022.
- USGS is also on target to have a model/tool that can be used to support the chosen/preferred remedial action as well any other groundwater questions that may arise. The tool will also provide context to new data collected.
- For the next fiscal year, USGS will be starting the transport modeling piece (simulating movement of contamination in the groundwater system) and building on results from the flow modeling.

Settling Pond 2 Site Inspection (Joel Janssen, Spec pro Services)

- The objective of the site inspection is to determine the presence of potential soil contamination.
- Eleven soil samples were collected in June 2021 and analyzed for various contaminants (e.g., explosives, metals, nitrocellulose).
- BAAP propellant manufacturing chemicals were present in shallow soil.
- Most vegetation has grown back since the fire in August 2020, however, there are still some areas where vegetation has not returned.
- Shallow samples 01 and 03, near where the inflow of water comes in from Settling Pond 1, had the highest detections of 2,4 and 2,6-DNT, Benzene, Di-n-butyl phthalate, Diphenylamine, Nitrocellulose and Nitroglycerine. Both 2,4 and 2,6-DNT were found in numerous samples, so they are more widespread in Settling Pond 2. Nitrocellulose was also found throughout. Some samples had elevated arsenic and mercury.
- Based on lab burn test, the soil is not ignitable.
- Deeper samples had less detections.

- The Army is using the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) process for this site. The Army is now in the SI phase.
- Next, the Army will evaluate the rest of the spoil disposal areas and the final creek. The SI will be expanded to include all three settling ponds. Settling Pond 4 will not be sampled because it is a separate closed site. Samples have been collected throughout the settling ponds; however, there has not been a gridded sampling effort (e.g., a sample every 50 feet) and so there may be areas that still need sampling. Soil sample locations have not yet been determined.

Update on the Future of Prescribed Burns (Luke Lampo, WDNR)

- After the incident that happened in August 2020 (fire at Settling Pond 2), WDNR had several calls with the members of their forestry division to discuss the future of prescribed burns at BAAP. They concluded that additional communication is required between the forestry program staff and the remediation and redevelopment program staff before any future prescribed burns could be performed. Specifically, the remediation and redevelopment program must be notified of any proposed burn area, to allow for the program to provide input on the conditions of the area prior to any prescribed burn.
- The WDNR continues to strive for consistent communication with applicable internal and external partners to ensure environmental protection and public safety. Any questions or concerns can be sent to Mr. Lampo at:

Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711
Phone: (608) 206-5809
Email: luke.lampo@wisconsin.gov

- Ms. Olah noted that when notice was received that there was going to be a prescribed burn in the settling pond area, Ms. Olah contacted the WDNR and sent them a copy of the deed restrictions on that property and there was to be no soil disturbance in the settling ponds. As part of the cleanup goal, the land was to stay vegetated to reduce exposure to fugitive dust. WDNR at that time said they checked with the cleanup people and that prescribed burning was not considered soil disturbance. Ms. Olah said she felt the deed restrictions that are there to protect the public health are not being followed. The WDNR was notified by telephone and documents were sent as well but it moved forward anyway.
- One RAB member added that it would also be good to notify the residents of prescribed burns so that residents can leave town until the smoke has dissipated.
- WDNR explained that those concerns are understood and noted that community members should feel free to contact WDNR so concerns can be addressed.

Site Evaluation Program Activities at BAAP (Curtis Hedman, WDHS)

- The site evaluation program looks at sites throughout the state and evaluates the scientific literature and site data to perform human health risk assessments (HHRAs)
- The WDHS staff works closely with local communities and health professionals about site contamination and potential health effects.

