EXPLANATION OF SIGNIFICANT DIFFERENCES
for the
RAYMARK (JACKSONVILLE ROAD) SUPERFUND SITE
Operable Unit 2 - Drinking Water Supply
Operable Unit 3 – Groundwater

I. INTRODUCTION

Site Name:	Raymark (Jacksonville Road) Superfund Site ("the Site")
Site Location:	Hatboro Borough, Montgomery County, Pennsylvania
Lead Agency:	U.S. Environmental Protection Agency, Region III ("EPA")
Support Agency:	Pennsylvania Department of Environmental Protection ("PADEP")

II. STATEMENT OF PURPOSE

This Explanation of Significant Differences ("ESD") is being issued in accordance with Section 117(c) of the Comprehensive Environmental Response, Compensation and Liability Act, as amended ("CERCLA"), 42 U.S.C. § 9617(c), and 40 C.F.R. § 300.435(c)(2)(i) of the National Oil and Hazardous Substances Pollution Contingency Plan ("NCP") and is now a part of the Administrative Record for the Site. The NCP requires the publication of an ESD when the differences in a remedial action significantly change, but do not fundamentally alter, the remedial action selected in a Record of Decision ("ROD") with respect to scope, performance, or cost.

This ESD has been prepared to provide the public with an explanation of modifications to the components of the remedy associated with the groundwater extraction and treatment of certain public water supply wells. In addition, this ESD addresses institutional controls for the ROD for Operable Unit 2 and Operable Unit 3 ("OU2" and "OU3"). This ESD will summarize the information that supports these modifications and confirm that the revised remedial action complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. This ESD modifies the approach to groundwater remediation at the Site by eliminating the institutional control component in the ROD for OU2 and OU3 that ensured continuous public water supply operation and treatment by the Hatboro Borough Water Authority. Instead, the ROD for OU2 and OU3 will hereafter require institutional controls in connection with the on-Site treatment system as well as contaminated groundwater attributable to the Site. Therefore, this ESD changes, but does not fundamentally alter, the remedy selected in the ROD, as modified, with respect to scope, performance, or cost. Thus, a ROD amendment is not required in this matter.

II. SUMMARY OF THE SITE HISTORY, SITE CONDITIONS AND SELECTED REMEDY

The Site is located on Jacksonville Road in the Borough of Hatboro, Montgomery County, Pennsylvania. The Site, which consists of approximately seven (7) acres of relatively flat land, is located in an industrial area and is approximately 100 feet from the nearest residence. The nearest surface water body is the Pennypack Creek which flows 4,000 feet southwest of the Site. The property consists of a manufacturing building which consists of office space and a wastewater treatment building. The manufacturing building was historically used to treat electroplating wastes. A metal cleaning/degreasing operation was formerly located in the rear section of the manufacturing building and a solvent storage tank was formerly located immediately outside this area. A septic tank was located near the wastewater treatment building. Four small lagoons were located in the rear of the property but were removed in the early 1970's.

From 1948 to 1980, metal fabricating operations, including rivet manufacturing and electroplating, were conducted at the Site. The Milford Rivet and Machine Company, under two separate ownerships, operated the facility from 1948 to 1969 (Milford I) and from 1969 to 1980 (Milford II). Milford I was a subsidiary of Raybestos-Manhattan, Inc. In 1969, Milford I merged with Raybestos-Manhattan, Inc. and Milford II was simultaneously created as a subsidiary of Raybestos-Manhattan, Inc. In 1982, Milford II merged with RMFPC, which subsequently changed its name to Raymark Formed Products, Inc. In 1980, the Raymark entities ceased operations at the Site when the property was sold to Penn Fasteners, Inc. In 2005, Penn Fasteners, Inc. leased a portion of the facility to the C&L Rivet Company which used it to manufacture rivets and fasteners. Later that year, the C&L Rivet Company purchased the property from Penn Fasteners, Inc. and is the current owner of the property.

