

**SECOND EXPLANATION OF SIGNIFICANT DIFFERENCES
for the
Bendix Flight Systems Division Superfund Site**

I. INTRODUCTION

Site Name: Bendix Flight Systems Division Superfund Site ("Bendix Site" or "Site")

Site Location: South Montrose, Bridgewater Township, Susquehanna 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 modifications to the remedial action selected in the Record of Decision ("ROD") are necessary, and such modifications significantly change, but do not fundamentally alter, the remedial action with respect to scope, performance, or cost.

This ESD has been prepared to provide the public with an explanation of modifications to the selected remedy for the Site to include institutional controls to ensure long-term protection of the remedy and to prevent human exposure to contaminated groundwater. This ESD will summarize the information that supports this modification and confirm that the revised remedial action complies with the statutory requirements of Section 121 of CERCLA, 42 U.S.C. § 9621. This ESD changes, but does not fundamentally alter, the remedy selected in the ROD with respect to scope, performance, or cost. Thus, a ROD amendment is not required to document this change.

This is the second ESD for the Site. The first ESD was issued by EPA on November 22, 1995 to modify the remedy to replace vacuum extraction with soil aeration to treat the soils.

III. SUMMARY OF THE SITE HISTORY AND SITE CONDITIONS

The Bendix Site is in the town of South Montrose in Bridgewater Township in Susquehanna County, Pennsylvania. The Bendix Site is located just east of the intersection of Route 29 and Route 3029 (also referred to as Old Creamery Road) which is the main intersection in South Montrose. The Bendix Site consists of a 64-acre property including a closed manufacturing building and office, a parking lot, two groundwater treatment buildings, and

grounds. The Site lies between the Meshoppen Creek to the east and the Wyalusing Creek to the west. Residents in South Montrose rely on groundwater for their drinking water.

The Site was used to manufacture coat hangers, wiring harnesses for military equipment, and aircraft instruments such as circuit boards from 1952 until 1996. From 1952 until 1958, industrial solvent wastes were disposed in a lagoon and also in a series of trenches. In addition, from the 1950s to 1978, a pit was used for the disposal of water-soluble cutting oil and oil-contaminated water from air compressors. The contaminants leached into the underlying groundwater. In January 1982 trichloroethene (TCE) was detected in soil, groundwater, and a holding pond at the Bendix Site.

Residences and businesses use groundwater as their source of drinking water in South Montrose. As a result of groundwater contamination from the Bendix Site, residences and businesses are monitored on a regular basis and, as required, have treatment in order to provide safe drinking water. This groundwater program is performed under an enforcement agreement between PADEP and Honeywell.

A list of key events at the Bendix Site are listed in chronological order.

Table 1: Chronology of Site Events

Event	Date
Detection of solvents in soil and groundwater	January, 1982
Proposed to National Priorities List (NPL)	September 18, 1985
Workplan for Remedial Investigation/Feasibility Study (RI/FS)	May 5, 1986
Final NPL Listing	July 22, 1987
Consent Order and Agreement with state to conduct RI/FS and groundwater monitoring program	November 30, 1987
Remedial Investigation and Feasibility Study	July 15, 1988
Proposed plan identifying EPA's preferred remedy presented to the public; start of public comment period	August 26, 1988
Record of Decision (ROD) selecting remedy is signed	September 30, 1988
Consent Decree between Allied Signal and EPA to perform remedial work outlined in ROD	July 13, 1990
Start of construction	April 13, 1991
Construction for Operable Unit #1 (recovery trench)	August 13, 1991 to April 15, 1992
Construction for Operable Unit #2 (soil aeration)	June 15, 1992 to December 12, 1995

Event	Date
Construction for Operable Units #3 and #4 (soil aeration)	March 10, 1994 to July 3, 1996
Construction for Operable Unit #5 (groundwater treatment)	June 23, 1994 to September 25, 1996
Explanation of Significant Differences changing treatment of soils from vacuum extraction to soil aeration	November 22, 1995
Construction completed (Preliminary Close-out Report signed)	September 30, 1996
First Five-Year Review conducted by EPA	August 5, 1997
Second Five-Year Review conducted by EPA	September 30, 2002
Third Five-Year Review conducted by EPA	September 28, 2007

IV. DESCRIPTION OF SELECTED REMEDY AND REMEDY IMPLEMENTATION

After reviewing the results of the RI/FS, EPA issued a Record of Decision (ROD) for the Bendix Site on September 30, 1988. The contaminants of concern are VOCs, primarily TCE.

To address the contamination four remedial objectives were established for the Site as described in the ROD (Table 2).

Table 2: Summary of Remedial Alternative Objectives

Remedial Alternative Objectives
1. remove soil contaminants to protective levels (100 ppb)
2. minimize the amount of hazardous substances leaching into the groundwater
3. treat groundwater both on and off-site to protective levels (< 1ppb TCE)
4. protect human population which utilizes groundwater for both contact and drinking water purposes

Adapted from Record of Decision signed September 30, 1988 (page 11).