- WDHS has been working along with Army and WDNR on the BAAP site since the site opened.
- WDHS continues to review datasets as they are supplied to the WDNR and to follow up on any enforcement standards and residual contaminant level (RCL) exceedances. WDHS consults on public health aspects of site activities.
- WDHS also remains available for citizen comments and inquiries.
- With regards to the orange smoke emitted from the 2020 fire, major DNT decomposition products are thought to be nitrogen dioxide (NO₂) which is a red-brown gas, and Nitric oxide (NO) which is a colorless gas. It is found at low levels in ambient air. The higher levels; however, can produce the reddish-brown tinge to the gas.
- The Agency for Toxic Substances and Disease Registry (ATSDR) has a health fact sheet available for review on the web (www.atsdr.cdc.gov/toxfaqs/tfacts175.pdf)
- Nitrogen oxides are primarily an irritant of the eyes, nose, throat, and lungs. Higher exposure can cause more severe irritation (e.g., severe coughing, headache, nausea) that can last for several weeks. Nitrogen oxides have not been classified for potential carcinogenicity to date. However, there are other components of any smoke exposure like particulate matter and trace metals that can impact human health.
- WDHS is available to the public to answer any questions. Mr. Hedman can be contacted at: Curtis.hedman@wi.gov

Closing

- The Army will commit to improving communication about informal updates, possibly through a regular newsletter or Dear Neighbor letter to the community.
- If RAB members have any conflicts from the middle of January through the end of February, please let the Army know for scheduling purposes.
- The Army anticipates that the next meeting will be online as well.
- One RAB member noted that it is disappointing that PFAS is politically in the spotlight and as a result, the BAAP cleanup is put on the back burner.
- USAEC explained there are some communities where people are drinking water with PFAS above the health advisory levels. People are not drinking water with contamination in it due to Gruber's Grove Bay. Funding prioritization within the Army is not location-based; it is based on risk to human health. Although for now funding is going to an area with a higher risk, that does not mean that the Army's interest in remediating the BAAP/Gruber's Grove Bay area has waned. The moment the funding is ready, the Army will be ready to execute.
- The Army encourages the community to reach out with any comments or questions by phone or by email.

Questions and Answers

Groundwater Sampling Update

- **Q: In reference to the one exceedance in the northeast corner toward Spear Drive: It has been tested historically. Has it had any detections prior to the one potential anomaly?**

A: There may have been one DNT detection many years ago, but it was low. It is a shallow well, not a bedrock well (Joel Janssen, Spec Pro Services).

- **Q: What solvents were detected at Water's Edge?**



A: Chloroform is detected in the Water's Edge wells every year but no solvents. There was a minor amount of ethyl ether found in the bedrock well on Keller Road (Joel Janssen, Spec Pro Services).

- **Q: The new wells that WDNR has requested for testing, did you say you will start testing them next year? What is prohibiting the Army from doing it sooner?**

A: Yes, during the June round of testing. It has not been done sooner because the request was to add them to the annual program (Joel Janssen, Spec Pro Services).

- **Q: How deep are the deepest wells that you are checking?**

A: There is a bedrock well on County Z in the PBG plume. There are 500 ft residential wells. Nothing was found in the 500 ft wells. There is a deep bedrock well in the PBG plume near the bike path. It has no BAAP chemicals in it (Joel Janssen, Spec Pro Services).

- **Q: The PAL exceedance in the Water Edge area, is that a joint well or a single household well?**

- A: It is a shared well with multiple homes (Joel Janssen, Spec Pro Services).

- **Q: It has been requested that the Army be more proactive with the well replacement program (for the wells anticipated to have exceedances), has anyone in the Army considered that further (to replace wells with multiple PAL exceedances, especially when in a plume area)?**

A: The Army is looking for wells that are consistently above the levels or approaching the enforcement standard. The last time there was a Wisconsin enforcement standard (ES) exceedance, the homes were given bottled water for three months until confirmation samples verified the levels were normal again (Bryan Lynch, USAEC).

USAEC Update

- **Q: Was the finalized groundwater RI/FS and the proposed plan and decision document sent to the RAB? Is it publicly available?**

- A: It is available for download on the WDNR website. It is a very large document. The proposed plan and decision document are still in the development stage. The contract was just awarded about two months ago. The Army is looking at getting the draft completed this winter (Bryan Lynch, USAEC).

- A2: They are two separate documents. The proposed plan will be available for a 30-day public comment period and the decision document will be available after the Army has received and considered public comments (Cathy Kropp, USAEC).

