OhioEPA
State of Ohio Environmental Protection Agency
Northeast District Office

2110 E. Aurora Road
Twinsburg, Ohio 44087-1969

TELE (330)425-9171 **FAX (330)**487-0769

Bob Taft, Governor
Christopher Jones, Director

12/2/2000

STATEMENT OF BASIS FOR THE FINAL DECISION FOR THE BUILDING T- 5301 INTERIM REMOVAL ACTION RAVENNA ARMY AMMUNITION PLANT RAVENNA, OHIO

Statement of Basis:

This document presents the rationale for and activities undertaken during the Interim Removal Action (IRA) conducted at the Building T-5301 Area of Concern (AOC) at the Ravenna Army Ammunition Plant (RVAAP), located in Ravenna, Ohio. The IRA was selected in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Re-authorization Act of 1985 (SARA), 42 U.S.C. 9601 et. Seq., the National Contingency Plan (NCP), and Army Regulation AR200-1, as applicable. The Operations Support Command (OSC) is the lead Agency for the Department of Defense Environmental Restoration Program - Installation Restoration Program (DERP-IRP) for the RVAAP, and initiated the IRA at Building T-5301. The Ohio Environmental Protection Agency (Ohio EPA), Northeast District Office (NEDO), Division of Emergency and Remedial Response (DERR) provided the regulatory review and oversight of the IRA at Building T-5301 under the Defense-State Memorandum of Agreement (DSMOA).

Background:

The RVAAP is located in northeastern Ohio in Portage and Trumbull Counties and is situated approximately 10 miles east of Ravenna, Ohio. The installation encompasses 21,419 acres in a tract of land approximately 3. 5 miles wide and 11 miles long and is currently jointly operated by the OSC of the U.S. Army and the National Guard Bureau (NGB). Operations at the installation date to 1940 and include the storage, handling, loading, assembly, and packing of military ammunition and explosives. The industrial operations at the RVAAP consisted of 12 munitions assembly facilities referred to as "load lines." In addition, RVAAP also had several areas used for burning, demolition and testing of munitions, and buildings/areas designated for clean up and decontamination activities for production equipment. In May, 1999, the NGB assumed operational control of 16,614 acres of the installation and licensed the Ohio Army National Guard (OHARNG) to use the acreage for training and other activities. The OSC retained control of the environmental AOCs and the bulk explosives areas.

Building T-5301 (designated as RVAAP-47) was located on the east side of George Road at the entrance to the Winklepeck Burning Grounds (WBG). A small Guard Post (Building T-3402) was located adjacent to George Road and the gravel driveway that led up to Building T-5301.

Originally built as a smokehouse, Building T-5301 was utilized to decontaminate and steam clean small miscellaneous production equipment of explosives and propellants as the equipment left the WBG. The quantity of decontamination fluids/wastes produced is unknown. In addition, the dates of usage of this building are unknown, but would roughly correspond to dates of production occurring at the installation, i.e., intermittently from World War II to Vietnam. The building was essentially a 25-foot by 25-foot sheet-metal structure with a concrete block wall extending approximately three (3) feet above ground surface. Transite asbestos sheets were used to partition the building into two separate areas - a larger cleaning area and a small area for boilers. Within the interior of the building there was a floor drain that exited out of the southern wall of the building and materials would have discharged into two concrete sedimentation basins that drained, via a ditch, towards Sand Creek located to the southeast.

The dimensions of this AOC are approximately 150 feet north-south by 250 feet east-west and is situated approximately 1030 feet above mean sea level (MSL). The topography drops off sharply to the east and south towards Sand Creek, approximately 25 feet behind the former building T-5301. Sand Creek is located approximately 30 feet below the former floor elevation of Building T-5301 and has a bedrock bottom. This suggests that the overburden thickness at this AOC ranges between 10 to 15 feet. Underlying the overburden is the Pennsylvanian age Pottsville Formation. The Sharon Member of the Pottsville Formation outcrops in the immediate vicinity of this AOC.

Summary **of AOC Risk:**

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) conducted a Relative Risk Site Evaluation (RRSE) for newly added AOCs at the RVAAP installation in October, 1998 (Hazardous and Medical Waste Study No. 37-EF-5360-99). The USACHPPM effort included a minimal number of samples that were analyzed for explosives compounds, as well as Target Analyte List (TAL) metals. Of the 13 AOCs that were evaluated, 5 were classified as high-priority AOCs, including Building T-5301.

The USACHPPM report identified surface soil and sediments to be potential media for contaminant migration due to the lack of any physical barriers/fencing around the AOC. Although Building T-5301 was neither used for production, nor was populated with

workers, the report concluded that hunters, trappers, and OHARNG personnel could be potential receptors of the observed contamination. In addition, Sand Creek is the habitat for a state-endangered species (Mountain Brook Lamprey) that could be a potential receptor (due to runoff) of the observed contamination.

