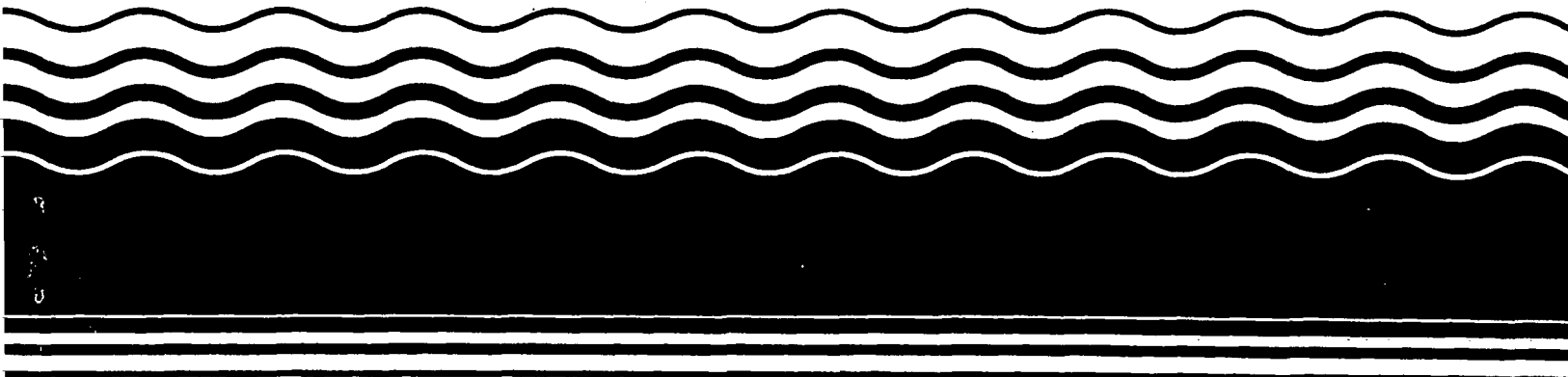


**PB97-963142
EPA/541/R-97/149
January 1998**

**EPA Superfund
Explanation of Significant Difference
for the Record of Decision:**

**Mill Creek Dump
Erie, PA
4/30/1997**



EXPLANATION OF SIGNIFICANT DIFFERENCES MILLCREEK DUMP SUPERFUND SITE ERIE, PENNSYLVANIA

A. Introduction

The Environmental Protection Agency (EPA), Region III, is issuing this Explanation of Significant Differences (ESD), to document a change in the remedy set forth in the Record of Decision (ROD) issued on May 7, 1986, for the Millcreek Dump Superfund Site (Site) located in Erie, Pennsylvania. The component of the ROD requiring excavation of soils and sediments with elevated levels of contamination and consolidation of the excavated materials under a RCRA cap is being removed for reasons set forth in this ESD. The remaining components are not being altered.

EPA is issuing this ESD pursuant to its authority in Section 117(c) of the Comprehensive, Environmental Response, Compensation and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9617(c), and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), at 40 C.F.R. § 300.435(c)(2)(I). EPA is the lead agency for the Site and the Pennsylvania Department of Environmental Protection (PADEP), formerly Pennsylvania Department of Environmental Resources, is the supporting agency. EPA has determined that this change made by this ESD does not fundamentally alter the scope, performance, or cost of the remedy selected in the ROD. This ESD will become part of the administrative record file for the Site located in the EPA Region III Office and in the Millcreek Township Building (see Section F for addresses).

B. Summary of Site History, Site Conditions and Selected Remedy

The Millcreek Dump encompasses 84.5 acres of land situated in Millcreek Township, approximately two miles west from the City of Erie, Pennsylvania, and approximately one mile east of the Erie International Airport. The Site is bordered by the Conrail track to the south and highly developed residential and commercial areas on all other sides. The topography is relatively flat except for several isolated mounds of foundry sand. The Site was once a freshwater wetland, drained by Marshall's Run. The perimeter of the Site is deciduous forest, while the central, southern, and southwestern portion are composed of fill material.

From 1941 to 1981 the Site was operated as an unpermitted active landfill for foundry sand as well as municipal and industrial waste. Contaminants found at the Site include: polychlorinated biphenyls (PCBs), phthalates, phenols, volatile organics, polynuclear aromatic hydrocarbons (PNAs), and heavy metals such as lead and copper. Bulk waste oils were also disposed of on the Site. The average fill depth on-site is seven feet and the depth to groundwater at the Site varies from zero to several feet.

In 1981, the Pennsylvania Department of Environmental Resources closed the landfill. From 1983 to 1986, EPA performed an emergency response action which included fencing the Site, demolishing sheds, removing 75 drums with hazardous liquids, and removing and recycling clean empty drums. In 1984, the Site was listed on the National Priority List. EPA completed a Remedial Investigation/ Feasibility Study in August 1985.