- **Q: Did the DNR take a position on the finalized RI/FS**

- A: Yes, all their comments were addressed, and it was finalized (Bryan Lynch, USAEC).

- **Q: Can you elaborate on waiting for financing for the Gruber's Grove Bay dredging?**

- A: PFAS is a big area of concern across the US and Army installations and former Army installations. The funds that the Army thought would be available, were used to fund PFAS projects across the Army. Being an emergent contaminant, PFAS projects take a lot of studying and a lot of funding. It was determined across the Army that these types of projects (i.e., projects where there is no current risk to human health) would be less of a priority than projects with a human health risk (Bryan Lynch, USAEC).

- **Q: Do any of the documents (e.g., the RI/FS and Proposed Plan) indicate a preferred remedy?**

- A: The Army believes right now that bioremediation is the preferred remedy, but it is preliminary at this stage. There may also be some other possible technologies to treat some of the hotspots more effectively. This will become more developed in the proposed plan, but all the considered options are in the RI/FS (Bryan Lynch, USAEC).
- A2: The Proposed Plan is a summary of the RI/FS, and its purpose is to provide the Army's preferred alternative and then to receive feedback. Based on the feedback, a decision document is written. The preferred alternative may stay the same or it could change in the decision document based on public feedback (Cathy Kropp, USAEC).
- **Q: Will there be a formal public comment period on the Proposed Plan?**
- A: Yes, a 30-day public comment period with a public meeting (Cathy Kropp, USAEC).
- **Q: When will the private well that had the ES exceedance for DNT be tested again?**
- A: The frequency of testing will be increased. The Army will report back on the new schedule (Bryan Lynch, USAEC).
- **Q: Had the source of the DNT been firmly established (in reference to the DNT Treatability Study for the Nitrocellulose Plume) or is the treatability study more of a search approach?**
- A: The location has not been firmly established but the Army knows it is located in a small discrete area, so the Army will not be searching (Bryan Lynch, USAEC).
- A2: There were many different buildings and areas that could have contributed to the plume, so it was very challenging to determine [the exact source] (Joel Janssen, Spec Pro Services).
- **Q: Are you looking at another cap or in situ treatment? Or is this part of the idea of the study?**
- A: It is part of the idea of the study. The Army will present the situation and see what contractors propose. The Army will then select the one that looks the most promising for the conditions. For the treatability study, the Army would like to see what innovation and possible technologies might be proposed to get the rest of the site remediated (Bryan Lynch, USAEC).
- **Q: The impetus of this treatability study is to use the plume [Nitrocellulose Plume] as a demonstration site to see if the technology will work for the more significant plumes at BAAP, is that correct?**
- A: Yes, and this also has another advantage. The DNT contamination will end up in the propellant burning ground plume anyway (via groundwater). Ultimately, this DNT will be captured during our cleanup of BAAP and may be captured and could conceivably be treated with the treatability study (Bryan Lynch, USAEC).
- **Q: What is the timeline for funding, to the best of your knowledge?**
- A: Possibly within the first or second quarter of FY 2022 (i.e., October – March) (Bryan Lynch, USAEC).
- **Q: At one point there was discussion about testing on the other side of the river. What is the status on that?**
- A: So far, the most the Army can find are three wells potentially in the bedrock, located across the river. There is really no way for these aquifers to be connected to the east side of the river. The USGS groundwater monitoring team and the Army have assessed matters and determined that the only way for contamination to get there would be through the bedrock. The three wells identified, that appear to be going into the bedrock, are homeowner wells. The Army is going through the formal process of requesting

permission to test the wells for all six isomers of DNT and provide the results. The Army is still waiting on legal approval for the letters to be distributed (Bryan Lynch, USAEC).

- **Q: Most decision documents do not have enforceable schedules of compliance. Would it be helpful if the EPA or state integrated timelines into these projects? My understanding is that when there are enforceable timelines it is easier to get funding because they are prioritized. Has WDNR talked about doing this?**
- A: Yes, the WDNR is in communication with the Army about scheduling. The WDNR is trying to keep up to date and to have schedules in place on future submittals to make sure everything is working and moving along as quickly as possible (Luke Lampo, WDNR).

