APPENDIX J

Ohio EPA Comments

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Ohio Environmental Protection Agency

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

July 27, 2017

Re: US Army Ravenna Ammunition Plt RVAAP
Remediation Response
Project records
Remedial Response
Portage County
267000859090

Mr. Mark Leeper, P.G., MBA
Chief (Acting)
Cleanup and Restoration Branch
ARNG Directorate
Environmental Programs Division
111 South George Mason Drive
Arlington, VA 22204

Re: Receipt and Review of the Response to Comments for "Revised Draft Phase III Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds" at the Former Ravenna Army Ammunition Plant in Portage and Trumbull Counties, Ohio, Dated June 16, 2017 (Work Activity No. 267000859090)

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the response to comments for "*Revised Draft Phase III Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds,*" dated June 16, 2017. This document, received by Ohio EPA's NEDO on June 20, 2017, was prepared for the U.S. Army Corps of Engineers (USACE) Louisville District, by Leidos. Ohio EPA has no additional comments. Please submit the final document for review with all proposed revisions included in the text.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NCR/nvr

cc: Craig Coombs, USACE, Louisville District
Rebecca Schreffler, Vista Sciences Corp.
Kevin Sedlak, ARNG
Gail Harris, Vista Sciences Corp.
Katie Tait, OHARNG, RTLS

ec: Rod Beals, NEDO, DERR
Thomas Schneider, SWDO, DERR
Bob Princic, NEDO, DERR
Carrie Rasik, CO, DERR

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8/1/2017
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NATIONAL GUARD BUREAU
111 SOUTH GEORGE MASON DRIVE
ARLINGTON VA 22204-1373

June 16, 2017

Ohio Environmental Protection Agency
DERR-NEDO
Attn: Nicholas Roope, Site Coordinator
2110 East Aurora Road
Twinsburg, Ohio 44087-1924

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-29 Upper and Lower Cobbs Ponds, Responses to Comments on the Revised Draft Phase III RI Report (Work Activity No. 267-000-859-090)

Dear Mr. Roope:

Enclosed for your review are responses to your recent comments on the *Revised Draft Phase Ill Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds*. Upon the final resolution of these responses to comments, the Army will distribute the final version of this report and will begin developing the Draft Proposed Plan.

Please contact the undersigned at (703) 607-7955 or Mark.S.Leeper.civ@mail.mil if there are issues or concerns with this submission.

Sincerely,

Mark Leeper
RVAAP Restoration Program Manager
Army National Guard Directorate

ec: Rodney Beals, Ohio EPA, NEDO-DERR
Robert Princic, Ohio EPA NEDO-DERR
Tom Schneider, Ohio EPA, SWDO-DERR
Kevin Sedlak, ARNG, Camp Ravenna
Katie Tait, OHARNG, Camp Ravenna
Nat Peters, USACE Louisville
Craig Coombs, USACE Louisville
Gail Harris, Vista Sciences Corporation
Jed Thomas, Leidos

Subject: Ravenna Army Ammunition Plant (RVAAP) Restoration Program, Portage/Trumbull Counties, RVAAP-29 Upper and Lower Cobbs Ponds (Work Activity No. 267-000-859-090)

Comment 1: Figure (Figure ES-1) has an inconsistent flood plain elevation. The contour showing the extent of the flood waters at the pond would be expected to have a consistent elevation from the edge of the water. However, this does not appear to be the case. Please provide an updated figure and or text that explains how the elevation of the flood water was determined.

Army Response:
Clarification. Figure ES-1 does not depict floodplain elevation. The orange polygon depicts the soil Pond Bank Aggregate used to evaluate soil at Upper and Lower Cobbs Ponds.

Comment 2: Benzo(a)pyrene (Page 7-12, lines 5-7) is mentioned to be the only chemical of potential concern with a cancer endpoint present above background concentrations. Ohio EPA is not aware of any background values for polycyclic aromatic hydrocarbons. Please revise the text to follow the facility-wide cleanup goals.

Army Response:
Agree. Text revised as follows:

> "Three surface soil COPCs [arsenic, cobalt, and benzo(a)pyrene] have FWCUGs for the cancer endpoint. The FWCUG for arsenic is less than the background concentration for this inorganic chemical; therefore, the background concentration is used as the CUG, and arsenic is not included in the SOR. The EPC for cobalt is less than the facility-wide background concentration for surface soil; therefore, this metal is not included in the SOR. Benzo(a)pyrene does not have a facility-wide background concentration. Since only one COPC [benzo(a)pyrene] with a cancer endpoint is present above background concentrations (or without a background concentration for comparison); ~~therefore,~~ no SOR was calculated."

