

FINAL

**Ravenna Army Ammunition Plant
Restoration Advisory Board (RAB) Meeting
20 April 2022**

1. Call to Order

The Ravenna Army Ammunition Plant (RVAAP) Restoration Advisory Board (RAB) meeting for the Installation Restoration Program was called to order by the Community Co-Chair, Ms. Sarah Lock, of Paris Township at 6:00 p.m. Wednesday, April 20, 2022, at the Camp James A. Garfield Main Cantonment Area, Building 1020, 8451 State Route 5, Ravenna, OH 44266. Additionally, several members joined virtually using Microsoft TEAMS.

Of the current 23 RAB members, meeting attendance was recorded as 14 members present, 4 excused absences and 5 unexcused absences. There were no members of the public present. Please note, attendance includes those who joined virtually.

The May 19, 2021, meeting minutes were presented to the Board for approval. Mr. Delbert Woloski motioned for the May 19, 2021, meeting minutes to be approved and Mr. Bill Steiner seconded the motion. The Board verbally approved the May 19, 2021, meeting minutes with no objections. The September 15, 2021, meeting minutes were then presented to the Board for approval. Mr. Dan Spicer motioned for the September 15, 2021, meeting minutes to be approved and Mr. Delbert Woloski seconded the motion. The Board verbally approved the September 15, 2021, meeting minutes with no objections.

Ms. Lock introduced the acting Army Co-Chair, LTC Brian Crock, and invited him to give any updates on the installation. LTC Crock explained that the regular Army Co-Chair, LTC Robinson, has been deployed to Washington, DC for a year and that he will be substituting for him until he returns to the facility. LTC Crock explained that Building 1020 where the current meeting is being held, is one of the new Cantonment buildings, and is a multi-purpose classroom and meeting facility. The new Cantonment area used to house the old headquarters building and housing area, and these structures have been torn down. The new Cantonment area will eventually be able to support 800 soldiers. LTC Crock informed the Board that the Mark 19 range, which was constructed over the old Winklepeck Burning Grounds, is currently under construction to convert it to a multi-purpose machine gun range. He anticipates that the range will be dedicated in Spring 2023.

LTC Crock informed the Board that reconstruction of a railhead that would allow more rapid deployment of an armor battalion was also being considered. He relayed that aerial operations were increasing with helicopters, and that low-level block drops of cargo planes out of Vienna on Tuesdays were ongoing. COVID-19 had slowed training operations down for some time, plus a number of soldiers from the facility were deployed on state missions for COVID-19 support. These efforts have largely been concluded and the training schedule at the facility is ramping up. He stated that June, July, and August would have busy training schedules, and that the facility would notify local media, Portage and

Trumbull County Sheriff's offices and the Ohio State Highway Patrol when live-fire ranges and explosives training area are active.

Ms. Lock thanked LTC Crock for the updates. She then introduced tonight's speaker, Ms. Kimberly Vaughn of Hydrogeologic. Ms. Vaughn will present the removal actions at the Block D and Group 8 MRS sites remotely through TEAMS. Ms. Lock reminded the Board members to hold all questions until after Ms. Vaughn's presentation.

2. Presentation – Removal Actions at Block D MRS and Group 8 MRS, Kimberly Vaughn, Hydrogeologic

Ms. Kimberly Vaughn of Hydrogeologic virtually presented on the Removal Actions at the Block D Igloo MRS and Group 8 MRS sites. To request a copy of the formal presentation please contact the RVAAP RAB Administrator at Rebecca.shreffler@chenegars.com or visit the Public Participation tab at www.rvaap.org.

Following the presentation, Ms. Sarah Lock (Paris TWP) thanked the speaker and opened the discussion for questions by RAB Members. Public members were asked to hold any questions until after all member questions.