As part of the former rivet manufacturing process at the plant, volatile organic compounds ("VOCs"), including thirty (30) to forty (40) gallons of trichloroethylene ("TCE"), were used daily at the Site to clean and degrease metal parts. From 1948 to 1972, treated and untreated wastes from metal plating and degreasing operations were disposed of in four unlined sludge lagoons located on the Site. In 1972, the accumulated sludge was removed and shipped off-site and the lagoons were filled in with clean fill and berm material.

EPA, the Commonwealth of Pennsylvania Department of Environmental Resources (now known as the Pennsylvania Department of Environmental Protection, or "PADEP"), and the Borough of Hatboro ("Hatboro") conducted groundwater sampling at the Site in late 1979 and 1980 which revealed the presence of TCE and other VOCs in eight (8) of sixteen (16) Hatboro municipal public supply wells. TCE is a hazardous substance as defined in CERCLA Section 101(14), 42 U.S.C. § 9601(14).

In 1981, EPA installed a monitoring well, PF-1, on the Site property as part of an effort to investigate regional groundwater contamination. Groundwater samples collected from this well contained high concentrations of TCE. The highest concentration of TCE detected in PF-1 was 19,000 micrograms per liter ("ug/1"). Samples from this well were taken again in 1983, 1984, 1985, and 1987. Each sampling event showed elevated levels of TCE.

In June 1983, EPA conducted a Site Investigation ("SI") for the Site to determine the hazards posed by the Site. The SI resulted in a Hazard Ranking System ("HRS") score of 26.08.

In the fall of 1984, EPA conducted a subsequent field investigation that included the installation and sampling of five (5) additional monitoring wells located west of the Site, sampling of other nearby monitoring wells and abandoned water supply wells, and additional on-site soil sampling. High levels of TCE were detected in each well. EPA conducted additional investigations from November 1986 through January 1987, which included extensive sampling of the soil and bedrock on-site and further sampling of on-site and area monitoring wells. Again, the sampling revealed the presence of high levels of TCE.

In May 1986, a revised HRS score was calculated for the Site using this newly obtained information. The revised score was 53.47. The Site was placed on the National Priorities List in October 1989.

In January 1990, EPA conducted a Remedial Investigation and Feasibility Study ("RI/FS") at the Site which included the installation and sampling of discrete interval monitoring wells. The purpose of the RI/FS was to compile and evaluate available groundwater and aquifer information to develop strategies for addressing the contaminated aquifer at the Site.

In June 1990, EPA completed a Focused Feasibility Study to evaluate remedial alternatives to control off-site migration of contaminants in the groundwater beneath the Site and to treat TCE-contaminated groundwater for eventual use by the Borough of Hatboro as drinking water. The purpose of this study was to evaluate the potential risks associated with contaminated groundwater and to develop appropriate alternatives for remediation.

The Site was divided into three operable units ("OUs") as follows:

- Operable Unit 1 (OU1) Soil/Source Control
- Operable Unit 2 (OU2) Drinking Water Supply
- Operable Unit 3 (OU3) Groundwater

EPA has issued two RODs for the Site. On September 28, 1990, EPA issued a ROD for OU2 and OU3[1], which selected a combination of on-site and off-site groundwater pumping and treatment to address the contaminated groundwater beneath the Site and consisted of the following components:

(1) Completion of a groundwater remedial design study to determine the most efficient design of a groundwater extraction and treatment system.

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[1] On December 30, 1991, EPA issued a ROD for OU1 which called for the installation, operation, and maintenance of a soil vapor extraction system ("SVE") to remove contamination from the soil and bedrock beneath the Site and construction and maintenance of a low permeability cap to minimize future leaching of residual contamination into the groundwater. Operation and Maintenance of the soil vapor extraction system was discontinued in December 1995 after soil sampling by EPA confirmed that soil cleanup standards had been achieved. The work required by the ROD for OU1 has been completed and soil cleanup standards were achieved in January 1996.

(2) Continued Operation and Maintenance ("O&M") of public water supply wells by the Hatboro Borough Water Authority.

(3) Continued O&M of air stripping towers installed at contaminated public water supply wells by the Hatboro Borough Water Authority.