Comment 3: It appears remedial activities up-gradient from the Cobbs Ponds are still on-going or have been completed at Load Lines 3 and 12 since the samples were collected from the ponds. Please provide a description of activities such as demolition or remediation in upstream AOCs, and what best management practices have been, or are, implemented to ensure no releases of possible contaminant sources have occurred.

Army Response:
Agree. The following subsections have been added to Section 2.2.2 Potential Sources

> **2.2.2.1 Load Line 3**
>
> Load Line 3 is upstream and southeast of the Upper and Lower Cobbs Ponds AOC. The northernmost sediment/surface water aggregate at Load Line 3 (Load Line 3 Downgradient Channel) flows directly into the Backwater Area.

Load Line 3 was in operation from 1941–1945, from 1951–1957, and again from 1969–1971. Load Line 3 was primarily used to melt bulk explosives and load composition B into large-caliber shells and bombs. During its operational history from 1941–1945, Load Line 3 produced approximately 6.5 million munitions. Demilitarization activities were conducted between 1951 and 1957, during which time approximately 228,000 munitions were processed at the load line. During the operation of Load Line 3, bulk TNT and HMX were offloaded at Buildings EA-6 and EA-6A for screening and preparation before being transported to melt-pour Buildings EA-4 and EA-4A for processing and loading into shells. Bulk explosive carrier washout activities were conducted at Building EB-25. Building wash-down water and wastewater from the load line operations were collected in concrete sumps, pumped through sawdust filtration units, and ultimately discharged to a drainage ditch leading to a settling pond (Upper Cobbs Pond and, ultimately, Lower Cobbs Pond). During the operation of Load Line 3, approximately 304,800 L of pinkwater were generated each month (Jacobs Engineering 1989). All buildings and structures at Load Line 3 have been demolished.

Load Line 3 has had multiple remedial activities completed to address contaminated media. From August to November 2007 (USACE 2008a) 893 tons of hazardous (PCB-contaminated) soil and 2,538 tons of non-hazardous soil were removed from Load Line 3 per the *Interim Record of Decision for the Remediation of Soils at Load Lines 1 through 4* (Shaw 2007). In 2010, 1,602 cubic yards of soil were excavated from five distinct areas at Load Line 3, as summarized in the *Remediation Completion Report Sub-Slab Soils at RVAAP-09 Load Line 2, RVAAP-10 Load Line 3, and RVAAP-11 Load Line 4* (URS 2010).

The Army is further evaluating protectiveness in soil, sediment, and surface water to attain Commercial/Industrial and Unrestricted Residential Land Use at Load Line 3. This evaluation is summarized in the current *Draft Feasibility Study Addendum for Soil, Sediment, and Surface Water at RVAAP Load Lines 1, 2, 3, 4, and 12* (USACE 2016). This evaluation concluded that there are no sediment and surface water COCs at Load Line 3. This feasibility study estimates more than 2,300 additional cubic yards of soil will require removal to attain Commercial/Industrial Land Use and more than 13,000 additional cubic yards will require removal to attain Unrestricted (Residential) Land Use. Proper stormwater best management practices (BMPs) will be implemented during any remedial activities to minimaize or eliminate impacts to neighboring surface water. Additional remedial activities for soil will only further enhance sediment and water quality at Load Line 3.

2.2.2.2 Load Line 12

Load Line 12 is upstream and south of the Upper and Lower Cobbs Ponds AOC. The northernmost sediment/surface water aggregate at Load Line 12 (North of Active Area Channel) flows directly into the Backwater Area.

Load Line 12 was formerly utilized for producing ammonium nitrate from 1941–1943 and 1946–1950. From 1951–1961, explosive melt-out and demilitarization activities occurred at Load Line 12. From 1941–1971, the ponds received effluent from the Load Line 12 sawdust filtration units, wash water, storm water runoff, and surface water runoff. Rinsate from demilitarization operations at Load Line 12 was initially allowed to flow out of buildings and directly onto the ground or to

drainage ditches which ultimately discharged to Upper Cobbs Pond and Lower Cobbs Pond. Since there were no wash water collection tanks or settling ponds in Load Line 12 during these operations, all residues, dusts, and spills were washed into the drainage system that eventually discharged into Upper Cobbs Pond.