Dan Spicer of Paris Township had a question concerning slide 11. He asked how the four-foot depth determination for soil sampling was arrived at. Ms. Vaughn stated that the Army has a technical memorandum in place that sets standards for industrial receptors to require a depth of four feet for investigations. She added that the four-foot depth is not how deep munitions were found, but that is an installation-wide appropriate depth that is protective of the industrial receptor. It is the goal of the investigation and removal action to have soils cleaned up to industrial receptor standards to a depth of four feet.

Mr. Spicer had an additional question on slide 19 and wanted to know what the abbreviation "BGS" stood for. Ms. Vaughn replied that BGS stood for "below ground surface."

Ms. Denise Smith of Paris Township inquired about the disposal of removed vegetation and concrete. Ms. Vaughn said that the plan for the removed trees and vegetation is to take it to a recycling facility and have it mulched and reused as mulch. The plan for the clean and unpainted concrete is to have it taken to a facility for recycling. Painted and contaminated concrete will be set aside and properly sampled. Depending on the test results, the removed concrete will be sent to a landfill for disposal. At this point in the project, the disposal landfills have not been selected. It is not anticipated that there will be any contamination issues with the removed concrete from the Block D Igloo area as there has been no soil contamination detected. Some soil contamination has been detected at the Group 8 site, so the removed concrete will be carefully inspected.

Brad King of Newton Falls asked if the soil containing cadmium and lead and so forth had to be taken to a landfill for disposal. Ms. Vaughn explained that they would follow the state requirements for characterization and disposal. They expect that most of the soil will be non-hazardous, but if any test results indicate that some of the soil is hazardous, that soil

would be segregated from the non-hazardous soil and sent to a landfill permitted to handle hazardous soil.

Kevin Palombo of the Ohio EPA said that a previous investigation of the Block D Igloo site was performed for surface clearance, and that the topic being discussed in this presentation is the removal of subsurface material. Ms. Vaughn confirmed that this is correct, and that the 2020 surface clearance was in preparation for timber harvesting. The current project is for the removal of subsurface material. Mr. Palombo then asked if Hydrogeologic would do a full survey across the project acreage to determine all anomalies. Ms. Vaughn stated that was correct. Mr. Palombo then stated that all the discovered anomalies would be excavated by hand and inquired as to the maximum depth that the anomalies would be excavated to. Ms. Vaughn said that due to previous subsurface investigations, the distance from the source of the explosion and the flight path of the debris from the explosion, that they would not expect very deep penetration. So therefore, they are not expecting anything as deep as 4 feet below ground surface. The geophysical data is usually very reliable and would indicate the location and depth of anomalies. Additionally, there is criteria in the Work Plan for documenting each hole that is dug, and what the anomaly is attributed to, whether it is unresolved, a buried utility or infrastructure that is metallic. These notes are presented in the report.

Mr. Palombo had an additional question concerning an older map of the Block D explosion debris field that showed areas not shown on the current map. He asked if the areas shown on the older maps were investigated and determined not to be areas of concern. Mr. Kevin Sedlak (National Guard Bureau) explained that the investigation refined the area of concern to the current fan-shaped area. This was done by looking at how the explosion would have reacted, then ground-truthing the area and surrounding areas. Concrete debris from the explosion was found outside of the fan-shaped area, but this was all removed.

Mr. Palombo then had a question about the Group 8 MRS area. He remembered that buildings were located around the Group 8 MRS site and asked if they had been removed yet, and if those building had asbestos removed from them. Ms. Katie Tait (Ohio Army National Guard) responded that the buildings have not been removed yet and that they are covered in transite. These buildings will eventually be demolished, but at this time they are still standing.

Mr. Palombo asked if confirmation samples would be taken after the initial 6 inches of material were excavated to verify that no contamination is below 6 inches. Ms. Vaughn stated that all the grids shown on slide 23 would have samples collected and submitted for laboratory analysis. The laboratory results would then be evaluated to determine the vertical and lateral extent of contamination, and the size and configuration of the excavation to remove the contaminated material. After the initial excavation is completed, the floor of the excavation will be sampled and analyzed to determine if additional excavation is required. If the confirmation sample results indicate that additional excavation is required, then the areas where additional contamination was determined

would be excavated an additional 6 inches. The additional excavated soil would be characterized and disposed at the appropriate off-site landfill, and so forth.