Settling Pond 2 Site Inspection

- **Q: What chemical was burning [during the August 2020 fire]?**
- A: Nitric acid is a main component of the propellant process and when mixed with the Di-n-butyl phthalate, Diphenylamine, and DNT can produce a yellow or orange color. However, chemicals were not found in the charred sample that was tested. The chemicals were incinerated.
- **A2:** Mr. Hedman from WDHS will be talking about this more later in the meeting (Cathy Kropp, USAEC).
- **Q: Do you know why the North Keller Road gate has been closed off?**
- A: No, those are not Army-owned gates. U.S. Department of Agriculture (USDA) owns the land that is right up against the fence (Joel Janssen, Spec Pro Services).
- **Q: What is the purpose of the study [at Settling Pond 2]?**
- A: To recharacterize the site and determine if there is anything remaining that is a concern or risk to address.
- **Q: Do you mean a risk to human contact or groundwater?**
- A: The Army is still in the site inspection stage [at Settling Pond 2]. At this point it is just to determine if there is still contamination present. Evaluation of the risks to human health and the risk to ecological factors occurs in the remedial investigation phase (Cathy Kropp, USAEC).
- **Q: How did the Army test for nitrocellulose [at Settling Pond 2]?**
- A: The Army uses an approved EPA method, and it is likely the same method used in the past because there are nitrocellulose samples from past testing in the database. However, it may not have been a concern historically because the levels were low (Joel Janssen, Spec Pro Services).
- **Q: Regarding the levels that were found, how do the concentrations compare to the remediation goals?**
- A: Some numbers were above the background number and some of the other contaminants were above the remedial goal listed in the closure document for the parcel.
- **Q: Based on what is known about the soils now, is there any concern about drinking water from wells that might be downgradient that are not being tested?**
- A: The Army still has wells being tested straight downgradient of Settling Pond 2 and those do not have a history of contamination.
- **Q: Everyone on Keller Road is still being tested?**
- **A: Yes (Joel Janssen, Spec Pro Services).**

Site Evaluation Program Activities at BAAP

- **Q: Are all the WDHS studies/activities in the repository. For example, is the 2014 Letter on Wild Edibles in the repository?**
- A: They should be in the repository, but WDHS will verify and follow up with an answer. If it is not in the repository, it will be added (Curtis Hedman, WDHS).

ATTENDEES

RAB Members Present

1. Bryan Lynch Army Co-Chair
2. Charlie Wilhelm At Large Member
3. Chris Hanson At Large Member
4. Curtis Hedman WDHS
5. Laura Olah Citizens for Safe Water Around Badger (CSWAB)
6. Luke Lampo WDNR
7. Mary Carol Solum At Large Member
8. Mary Jane Koch At Large Member
9. Michele Hopp Community Co-chair
10. Randy Poelma Ho-Chunk Nation
11. Valerie McAuliffe Sauk County Board
12. William Stehling (Bill) At Large Member

Representatives of or Elected Officials

1. Calvin Boldebeck Congressman Mark Pocan
2. Dave Considine Wisconsin State Assembly

Media Outlet

1. Joe Block Star News

Army and Army Contractors

1. Bryan Lynch USAEC
2. Cathy Kropp USAEC
3. Joel Janssen Spec Pro Services
4. Kay Toy Environmental Research Group
5. Robert Reine USAEC
6. Sabrina Roberts USAEC

Visitors

1. Annette Krisko Guest
2. Brenda Guest
3. Brita Kilburg-Basnyat WDHS
4. Issac Ross RAB Alternate (WDNR)
5. Janine Godfriaux-Leystra RAB Alternate (Town of Prairie du Sac Alternate)
6. Ken Sommer Guest
7. Laura Schachter Guest
8. Martha Nielsen Guest

9. Megan Haserodt USGS
10. Mike Gleason Guest
11. Nicholas Corson-Dosch Guest
12. Wendy Carlson RAB Alternate (CSWAB)