On May 7, 1986, EPA chose a remedy to clean up the Site which includes the following components:

- Excavation and consolidation of highly contaminated soil and sediments under a RCRA cap;
- Installation of a soil cover over soils containing lower levels of contamination;
- Construction of surface water basins and ditches;
- Revegetation of soil cover and RCRA cap;
- Installation of additional monitoring wells;
- Construction of a flood retention basin; and
- Extraction and treatment of contaminated groundwater.

To manage the technical aspects of Site remediation, EPA divided the Site into two Operable Units (OUs):

- OU-1, which includes remediation of contaminated groundwater using an extraction and treatment system; and
- OU-2, which includes remediation of the contaminated soil and sediments at the Site by completing the remaining components of the ROD.

The design for the groundwater extraction system was initiated in October 1989 and completed in December 1990. The groundwater treatment system design, including the construction of the Millcreek Treatment Plant (Plant), was completed in January 1992.

On March 31, 1992, EPA ordered the Potentially Responsible Parties (PRPs) to perform the OU-2 remedial action. Several PRPs are currently complying with the order.

C. Significant Differences

At the time the ROD was issued, EPA determined that areas of highly contaminated soil and sediment may be serving as a source for continued migration of contamination to groundwater. Therefore, the ROD remedy included a component requiring that these areas be excavated, consolidated, and covered with a multilayer cap in accordance with appropriate Resource Conservation and Recovery Act (RCRA) requirements. A RCRA cap would reduce infiltration of surface water into the contaminated soil and sediment and thus prevent leaching of the contaminants into the groundwater. The ROD required that areas of the Site with contaminant levels that pose a direct contact threat, but not a threat to groundwater, be graded,

covered with clean soil, and revegetated to prevent potential exposure with the contaminants.

When the remedy was selected, EPA did not define the level at which soil and sediment contamination would pose a threat to groundwater and, therefore, trigger excavation, consolidation, and covering of these materials with a RCRA cap. This level was to be established after additional studies were completed including extensive field sampling and fate and transport modeling to determine distribution of Site contaminants. However, additional soil sampling revealed that contaminants are distributed throughout the Site and do not occur in concentrated areas that can be readily excavated and consolidated as anticipated at the time the ROD was issued.

Volatile organic compounds are widely distributed in the northeast, central and south central portions of the Site; semi-volatile organic compounds (SVOCs) are present in virtually all the soil samples collected in the northeast, southwest, and central portions of the Site; polychlorinated biphenyls (PCBs) occur in both the southeast and central portions of the Site, and inorganic trace elements are detected in concentrations greater than background throughout the entire thickness of the fill material at the Site. Elevated concentrations of volatile organic compounds (VOCs), including xylenes up to 1,600 parts per million (ppm) and ethyl benzene up to 150 ppm, are associated with a location where a soil sample was collected from beneath a buried drum. However, the majority of the VOC samples have concentrations below 0.1 ppm. PCBs were detected in approximately 10 percent of the soil samples with the highest concentration being 18 ppm. Most of the soil samples had PCB concentrations below 0.1 ppm.

Because some soil samples did exhibit high levels of contamination, EPA evaluated whether a RCRA cap should be required for the entire contaminated area to prevent further migration of contaminants to the groundwater. Modeling was conducted as part of the Remedial Design to evaluate the impact that various types of caps would have on contaminant migration. Contaminants are present in groundwater at the Site through several transport mechanisms. The shallow water table actually extends into the fill areas. Therefore, contaminants are in direct contact with the groundwater and transported by the flow of the groundwater itself. A RCRA cap would not alter this transport mechanism because groundwater flow is not significantly affected by infiltration at this Site. Contaminants in the unsaturated zone above the water table are primarily transported to the groundwater by infiltration of surface water. A RCRA cap would almost completely eliminate further migration of contaminants resulting from infiltration. However, the modeling demonstrated that the contaminant loading from the unsaturated zone was relatively low in comparison with the levels of contamination already existing in the groundwater. Contaminants which previously migrated from the unsaturated zone or continue to migrate from waste material in the saturated zone are much more significant sources. Therefore, constructing a RCRA cap over the entire contaminated areas would not significantly reduce the contaminant loading or the time required for groundwater remediation.

Based on the findings of the post-ROD studies, EPA has determined that the ROD component requiring excavation, consolidation, and capping of highly contaminated soil and

sediment should be deleted. Rather, EPA is requiring that areas of contamination identified in the remedial design, approximately 50 acres, be covered with a 12-inch soil cover. In addition, EPA is requiring that a warning sheet (*i.e.*, a geotextile fabric) be placed on top of the graded contaminated areas prior to placement of the soil cover. This requirement is in response to a PRP request that EPA evaluate future use of the Site as a golf course. The warning sheet would allow this use and provide a mechanism to ensure that the contaminated soil beneath the soil cover is not inadvertently brought to the surface where those using the Site for recreational purposes could be exposed. The soil cover will also be graded to accommodate potential future recreational development of the Site to the extent possible within the limits of State requirements.