Mr. Palombo inquired if initially a full list of compounds were analyzed to determine what should be removed, not just cadmium and lead. Ms. Vaughn replied that the remedial investigation report contains the results of a much more comprehensive COC list. Then, only the compounds that were present at levels that constituted a risk to receptors were further evaluated. The results are summarized in the remedial investigation report and further explained in the feasibility study on how the risk assessment was performed. The result was that only cadmium and lead were the only compounds that required a remedy. Mr. Palombo asked if the gridded area shown on slide 23 added up to 2.65 acres. Ms. Vaughn answered that it did.

Eileen Mohr of Kent asked if the excavation reached a depth of 2 feet and found material that was above the clean-up goal, would the excavation be continued until material was encountered that was below the clean-up goal, both laterally and vertically. Ms. Vaughn replied that it would. Ms. Mohr then asked what kind of sampling would be performed, such as discrete sampling or ISM methodology. Ms. Vaughn replied that they were collecting discrete samples at multiple depths. Ms. Mohr referred to slide 23 and asked what the dimensions of each of the little sampling squares were. Ms. Vaughn was unsure and stated that she would have to look up the answer and get back to Ms. Mohr. Ms. Mohr wondered why the sampling technique was switched from ISM to discrete and then how those results meshed with the earlier ISM sampling results. Ms. Vaughn thought that the sampling squares were around 2 feet by 2 feet, which gives them a localized core of results from zero to 2 feet deep at each of the little green cross-points shown on slide 23. That helps build a 3-D picture of where they need to excavate.

Ms. Mohr then stated that for the remedial investigation, she assumed Hydrogeologic did the Ravenna-specific 10% full suite of contaminants and asked for confirmation that contamination was only found to a depth of one-half foot. Ms. Vaughn stated that was correct. Ms. Vaughn also stated that to be conservative, the project was funded to be able to excavate to a depth of 2 feet anywhere that was needed. Ms. Vaughn stated that they do have remedial investigation results to one-half foot, as well as other results to a depth of four-feet that are showing no impact at the four-foot depth. She also stated that the project was funded, and steps added to the Work Plan to go deeper than one-half foot if needed. This contingency would be a better use of the installation's time and preparedness if results show that it is necessary to extend the excavation.

Ms. Mohr then had some questions regarding slide 11 and Block D. Ms. Mohr agreed with the assessment that based on the mechanism of the explosion at Block D that explosion-related material would not be encountered below 4 feet. Ms. Mohr asked if that after excavating to 4 feet and it looked as if something were below 4 feet, would the material be left in place, or would it be removed? Ms. Vaughn replied that the excavation would continue deeper to collect all the data and documentation to show that the anomaly has been resolved. It would be buried metal, but they would not know what the buried metal is until they dig and collect enough data to show that they have resolved the anomaly. Many

times large metallic items have been encountered at 4 feet that have been buried for an undetermined amount of time and it is discovered to not be ammunition. Instead, it is buried infrastructure, such as a water line. They would expose as much of the item as possible, then document by taking pictures or whatever is needed for the item that was uncovered. Every point that is dug must have a very good explanation as to what was found and be shown that it is resolved to the Army's concurrence. And if that means the excavation need to be advanced past 4 feet, then it is. Ms. Mohr then added that the Ohio EPA also had approval authority concerning MC under the Director's Findings and Orders Ms. Mohr then asked if the remedial investigation showed no MC at the site. Ms. Vaughn confirmed that no MC was found during the remedial investigation. She added that a screening level risk assessment and sampling was done and that there was no risk. She could not recall if there were any low-level detections of MC, but that she could double-check the report to be sure. Ms. Mohr would like Ms. Vaughn to check that out and let her know because there should be no MC at all given that it is not naturally occurring. Ms. Vaughn added the residential standards are being followed.

