APPENDIX K

Ohio EPA Comments

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Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

May 6, 2016

Mr. Mark Leeper
Army National Guard Directorate
ARNGD-ILE Clean Up
111 South George Mason Drive
Arlington, VA 22204

Re: US Army Ammunition PLT RVAAP
Remediation Response
Project Records
Remedial Response
Portage County
267000859091

Subject: Ravenna Army Ammunition Plant, Portage/Trumbull Counties. "Draft, Phase II Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-33, Load Line 6" Dated March 11, 2016

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA) has received and reviewed the "Draft, Phase II Remedial Investigation (RI) Report for Soil, Sediment, and Surface Water at RVAAP-33 Load Line 6" for the Ravenna Army Ammunition Plant, Portage/Trumbull Counties. This report is dated March 11, 2016 and was received at Ohio EPA, Northeast District Office (NEDO) on March 14, 2016. The report was reviewed by various personnel in NEDO and Central Office (CO) in Columbus, Ohio.

The following are Ohio EPA comments:

Comment 1:

The hard copy report should match the electronic copy, including the appendices. The appendices should be labeled appropriately in the hard copy. If the Army decides that an appendix, such as data, is too large to be included, the tab identifying that appendix should be included and indicate where this appendix is located for review (main CD, specific data CD attached to that appendix, etc.). Only E, G and H were included in the hard copy report.

Action item: Please ensure that the appendices in the hard copy match the electronic copy.

Comment 2: Exposure versus Decision Units

Section 5.1.1 stated there are two soil exposure units (EUs): the former production area (FPA) and non-production area (NPA). Discrete soil samples from within each area were used to calculate 95% UCLs as the exposure point concentration for the FPA or NPA. An exposure unit is an area in which a receptor can be assumed to move randomly and freely and thus contact with environmental media is equally likely at any spot in the EU. Given the size of the areas (FPA 18.1 acres; NPA 25.3 acres) and the risk assessment under an unrestricted (residential) land use, the FPA and NPA areas are too large for estimating exposure across the entire area. Arsenic was detected above the Ravenna site-specific background value of 15.4 mg/kg in the FPA, with a maximum detection of 41 mg/kg. By creating two large EUs, it presented 44 arsenic samples in the FPA that were used to calculate the 95% UCLs and consequently eliminated those values above background. This approach of using large EUs is not acceptable to Ohio EPA for a residential land use designation. However, based on a risk management approach of evaluating the individual elevated arsenic values, the scattered locations and noting there are no high concentration areas, Ohio EPA concurs with eliminating arsenic at LL-6.

Action Item: Smaller EUs that are more representative of residential receptors should be used in all future RIs. The larger EUs are not acceptable.

Comment 3: Use of Ohio EPA Sediment Reference Values as ESVs

Table 7-13 states antimony has no ecological screening value (ESV). If a chemical of concern does not have a MacDonald et al. or Region 5 ecological screening level (ESL) (Table H-8), Ohio EPA's sediment reference value (SRV) (Ohio EPA DERR Ecological Risk Assessment Guidance Document, April 2008; Table H-12 of this RI) can be utilized as an ESV.

Action Item: None, educational only.

Please address the above comments. Ohio EPA is open to a conference call or meeting to discuss the above, if needed. If you have any additional questions, please call me at (330) 963-1207.

Sincerely,

Vicki Deppisch RTP

Vicki Deppisch
Hydrogeologist/Project Coordinator
Division of Environmental Response and Revitalization

VD/nvr

cc: Katie Tait/Kevin Sedlak OHARNG RTLS
Gregory F. Moore, USACE
Rebecca Shreffler/Gail Harris, VISTA Sciences Corp.

ec: Mark Leeper, ARNG
Bob Princic, Ohio EPA, NEDO DERR
Rodney Beals, Ohio EPA NEDO DERR
Justin Burke, Ohio EPA, CO DERR
Tim Christman, Ohio EPA, NEDO DDAGW
Nat Peters, USACE
Eric Cheng, USACE
Brian Tucker, Ohio EPA, CO DERR
Carrie Rasik, Ohio EPA, CO DERR
Vanessa Steigerwald-Dick, Ohio EPA NEDO DERR

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Responses to Ohio EPA Comments (dated May 6, 2016)
Draft, Phase II Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-33, Load Line 6
Former Ravenna Army Ammunition Plant (RVAAP), March 11, 2016
(Work Activity No. 267000859091)

1) The hard copy report should match the electronic copy, including the appendices. The appendices should be labeled appropriately in the hard copy. If the Army decides that an appendix, such as data, is too large to be included, the tab identifying that appendix should be included and indicate where this appendix is located for review (main CD, specific data CD attached to that appendix, etc.). Only E, G and H were included in the hard copy report.
Action item: Please ensure that the appendices in the hard copy, matches the electronic copy**.**

Response: *Agree. The final report will contain hard copies of all appendices with the exception of Appendix C (Data Quality Summary Report) and Appendix D (Laboratory Data). Appendix C and Appendix D are not included as hard copies due to their size. Tabs will be added to the hard copy report that note the location of Appendix C and Appendix D as included on CD-ROM. The provided hard copy appendices will match the electronic copy.*

2) **Exposure verse Decision Units**

Section 5.1.1 stated that there are two soil exposures units (EUs): the former production area (FPA) and non-production area (NPA). Discrete soil samples from within each area were used to calculate 95% UCLs as the exposure point concentration for the FPA or NPA. An exposure unit is an area which a receptor can be assumed to move randomly and freely and thus contact with environmental media as equally likely at any spot in the EU. Given the size of the areas (FPA 18.1 acres; NPA 25.3 acres) and the risk assessment under an unrestricted (residential) land use, the FPA and NPA areas are too large for estimating exposure across the entire area. Arsenic was detected above the Ravenna site-specific background value of 15.4 mg/kg in the FPA, with a maximum detection of 41 mg/kg. By creating two large EUs, it presented 44 arsenic samples in the FPA that were used to calculate the 95% UCLs and consequently eliminated those values above background. This approach of using large EUs is not acceptable to Ohio EPA for a residential land use designation. However, based on a risk management approach of evaluating the individual elevated arsenic values, the scattered locations and noting there are no high concentration areas, Ohio EPA concurs with eliminating arsenic at LL-6.

Action Items: Smaller EUs that are more representative of residential receptors should be used in all future RIs.

Response: *Comment noted. For RIs initiated in the future, smaller EUs will be used to be more representative of residential receptors. As noted in the comment, the risk management approach of evaluating individual results, as implemented in this report, provides an evaluation of results above background. No changes to the text will be implemented.*

3) **Use of Ohio EPA Sediment Reference Values as ESVs**

Table 7-13 states antimony has no ecological screening value (ESV). If a chemical of concern does not have a MacDonald et al. or Region 5 ecological screening level (ESL) (Table H-8), Ohio EPA's sediment reference value (SRV) (Ohio EPA DERR Ecological Risk Assessment Guidance Document, April 2008; Table H-12 of this RI) can be utilized as an ESV.

Action Items: None, educational only.

Response: *Comment noted, thank you.*

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