DECISION DOCUMENT (DD) FOR A REMOVAL ACTION
AT SAND CREEK DUMPSITE (RVAAP-34)

RAVENNA ARMY AMMUNITION PLANT (RVAAP)

1. PURPOSE:

a. This DD describes the alternatives and the selected action required to remediate the Sand Creek dumpsite (Defense Site Environmental Restoration Tracking Site RVAAP-34) at RVAAP. This action involves the removal, transportation, and disposal of contaminant material at the Sand Creek dumpsite at RVAAP, Ravenna, Ohio. Confirmation sampling is also included to assure the effectiveness of this action. This action is in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act, the National Contingency Plan, the Resource Conservation and Recovery Act, Army Regulation 200-1, Army Pamphlet 200-1, and the applicable and appropriate requirements of the State of Ohio.

b. The Sand Creek dumpsite is located along a steep drop-off on the east bank of Sand Creek adjacent to the wastewater treatment plant. The dates of operation are unknown. The dumpsite is approximately 1,200-feet long by 50-feet wide and slopes from east to west, 40 degrees to 60 degrees from horizontal (refer to Figure 1 (encl)). Mature trees and ground level vegetation densely populate the site. The only structures that remain are remnants of the former sewage treatment plant located at the northeast end of the site. Surface water runoff follows the topography of the site and flows in a westerly direction where it enters Sand Creek. A narrow flood plain occupies a portion of the land between the dump and Sand Creek. Based upon a preliminary site assessment conducted by MKM Engineers, the Sand Creek dump was an open dump for miscellaneous materials. It contains a variety of waste materials, including gas cylinders, open solvent drums and containers, broken laboratory bottles and containers, scrap metal items, and construction and demolition materials, including transite.

2. SITE RISK:

a. The US Army Center for Health Promotion and Preventive Medicine (USACHPPM, 1996) conducted a Relative Risk Site Evaluation (RRSE) at RVAAP in 1996 (Hazardous and Medical Waste Study No. 37-EF-5360-97, 28 October - 1 November 1996). The

USACHPPM report (1996) identified surface soil and sediments as the media potentially impacted by contaminant migration due to lack of any physical barriers around the site. The USACHPPM collected three shallow soil samples and one sediment sample. The USACHPPM report indicates this limited sampling identified arsenic as exceeding RRSE screening values for sediments. The report also indicates the potential migration of arsenic from the site to Sand Creek. The Sand Creek provides habitat for state endangered species (the Mountain Brook Lamprey and the river otter). Therefore, the site's RRSE rating is high. A high rating requires further investigation and/or removal under the CERCLA process.

b. Site evaluations following the USACHPPM sampling event determined the Sand Creek dumpsite was larger than originally defined. In addition, site observations identified multiple potential sources of chemical contamination, such as solvent drums, gas cylinders, open canisters, broken lab bottles, and construction debris.

c. At the recommendation of the US Army Operations Support Command, the US Army Corps of Engineers (USACE), Louisville District, collected additional samples to further characterize the site. Constituents analyzed include volatiles, semi-volatiles, target metals, cyanide, pesticides, polychlorinated biphenyl, explosives, and nitroguanidine. The principal contaminants detected with potential impact on human health are arsenic and benzo (a) pyrene. Other chemicals detected with potential ecological impact include arsenic, cadmium, zinc, benzo (b) fluoranthene, indeno (1,2,3-cd) pyrene, and dieldrin.

d. Sample results indicate that contaminants have migrated to the sediments of Sand Creek. Additional contamination may exist in the sub-sediment soils; however, unexploded ordnance concerns prevent additional sampling before debris removal. Therefore, debris removal is the required action at this time. Once removal is completed, sub-sediment soil samples will indicate if additional action is required to be protective of human health and the environment.

3. REMEDIAL ALTERNATIVES: Remedial alternatives for the dumpsite are as follows:

a. No Action: This alternative does not prevent the continued migration of contaminants from the soil and sediment to the surface water and groundwater. The potential risk of exposure through the various media remains. Potential exposure

to both installation personnel and the ecology remains. There is no direct cost associated with this option.

b. Institutional Controls (site fencing and monitoring): This alternative provides adequate protection for facility personnel working near the site. It also provides a minimal level of ecological protection. This action does not affect contaminant migration since source removal is not accomplished. This option requires a limited debris removal to allow for safe on-site working conditions. A remedial investigation (RI) is also required under this option since contaminants remain at the site. The costs associated with this alternative are as follows: $250,000 for a limited removal to allow for fence installation, $40,000 for fence installation, $450,000 for the RI, and $60,000 for additional site monitoring. Total estimated cost for this option is $800,000 (estimate for long-term monitoring not included).

c. Multilayer Cap and Institutional Controls (site fencing and monitoring): This alternative provides adequate protection for facility personnel working near the site and for the ecology. This action decreases water infiltration at the site and reduces leachate generation. However, since the source of contamination remains in place, the exposure pathways could return if the site is disturbed or eroded. The costs associated with this alternative are as follows: $220,000 for the completion of a limited remedial investigation prior to capping, $250,000 for the completion of a limited removal to facilitate on-site cap work, $47,000 to complete a soil cap over the 2.8 acre site, $60,000 for site monitoring, and $160,000 for an erosion prevention wall. Total estimated cost for this option is $737,000 (estimate for long-term monitoring not included).

d. Removal/Disposal of Solvent Drums, Gas Cylinders, Lab Bottles, and Miscellaneous Debris with Confirmation Sampling: This alternative consists of the removal and disposal of the contamination sources, confirmation sampling, surface water sampling, sediment sampling, and sub-sediment soil sampling. This action reduces the potential threat to human health and the environment by eliminating the source of contamination. This source removal eliminates the potential for further soil or groundwater contamination. Confirmation sampling will determine whether additional remedial actions are required for the site. The estimated cost for this option is $492,000.