Ms. Sarah Lock of Paris Township asked if there were any further questions or discussion from the board. There were no responses. Ms. Lock then opened the discussion to allow questions or comments from any public attendees.

Ms. Sarah Lock of Paris Township asked if there were any additional questions or comments from any members of the public in attendance. There were no further questions or comments from the public. This concluded the discussion on the presentation. Ms. Sarah Lock of Paris Township then moved onto the RAB general business.

3. General RAB Business

1. Ms. Lock opened the general RAB business by discussing the operating policy membership number. She stated that there were 2 RAB vacancies. They were working through the membership list and RAB operating policies to determine if a third vacancy existed and discovered through the membership committee and conversations behind the scenes that the operating policy had an error. The last round of updates was in December 2019. At that point, a change was made to bullet point #9, which was about the make-up of the RAB. It said right at the beginning that the RAB had 23 community members and 2 non-community members for a total of 25 members. However, bullet #9 had one of the numbers changed in December 2019 to be not more than 13 members from the general public instead of 15. So, the number was reduced by 2 to 23. But at the beginning of the section that stated there would be 23 members was not reduced by 2 to 21 as it should have been. Ms. Lock said that it was a simple straightforward mistake, but if everyone agreed with that, a vote should be taken to document the error and change to the operating policy. Mr. Bill Steiner offered a motion to amend the operating policy and Mr. Dan Spicer seconded the motion. The motion carried by verbal vote with no opposition. Ms. Lock stated that the record would be officially corrected and that would translate into the operating policy having another date of revision, and that notes within the meeting minutes would support the fact that the only change was to the one number being changed from 23 to 21.

2. Ms. Lock brought up the next order of business, which was a discussion on the change in Membership. Two community interest surveys had been submitted. The membership committee reviewed and voted to recommend Ms. Denise Smith and Mr. Brad King (both in attendance) be added to the Board. Additionally, Ms. Charlene Walker of Freedom Township is acting as representative in place of Mr. Roy Martin.
3. The next item of business brought up by Ms. Lock was the scheduling of the next RAB meeting. Ms. Lock suggested that the third Wednesday in October, which is October 19, be considered for the next RAB meeting. No one on the Board had any objections to October 19 for the next RAB meeting. Ms. Lock asked for suggestions for location of the next RAB meeting, and hearing none from the Board, she said that the location for now would be listed as “to be determined.” She asked that if any township members could review the availability of their townships to host the next meeting and let Ms. Shreffler know if the meeting could be hosted by their township. Ms. Lock stated that the possibility of a site tour had been brought up in the past, but it was determined that there were not any environmental activities at the facility that warranted a tour. She stated that the topic would be brought up at future meetings for a tour in 2023.
4. Ms. Lock asked Ms. Katie Tait if there were any upcoming public meetings, and Ms. Tait told the Board that none were scheduled. Mr. Kevin Sedlak added that a big milestone had just been reached. The groundwater remedial investigation has just been completed. Mr. Kevin Palombo of the Ohio EPA approved the remedial investigation. Groundwater investigations were started in 1996 and over the years samples have been collected from over 6500 wells, with 430,000 analytes analyzed and over 19,000 field parameters measured in that time period. These numbers give some idea of the scale and effort of the investigation, and now that the remedial investigation is completed, they are moving on to the Feasibility Study. Additionally, more monitoring wells will be installed to fill in some data gaps. Ms. Lock stated that the groundwater study sounded like a good topic for a future RAB meeting. Mr. Sedlak stated that by the next RAB meeting in October the wells should be installed and that the Feasibility Study would be ongoing. The completion of the groundwater remedial investigation was an important milestone for the facility.
5. Ms. Lock than asked the Board for any additional topics or questions, and hearing none thanked the Board for their participation and attendance and adjourned the meeting at 7:24 PM.