Summary of Remedial Alternatives:

Two alternatives were evaluated for this AOC: 1) no further action (NFA), and 2) an IRA. The first alternative, no further action, did not address the ecological risk to the endangered species, as identified in the USACHPPM report. In addition, given the potential receptors at the AOC, combined with the potential availability of the contaminants, a response was needed to mitigate the residual explosives and metals contamination. Alternative 2 provided such a response. An IRA consisting of the decontamination and dismantling of the buildings and the adjoining structures to gain access to the contaminated soil, followed by excavation and disposal according to all state and federal rules, laws, and regulations provided a two-fold result: 1) prevention of the migration of contaminants into the adjacent soils and groundwater by removing the source; and, 2) mitigation of the risk to human and ecological receptors both on and off the AOC.

Summary of the IRA:

The main objectives of the IRA were: to plug and abandon the existing groundwater well; decontaminate and demolish the existing on-site structures; and, excavate the contaminated soils. Soils were to be excavated until they were non-detect for explosives compounds and TAL metals were consistent with the installation-wide background determined during the Phase II Remedial Investigation (Rl) at the WBG

Two major technical changes related to the overall IRA objectives occurred. Firstly, it was decided to evaluate the existing groundwater well for use as a non-potable construction\decontamination water supply. Subsequent to the review of the analytical data from the groundwater sample and subject to certain conditions, the Ohio EPA, in correspondence dated August 28, 2000 , concurred that the well could remain open and be utilized in the IRP program as a construction\decontamination water supply. Secondly, Building T-5301 was decontaminated and dismantled for future use by the OHARNG.

The IRA at Building T-5301 consisted of the following major activities:

- The decontamination and dismantling of the contents of Building T-5301 for future use by the OHARNG, and the decontamination and demolition of Guard

Post T-3402 and the structures adjoining T-5301. The buildings were decontaminated by pressure washing in accordance with IOCP 385-1 ("Classification and Remediation of Explosive Contamination"). Structures that had lead-based paint were handled with care, and precautions were taken to prevent paint chips from contaminating the surrounding soil.

- Field screening of the soil for explosives utilizing the Jenkins methodology in order to determine the preliminary depth and extent of the excavation required

- The excavation and transportation of the excavated soil to the bioremediation treatment facility for the remediation of explosives-contaminated soils.

- Obtaining confirmatory samples for laboratory analyses following field screening (using both the Jenkins method for explosives and the x-ray fluorescence (XRF) methodology for metals), following excavation to ensure that the remediation goals were met.

- The assessment of the existing groundwater well for use as a non-potable water construction/decontamination source during future IRP activities.

- The back-filling of the excavation with soil that was approved for use by the Ohio EPA subsequent to testing for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/PCBs, explosives, and propellants.

- Stabilization and restoration of the site to its original grade and mulching/seeding. Erosion controls will be maintained until the vegetation cover is complete.

- All work was conducted in accordance with local, state, and federal rules, laws, and regulations. In addition, all work was conducted only subsequent to the review of all applicable work plans, health and safety plans, and sampling and plans by personnel from the OSC and Ohio EPA.

  All investigation-derived wastes (IDW) were managed in accordance with the facility-wide Field Sampling plan (FSP) and correspondence (dated November 3, 1997) from Ohio EPA. All IDW was managed and disposed of in accordance with all applicable state and federal rules, laws, and regulations.

Conclusions and Recommendations:

Contaminant detections in the soil medium were excavated to non-detect for explosives and organics, and to concentrations consistent with the installation-specific background for TAL metals. In some instances, bedrock was encountered and the excavation was halted. Groundwater and sediments were non-detect for explosives and consistent with the installation-wide background for TAL metals. On the flood plain to Sand Creek, low concentrations of lead (61.4 mg/kg) were left in place in order to avoid the disruption of the ecological environment. This was done only subsequent to discussion with and concurrence by the Ohio EPA. If, in the future, it is determined that the excavation of some sediment would be required, this would be done in conjunction with the installation-wide surface water and sediment endeavor that is planned for the future.

Based upon the results of the IRA, the Ohio EPA concurs that a No Further Action (NFA) status is warranted for the AOC designated as RVAAP-47, Building T-5301.

Mark Patterson — 07 December 2000

Mark Patterson
Environmental Program Manager
Ravenna Army Ammunition Plant

Date

Eileen T. Mohr — 02 November 2000

Eileen T. Mohr
Project Coordinator
Division of Emergency and Remedial Response
Ohio EPA

Date

cc: Bob Princic, NEDO DERR
Bonnie Buthker, SWDO OFFO
Todd Fisher, NEDO DERR
David Seely, USEPA Region V
John Cicero, RVAAP
Catherine Stroup, CO Legal
Bob Whelove, OSC
LTC Tom Tadsen, RVAAP
Khodi Irani, MKM Engineers Inc.
Srini Neralla, MKM Engineers, inc.
John Jent, USACE Louisville