EPA has determined that the remedy modification documented in this ESD is protective of human health and the environment. The soil cover will eliminate direct contact risks at the Site by isolating the soil contaminants to prevent air dispersal and erosion and surface water transport. The remedy remains protective of groundwater at the Site because soil and sediment contaminants are not present at levels that pose a threat to groundwater.

D. Affirmation of Statutory Determinations

Considering the new information that has been developed, EPA has determined that the remedy, as modified by this ESD, remains protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to this remedial action, and is cost-effective.

E. Support Agency Comments

The above modifications to the remedy have been made pursuant to 40 C.F.R. § 300.435(c)(2)(I) and in coordination with representatives of PADEP.

F. Public Availability

EPA invites the public to review and comment on this ESD as part of the Agency's decision-making process regarding remediation of the Site. The ESD is available for review as part of the Administrative Record for the Site at the two locations identified below:

U.S. Environmental Protection Agency
Region III
841 Chestnut Building
Philadelphia, Pennsylvania 19107
(215) 566-3157
Hours: 8:30 a.m. to 5:00 p.m.
Monday through Friday

Millcreek Township Building
3608 West 26th Street
Erie, PA 16505
Contact: Roseanne Eckerson
(814)833-1111

Interested parties may comment during a 30-day public comment period that begins on May 14, 1997, and closes on June 13, 1997. Written comments, postmarked no later than May 18, 1997, should be sent to the following address:

Romuald A. Roman (3HW22)
Remedial Project Manager
841 Chestnut Building
Philadelphia, Pennsylvania 19107
(215) 566-3212


Thomas C. Voltaggio, Director
Hazardous Waste Management Division

April 30, 1997
Date

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Office of Superfund
Romuald A. Roman, CIH
Remedial Project Manager

Direct Dial (215) 566-3212

Mail Code 3HW22

December 3, 1996

Wayne F. Barto
Project Director
de maximis, inc
301 Gallaher View Road
Suite 227
Knoxville, TN 37919

RE: Millcreek Dump Site, OU - 2 - The alternative site use

Dear Mr. Barto:

EPA hereby presents its comments pertaining to the de maximis letter, dated November 15, 1996, and following this letter fax- message, dated November 18, 1996.

Both documents discuss the repercussions of the meeting of November 7, 1997, during which the Group presented to EPA a concept to modify the EPA's approved Remedial Design documentation for the Operable Unit 2 (OU-2). According to the Group the requested modification would expedite the process of obtaining permanent easements from Millcreek Township and Conrail and create a new recreation facility for Millcreek County.

Please be reminded that the on-site construction of the OU-2 has been scheduled to start in the Spring of 1996. Unfortunately, even though EPA assisted the Group by issuing easement request letters in December 1995, the construction has not started because the Group has not obtained permanent easements from Millcreek Township and Conrail. This easements issue was discussed recently between counsel Mark Shaw and EPA Ass. Regional Counsel Benjamin Cohan during a teleconference dated 11/20/1996. During this teleconference, it was agreed that holding the 15 & 17th street access issues "hostage" to the approval of the alternative use for the site served no construction purpose and that therefore, all access agreements will be executed before or at the time the Conrail access is obtained. It was further agreed that EPA and the Group do not want this alternative use issue to impede the anticipated construction start date for ou-2. To that

end, and in order to provide EPA with the time it will require to provide an adequate analysis of your proposal, we are requesting that you submit the above documentation to the undersigned by or before 01/30/97 date.

The concept of an alternative use of the site for a golf course generally follows EPA's policy to maintain and use Superfund sites for the best benefit of the nearby population. However interesting this new concept is, EPA cannot automatically approve the modification until the details of this proposal are thoroughly evaluated. The crucial parts of the documentation which must be submitted to EPA include:

1. Revised drawing and specifications of the cap and evaluation, which must include its potential impact on surface water- groundwater interactions, modified water levels in extraction trenches, and modified flow rates in Marshall's Run.
2. Revised design of the storm water control and disposal system, including the design of cap drainage system, and re-evaluation of 1995 computer modeling and design of the flood retention basin. The presented cap modification must not lead to the increase of flooding hazards.
3. Evaluation of potential impact of the proposed cap modification on the efficiency of the treatment plant performance. Specifically, this evaluation must state whether the installation of the impermeable layer, modification of slopes, and modification of storm water control and disposal would improve or decrease the efficiency of the treatment plant, which captures contaminated groundwater from the entire area of the site.
4. The accessibility of the golf course to the general public.
5. PADEP's waiver of the 3 percent grade requirement for the cap.
6. Proposed documentation submission schedule.

Sincerely,

Romuald A. Roman, CIH
Remedial Project Manager

cc:
Ed Orris
Gary Lang
Gregg Crystal
Ben Cohan
Mark Shaw, Esq.
Evan Adair, Esq.