(4) Installation and O&M of vapor phase carbon adsorption units at public water supply wells equipped with air stripping towers.

(5) Installation and O&M of on-site groundwater extraction wells to remove contaminated groundwater from beneath the Site and to prevent contaminants from migrating off-site.

(6) Installation and O&M of air stripping treatment at on-site groundwater extraction wells to treat groundwater to required levels.

(7) Installation and O&M of vapor phase carbon adsorption units on on-site air stripping towers.

(8) Construction and O&M of a pipeline from the on-site groundwater treatment plant to the storm sewer system to discharge treated groundwater into the storm sewer system and then off-site to the Pennypack Creek.

(9) Periodic sampling of groundwater and treated water to ensure treatment components are effective and that groundwater remediation is progressing towards the cleanup goals.

(10) Institutional controls to ensure that the Hatboro Borough Water Authority continued to operate public water supply wells equipped with treatment systems.

Subsequent to the issuance of the ROD for OU2 and OU3, EPA implemented and completed groundwater studies to determine, in part, the most appropriate pumping strategy to prevent continued migration of contaminated groundwater from the Site. At that time, the data demonstrated that contamination from the Site was migrating down to deep aquifers located beneath the Site property and off-Site toward Hatboro well H14 where routine sampling indicated that contaminant levels were increasing. Aquifer pumping tests confirmed a regional aquifer connection between the Site and the Hatboro municipal wells.

The on-Site groundwater extraction and treatment system (well RW-3D) required by the ROD for OU2 and OU3 has been operational since 1993. From 1999 through 2004, EPA collected groundwater data to evaluate the level of contaminants within the aquifer in the vicinity of the Site. Based on the data collected, EPA has determined that the off-site public water supply wells, H14 and H17, are not effective in removing Site contamination from the aquifer.

III. REMEDY IMPLEMENTATION

On May 30, 1985, the United States filed a complaint in the U.S. District Court for the Eastern District of Pennsylvania against past and current owners and operators of the Site seeking injunctive relief and reimbursement of costs pursuant to Sections 106 and 107of CERCLA, 42 U.S.C. §§ 9606 and 9607, and injunctive relief pursuant to Section 7003 of the Resource Conservation and Recovery Act ("RCRA"), 42 U.S.C. § 6973. On October 8, 1985, Hatboro Borough Authority ("Hatboro") filed a Motion to intervene in the action and was subsequently permitted by the Court to intervene as a plaintiff. In 1988, a settlement-in-principle was reached among the parties and a Consent Decree was subsequently entered by the Court in February 1989.

The Consent Decree called for pumping and treating groundwater at Hatboro wells H1, H2 and/or H3 all of which were located approximately 1,200 feet southwest of the Site. In 1987, Hatboro conducted pumping tests on well H2 and the results of those tests indicated that well H2 was hydraulically connected to well PF-1, located on the Site property, one of the sources of groundwater contamination in the Hatboro area. Therefore, EPA believed that pumping at well H2 would be similar to pumping at well PF-1 and would accomplish the requirements established by the Consent Decree. EPA also believed that pumping at well H2 would collect contaminated groundwater migrating from the Site thereby providing protection for down gradient production wells which EPA believed were not then impacted by contaminants from the Site. The Consent Decree also required the construction and operation and maintenance of a groundwater treatment system at Hatboro well H16.

In February 1989, Hatboro removed the pump from well H2 with the approval of EPA. EPA then determined that additional tests should be conducted in well H2 and in on-site well RW-3D to further evaluate the effectiveness of the remedy embodied in the Consent Decree. On March 14, 1989, EPA conducted tests on wells H2 and RW-3D which included determining the depth of the contamination in the aquifer and the magnitude of contamination in the shallow and deep aquifers, and characterizing and correlating the flow zones between wells H2 and RW-3D.

On or about July 24, 1990, Hatboro completed a study concerning the treatment of water at well H16. Hatboro determined that a more efficient method of treating water produced by well H16 would be to transport the water produced at well H16 through piping to an existing stripper column located at Hatboro well H17 for treatment.