Respectfully submitted,

Angela Cobbs, RAB Administrator

STATE OF OHIO
ADJUTANT GENERAL'S DEPARTMENT
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NGOH-IMR-EE

16 July 2024

MEMORANDUM FOR RECORD

SUBJECT: Responses to Restoration Advisory Board (RAB) Member Questions from 20 April 2022 Meeting, Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Camp James A. Garfield Joint Military Training Center, Portage and Trumbull Counties, Ohio

1. During the RAB meeting held on 20 April 2022, several questions from a RAB member were raised which could not be answered in the meeting and required follow-up information to answer/respond to the questions. It was determined that the questions could be answered in an Addendum Memorandum (Memo) that could be appended to the meeting minutes for the 20 April 2022 meeting. The following is a summary of RAB member questions from the 20 April 2022 meeting and applicable responses.

2. Question 1 - Per Page 4 of the Draft meeting minutes from 22 April 2022 (voted on at the 6 June 2024 meeting to be finalized), the following question was asked:

‘Eileen Mohr of Kent asked if the excavation reached a depth of 2 feet and found material that was above the clean-up goal, would the excavation be continued until material was encountered that was below the clean-up goal, both laterally and vertically. Ms. Vaughn replied that it would. Ms. Mohr then asked what kind of sampling would be performed, such as discrete sampling or ISM methodology? Ms. Vaughn replied that they were collecting discrete samples at multiple depths. Ms. Mohr referred to slide 23 and asked what the dimensions of each of the little sampling squares were. Ms. Vaughn was unsure and stated that she would have to look up the answer and get back to Ms. Mohr.’

Response 1 – Per the Figure 11.2 in the Final Quality Assurance Project Plan (QAPP) (also known as a work plan) for the Group 8 MRS, dated July 2023, each sampling grid was 20-feet wide x 20-feet long.

3. Question 2 - Per Page 5 of the Draft meeting minutes from 22 April 2022 (voted on at the 6 June 2024 meeting to be finalized), the following question was asked:

‘Ms. Mohr then added that the Ohio EPA also had approval authority concerning MC under the Director’s Findings and Orders. Ms. Mohr then asked if the remedial investigation showed no MC at the site? Ms. Vaughn confirmed that no MC was found during the remedial investigation. She added that a screening level risk assessment and sampling was done and that there was no risk. She could not recall if there were any low-level detections of MC, but that she could double-check the report to be sure. Ms. Mohr would like Ms. Vaughn to check that out and let her know because there should be no MC at all given that it is not naturally occurring. Ms. Vaughn added the residential standards are being followed.’

Response 2 – Per the Final Remedial Investigation (RI) for the Block D Igloo MRS, dated March 2015, the propellant, Nitroguanidine, was detected in 2 of the 3 ISM sampling unit locations and at 2 discrete sample locations. The maximum concentration detected was 0.52 mg/kg. The RI report indicated that Nitroguanidine was not used in the manufacture of the 20 lb bomb (which is the bomb that exploded in the 1943 explosion) and therefore was not considered a site-related contaminant (SRC). Two metals, antimony and iron, were detected in surface soil, which exceeded the background screening value. These were identified as SRCs but during the risk assessment screening, only iron was identified as a COC. The Final RI indicated that weight of evidence suggested that the detected concentrations of iron were unlikely to pose risk to any of the receptors evaluated in the HHRA and was attributed to grinding of the sample due to the duplicate sample not replicating the elevated concentration in the original sample. The Final RI was approved by the Ohio EPA on 20 April 2015.

This Memorandum provides follow-up responses to questions from the 20 April 2022 RAB meeting and is an Addendum to the meeting minutes for that meeting. This Memorandum was prepared by Ms. Kathryn S. Tait, OHARNG Environmental Specialist 3. Ms. Tait can be contacted at (614)336-6136 or kathryn.s.tait.nfg@army.mil.

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