4. SELECTED ALTERNATIVE:

a. The alternative selected for remediation of the site is Alternative #4: Removal/Disposal of Solvent Drums, Gas Cylinders, Lab Bottles, and Miscellaneous Debris with Confirmation Sampling. Upon completion of the removal action, confirmation samples will indicate if additional remedial actions are required for the site. The RVAAP will negotiate cleanup levels in soils with the Ohio Environmental Protection Agency (OEPA).

b. The Army selected this remedial action alternative under CERCLA with support from the North East District Office, Division of Emergency Response of the OEPA. The action is protective of the environment and demonstrates environmental stewardship by the installation. This action avoids potential Notices of Violations under Ohio Revised Code 6111 - Waters of the State.

5. PUBLIC/COMMUNITY INVOLVEMENT: The RVAAP has a Community Relations Plan. During a Restoration Advisory Board (RAB) on 14 February 2001, RVAAP informed the RAB and the public about the proposed remedial activities at the site. The RVAAP activated discussion and public comment during the meeting. The Army received no comments during the 30-day period following notification. In addition, the documents associated with the Sand Creek Dumpsite Removal Action are in local public libraries for review.

6. DECLARATION: The selected remedy is protective of human health and the environment, attains federal and state requirements that are applicable/relevant/appropriate to this removal action, and is cost effective. This remedy satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility or volume as a principal element, and utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable.

7. APPROVAL AND SIGNATURE: The selected alternative for the Sand Creek Dumpsite (RVAAP-34) is Removal/Disposal of Solvent Drums, Gas Cylinders, Lab Bottles, and Miscellaneous Debris with confirmation sampling. The cost estimate for the proposed action is $492,000. The appropriate approval authority for the

proposed action is the installation commander, Headquarters, US Army Operations Support Command's Chief of Staff.

Approved VCK

Disapproved _____

GENE E. KING
Colonel, GS
Chief of Staff

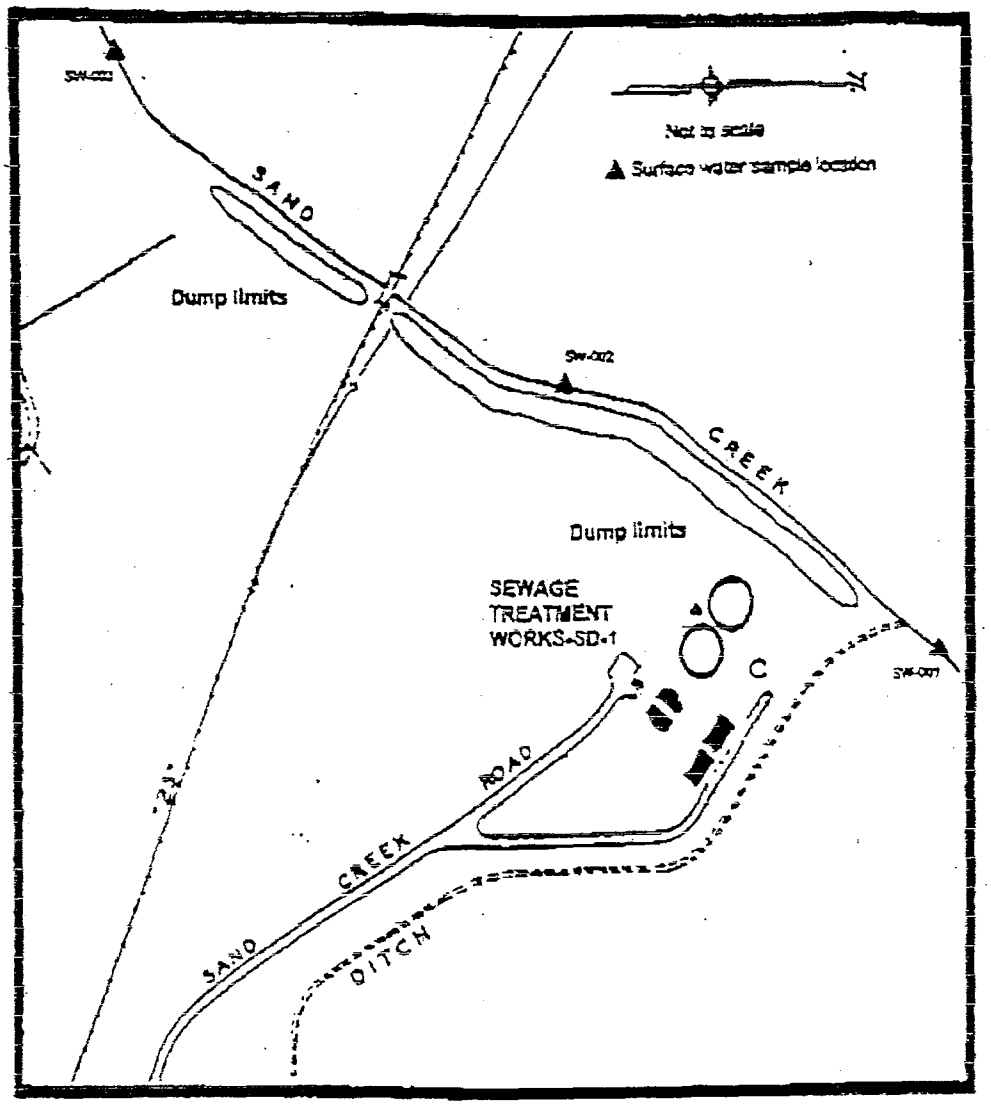

Figure 1 Surface Water Samples

End 1