In the fall of 1990, and pursuant to the ROD for OU2 and OU3, EPA conducted detailed groundwater studies to determine the most appropriate pumping strategy to prevent continued migration of contaminated groundwater from the Site. At that time, the data indicated that contamination from the Site had been migrating down to deep aquifers located below the Site property and off-site towards Hatboro well H14. The data also indicated that contaminant levels had been increasing at well H14. Aquifer pumping tests performed by EPA indicated that an effective aquifer remediation strategy which included pumping from a shallow well, RW-1 at 135 feet, near the suspected on-site source area and a deep well, MD-3D at 190 feet, near the southwest corner of the Site, at a combined discharge rate of 60 gallons per minute (gpm), would effectively prevent off-Site migration of highly contaminated groundwater and provide efficient treatment and protection for off-site wells.

On December 31, 1991, EPA entered into an Alternative Remedial Contract Services contract with CH2MHILL, Inc. for the design and construction of all three operable units. By April 1992, EPA completed the design of the OU2 off-site vapor phase carbon adsorption unit. In February 1993, EPA began construction of the vapor phase carbon adsorption units and subsequently completed them in July 1993. Shortly thereafter, EPA installed the vapor phase carbon adsorption units on wells H14 and H17 which were operational by September 1993.

In December 1992, EPA completed the design for the OU3 on-site groundwater pump and treatment system and the OU1 SVE system and the low permeability cap. In September 1993, EPA began construction of these systems and completed them in January 1994.

In late 1994, Hatboro entered into negotiations with Philadelphia Suburban Water Company (now known as Aqua Pennsylvania, Inc ("Aqua")), a large regional water supplier, for the purchase by Aqua of Hatboro's municipal water distribution system. Aqua proposed to introduce surface water as a supply source to residents in the Hatboro area. As a result of these discussions, Hatboro decided only to operate well H16 as public water supply well in the event that the purchase was not finalized; otherwise, well H16 would be plugged and abandoned. In July 1994, Hatboro submitted a plan to EPA to equip well H16 with treatment capacity in the event that it was used as a public water supply well. EPA approved the plan in the fall of 1994. However, before the conclusion of their negotiations with Aqua, Hatboro decided not to use well H16 as a public water supply well. Consequently, well H16 was abandoned and instead well H17 was used to treat contaminated groundwater.

Also in late 1994 and during its negotiations with Hatboro, Aqua entered into negotiations for a Prospective Purchaser Agreement ("PPA") with EPA and PADEP. Since Aqua intended to acquire wells H14 and H17 as part of the water distribution system from Hatboro, during the PPA negotiations, Aqua agreed to sample, monitor and operate the groundwater treatment systems on wells H14 and H17 for a period of three (3) years during which period EPA and PADEP were responsible for the operation and maintenance of the carbon adsorption treatment units. At the end of the 3-year period, Aqua was permitted to shut both wells down unless EPA or PADEP wished to continue operating them, in which case both Agencies, rather than Aqua, would be responsible for their operation. In October 1996, EPA, PADEP and Aqua reached an agreement in principle. On October 31, 1996, Aqua successfully concluded its negotiations with Hatboro and acquired title to Hatboro's municipal water distribution system. After a sixty (60) day public comment, the PPA became effective in 1997.

To date, neither EPA nor PADEP has exercised the option under the PPA to continue operating wells H14 and/or H17. Currently, Aqua maintains well H14 as an emergency water source and operates well H17 for the production of drinking water to its customers.

IV. DESCRIPTION OF SIGNIFICANT DIFFERENCES AND THE BASIS FOR SUCH DIFFERENCES

EPA has determined that the elimination of the off-site public water supply wells, H14 and H17, and their associated air strippers and carbon treatment units, will result in a more effective aquifer remediation system at the Site, and is consistent with the remedial action objectives set forth in the ROD for OU2 and OU3.