Currently, there are no above-grade structures remaining at Load Line 12. Buildings 901, 902, 906, and FF-19 (the associated neutral liquor tanks were also removed) were demolished between 1973 and 1975, and Building FN-54 was demolished in the 1980s. The remaining buildings at Load Line 12, including building slabs and foundations, were decontaminated, demolished, and removed in December 1998 through June 2000 by MKM Engineers, Inc. (MKM). All demolition materials were classified as 1X, 3X, or 5X by the Explosive Ordnance Disposal Specialist and appropriately disposed. Building construction materials (i.e., concrete, concrete block, brick, tile-brick) were tested and disposed as construction and demolition debris.

In June 2010, the remedial alternative documented in the *Record of Decision for Soil and Dry Sediment at the RVAAP-12 Load Line 12* (USACE 2009a) was implemented to attain Military Training Land Use. A total of 1,181 tons of dry sediment was removed from the Main Ditch until the CUG (arsenic at 31 mg/kg) was achieved. Details of this remedial action are presented in the *Remedial Action Report for RVAAP-12 Load Line 12* (USACE 2010b). On August 16, 2010, Ohio EPA issued an approval letter for the completion of the remedial action that constituted completion of the CERCLA remedy for soil and dry sediment.

There are no impacts to Upper and Lower Cobbs Ponds expected from Load Line 12; the wet sediment and surface water media was further evaluated in the *Phase III Remedial Investigation Report for Wet Sediment and Surface Water at RVAAP-12 Load Line 12* (USACE 2017). This report recommended no further action to attain Unrestricted (Residential) Land Use for these media, which was concurred by Ohio EPA on a letter dated April 5, 2017.

The Army is further evaluating protectiveness in soil to attain Commercial/Industrial and Unrestricted Residential Land Use at Load Line 12. This evaluation is summarized in the *current Draft Feasibility Study Addendum for Soil, Sediment, and Surface Water at RVAAP Load Lines 1, 2, 3, 4, and 12* (USACE 2016). This feasibility study estimates more than 300 additional cubic yards of soil will require removal to attain Commercial/Industrial Land Use and more than 700 additional cubic yards of soil will require removal to attain Unrestricted (Residential) Land Use. Proper stormwater BMPs will be implemented during any remedial activities to minimize or eliminate impacts to neighboring surface water.

Ohio Environmental Protection Agency

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

May 17, 2017

Mr. Mark Leeper, P.G., MBA
Cleanup and Restoration Branch
ARNG Directorate
Environmental Programs Division
111 South George Mason Drive
Arlington, VA 22204

Re: **US Army Ravenna Ammunition Plt RVAAP**
Remediation Response
Project records
Remedial Response
Portage County
267000859090

Subject: **Review of the "Revised Draft Phase III Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds" at the Former Ravenna Army Ammunition Plant, Ravenna, Ohio; dated March 17, 2017 (Work Activity No. 267000859090)**

Dear Mr. Leeper:

The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Environmental Response and Revitalization (DERR) has received and reviewed the document Revised Draft Phase III Remedial Investigation Report for Soil, Sediment, and Surface Water at RVAAP-29 Upper and Lower Cobbs Ponds" at the Former Ravenna Army Ammunition Plant, Ravenna, Ohio; dated March 17, 2017. This document received by Ohio EPA's NEDO on March 17, 2017, was prepared by Leidos. After the review, Ohio EPA has compiled a list of comments found below.

1) Figure (Figure ES-1) has an inconsistent flood plain elevation. The contour showing the extent of the flood waters at the pond would be expected to have a consistent elevation from the edge of the water. However, this does not appear to be the case. Please provide an updated figure and or text that explains how the elevation of the flood water was determined.

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from the ponds. Please provide a description of activities such as demolition or remediation in upstream AOCs, and what best management practices have been, or are, implemented to ensure no releases of possible contaminant sources have occurred.

If you have any questions or concerns, please do not hesitate to contact me at (330) 963-1235.

Sincerely,

Nicholas Roope
Site Coordinator
Division of Environmental Response and Revitalization

NCR/nvr

cc: Craig Coombs, USACE, Louisville District
Katie Tait/Kevin Sedlak, Camp Ravenna Environmental Office, Newton Falls
Shreffler/Harris, Camp Ravenna Environmental Office, Vista Sciences

ec: Rod Beals, Ohio EPA, NEDO, DERR
Tom Schneider, Ohio EPA, SWDO, DERR
Brian Tucker, Ohio EPA, CO

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