The ROD for OU2 and OU3 states that EPA will achieve cleanup goals throughout the plume area. The ROD also noted that the plume area includes contaminants which originate from sources other than the Site. At the time the ROD for OU2 and OU3 was issued, it was unclear whether cleanup goals could be achieved throughout the entire plume area unless all sources of contamination to the aquifer in the vicinity of the Site were addressed. Because contaminants from the Site mix with similar contamination from other potential sources within the aquifer, it would be difficult, if not impossible, to distinguish between contaminants that originated from the Site and contaminants that originated from other sources. Wells H14 and HI7 are located approximately 4,000 feet from the Site and are impacted by known regional contamination which includes potential non-Site sources of contamination. Given that the other potential sources of the regional contamination have not been addressed, EPA has determined that, (1) it may not be possible to achieve cleanup goals within the regional aquifer, and (2) continued monitoring and treatment of contamination at wells H14 and H17 is not effective or practical and should be eliminated as a component of the remedy outlined in the OU2 and OU3 ROD.

The ROD for OU2 and OU3 also states that the "remediation system's performance would be carefully monitored on a regular basis and adjusted, as warranted, throughout the period of remediation. For example, certain extraction wells could be removed from service, pumped at higher or lower levels, or pumped intermittently to improve the performance of the extraction system." From 1990 through 2004, EPA conducted detailed groundwater studies that included groundwater sampling from monitoring, municipal, and industrial wells within the vicinity of the Site in an effort to evaluate contamination in the aquifer in the vicinity of the Site and to ensure that the aquifer remediation strategy set forth in the ROD for OU2 and OU3 remained efficient. The data from these studies have also been used to evaluate the relationship between the on-site treatment system and the off-site treatment at wells, H14 and HI7. EPA's analysis of the data concluded that there is no clear relationship between groundwater contamination in the immediate vicinity of the Site and contamination found in wells H14 and HI7. Therefore, continued use of H14 and HI7 as part of the Site groundwater remediation system is not warranted.

As mentioned earlier, Aqua maintains well H14 as an emergency water source and operates well H17 for the production of drinking water to its customers. In order to continue operating wells H14 and H17, Aqua is subject to appropriate local, Commonwealth of Pennsylvania, and federal environmental regulations and laws.

EPA has also determined that elimination of the component of the ROD for OU2 and OU3 regarding implementation of institutional controls is warranted. The ROD for OU2 and OU3 requires that institutional controls are required to ensure that Hatboro continues to operate

public water supply wells equipped with treatment. As discussed earlier, Hatboro Borough sold its entire municipal water distribution system to Aqua. Furthermore, after extensive groundwater studies, EPA concluded that the use of public supply wells, particularly wells H14 and H17, is no longer necessary for the achievement of the ROD's remedial objectives. Therefore, the component of the ROD for OU2 and OU3 which called for Hatboro Borough to continue to operate certain public water supply wells as part of the remedy is being eliminated.

However, in this case, EPA has determined that other institutional controls are necessary to assure long term protection of human health and the environment. Institutional controls are necessary for the protection of the integrity of the on-Site groundwater treatment system. Accordingly, EPA is modifying the remedy selected in the 1990 ROD for OU2 and OU3 to call for additional institutional controls to ensure long-term protection of human health and the environment and to protect the integrity of the groundwater treatment system.

The first such additional control has been implemented by PADEP. On February 2, 2007, PADEP, in consultation with EPA, issued an Administrative Order ("512 Order") pursuant to Sections 512(a) and 1102 of the Pennsylvania Hazardous Sites Cleanup Act ("HSCA"), 35 P.S. §§ 6020.512(a) and 6020.1102, which grants PADEP the authority to issue such orders precluding or requiring cessation of an activity or activities at a facility which PADEP finds would disturb or is inconsistent with a remedial action being implemented at that facility. Currently, the 512 Order prohibits the use of groundwater and the disturbance and/or interference of the groundwater treatment system at the Site by the current owner and any future owners of the property.

In addition, EPA has identified the Montgomery County Board of Health Department's Division of Water Quality Management ("MCHD Division of Water Quality Management") Individual Water Supply Regulations as an institutional control mechanism that will protect potential human exposure to contaminated groundwater attributable to the Site.

On February 1, 1997, the MCHD Division of Water Quality Management[2] adopted Chapter XVII, Individual Water Supply Regulations ("Regulations") and amended these regulations on August 1, 2003. Pursuant to Section 17-2, the purpose of these regulations is "to establish minimum standards for location, construction, modification or abandonment of individual water supply wells and system installation for protection of public health and welfare."

Accordingly, Section 17-5 of the Regulations provides a permitting procedure that enables the MCHD Division of Water Quality Management to "approve the location, construction, and testing for all individual water supply wells and approve the operation of an individual water supply system" in order to ensure a potable water supply that protects public health and welfare. Section 17-10.2 of the Regulations states that "All individual water supply systems must meet current PADEP drinking water standards..." Section 17-5.2 of the

[2] On September 5, 1991, the Montgomery County Commissioners of the County of Montgomery, Pennsylvania enacted the Public Health Code of Montgomery County for the protection and promotion of the health and welfare of the residents of the County of Montgomery, Pennsylvania.

Regulations makes it unlawful to install or modify an individual water supply well without first obtaining a permit from MCDH. If an individual supply well is installed or modified without a permit, Chapter XXI of the Regulations sets forth an enforcement mechanism which provides for the notification of violations of the Public Health Code, the issuance of emergency orders to protect the public health, and the imposition of penalties for violations of any portion of the Public Health Code. These regulations are a mechanism that minimizes exposure to Site-related contaminants as well as provides a system for EPA to track and confirm where and when new wells are installed.

The modified remedy set forth in this ESD will continue to provide protection to public health and the environment because the remedy will continue to (1) remove the contaminated groundwater from beneath the Site, (2) require the treatment of contaminated groundwater at the Site, (3) reduce further migration of contaminated groundwater from the Site toward public supply wells, and (4) reduce the likelihood of exposure to contaminated groundwater. The operation of the vapor phase carbon adsorption units on the on-Site treatment system will continue to prevent the release of VOC contaminants into the air thereby protecting public health and the environment.

V. SUPPORT AGENCY COMMENTS

The changes to the ROD for OU2 and OU3 as described in this ESD have been coordinated with representatives of PADEP pursuant to 40 C.F.R. § 300.435 (c)(2). PADEP supports the proposal set forth herein. PADEP has submitted its concurrence to this ESD while asserting certain conditions. However, concurrence by PADEP is not necessary for EPA to issue this ESD. In accordance with 40 C.F.R. § 300.430(f)(1)(ii)(B), the applicable or relevant and appropriate requirements (ARARs) established at the issuance of the ROD remain in place.

VI. STATUTORY DETERMINATIONS

EPA has determined that the modified remedy as described in this ESD complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. EPA believes that the remedy, as revised by this ESD, will remain protective of human health and the environment, is cost effective, and meets the Federal and State requirements that are applicable or relevant and appropriate to the Remedial Action as described in the ROD for OU2 and OU3.

VII. COMMUNITY INVOLVEMENT

EPA relies on public input so that the remedy selected for each Superfund site meets the needs and concerns of the local community. To assure that the community's concerns were addressed, a public comment period on a Draft ESD was opened on May 17, 2007 and closed on June 16, 2007. The notice of availability for the Site documents was published in the Philadelphia Inquirer on May 17, 2007. During this time, the public was encouraged to submit comments to the EPA on the Draft ESD. No comments were received by EPA on the Draft ESD. Because no substantive comments were received, a responsiveness summary was not necessary.

These activities were undertaken by EPA as part of its public participation responsibilities under Section 117 (a) of CERCLA and Section 300.435 (c)(2)(ii) of the NCP.

The Administrative Record includes all documents such as data analyses, public comments, meeting transcripts, and other relevant information upon which the selection of the response action was based. In accordance with Section 300.825 (a)(2) of the NCP, this ESD will become part of the Administrative Record. The Administrative Record can be found at:

EPA Public Reading Room
1650 Arch Street
Philadelphia, PA 19103-2029
(215) 814-3157
Please call to schedule an appointment.

or
Union Library of Hatboro
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September 28, 2007
Date

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