The first remedial objective established that soils should be cleaned to 100 parts per billion (ppb) in order to achieve the third remedial objective of less than 1 ppb (< 1 ppb) of TCE in groundwater. These clean-up levels were established by PADER in the 1987 COA and restated in Appendix A of the ROD (memorandum from EPA to PADER dated September 22, 1988 regarding Bendix ROD Clarification). These cleanup goals were established site-wide.

Since the Site sits on a topographic divide and groundwater flows in two directions (east and west), the ROD divided the Site into two portions, the West Side Area and the East Side Area. The East Side Area consists of the pit/trench disposal area, the landfill area, and the solvent distillation area. The West Site Area consists of the TCE storage tank and drum storage area.

In addition to the four remedial alternative objectives listed above in Table 2, there are also objectives for both the East Side and West Side remediation. The objectives of the remedial alternatives for both sides are stated in the ROD and listed in Table 3.

Table 3: Remedial Alternative Objectives

West Side Area:	East Side Area:
Recovery of contaminated groundwater in the shallow flow zone originating from the TCE Tank Area	Prevention of migration of contaminants from the shallow flow zone to headwaters of the Meshoppen Creek
Prevention of further migration of contaminants from the TCE Tank Area into the groundwater system	Recovery of contaminated groundwater in the bedrock aquifer
Prevention of discharge of contaminants to surface waters through the existing parking lot storm drain	

Adapted from Record of Decision signed September 30, 1988 (pages 16 and 18).

A separate remedial alternative was selected for each side of the Site (east and west). For the East Side remedial alternative #5 was selected and for the West Side remedial alternative #2 was selected by EPA and described in the ROD (Table 4).

Table 4: Treatment of Soil and Groundwater Contamination

West Side Area: Alternative #2	East Side Area: Alternative #5
Vacuum Extraction	Vacuum Extraction
Groundwater Supply Treatment	Soil Aeration
Groundwater Recovery/Treatment	Groundwater Supply Treatment
	Groundwater Recovery/Treatment

Adapted from Record of Decision signed September 30, 1988 (page 24).

On July 13, 1990 Allied Signal entered into a Consent Decree (Civil Action No. 90-938) with EPA to perform the remedial design and remedial action (RD/RA) and pay the costs for cleaning up the Site. Remedial construction activities began on April 13, 1991 and were completed when the Preliminary Close-Out Report (PCOR) was signed on September 30, 1996. Construction of the groundwater recovery trench began in late 1991 and was completed in 1992. Construction of a monitoring well system was completed in late 1994. Cleanup of contaminated soils was completed in the fall of 1995. Additional monitoring wells were completed in 1996. At present, all remedial construction is completed and contaminated groundwater continues to be collected and treated.

The recovery trench constructed in 1992 collects groundwater on the west side of the Site. The recovery trench located in the parking lot is approximately 25-30 feet deep and is approximately 480 feet in length. Groundwater collected in sump #2 (the former TCE storage area) flows to the recovery trench. Additionally, there are groundwater monitoring wells in the parking lot that measure groundwater and contaminant levels. The groundwater collected in the

recovery trench from sump #2 and groundwater in the parking lot travels to filter house #2 for treatment.

Vacuum extraction was found not to be a practical remedy, because of the tight compaction of the soils on-site. Instead, the soils were excavated and aerated through mechanical screens. Additionally, soil was remediated only to the top of the glacial till. The change from vacuum extraction to soil aeration using mechanical screens for the soil remediation was described in EPA's Explanation of Significant Differences (ESD) dated November 22, 1995.

On the east side of the Site there are three pumping wells (PW-1, PW-2, PW-3). Presently, PW-3 collects groundwater, sends it to filter house #1 for treatment, and then it is discharged via a pipe to the Meshoppen Creek. This discharge point is at the bottom of the east side hill directly downgradient of sump #3.

In 1998, levels of TCE above state standards were detected at a surface water discharge point. As a result, a new sump (sump #3) was built to collect groundwater on the eastern side of the Site. The groundwater, rather than being discharged to the Meshoppen Creek, is pumped uphill to the west side of the Site to be treated at filter house #2 and then it is discharged to pond #1. The overflow from pond #1 travels east down the hill to the wetland area. Two locations along this discharge pathway are sampled. Construction of the new sump started in the winter of 1999 and was completed in the spring of 2000.

In compliance with the remedial objective to provide people in the town of South Montrose with safe drinking water, residences and businesses are monitored on a regular basis and, as required, have their groundwater treated. There are still TCE values above the maximum contaminant level (MCL) of 5µg/l as regulated by the Safe Drinking Water Act (SDWA). There are 29 properties in South Montrose that are actively part of the groundwater program. Four properties (2 residences and 2 businesses) are equipped with granular activated carbon (GAC) units to treat the groundwater for domestic use and are monitored twice a year. The remaining properties are monitored either once a year or once every three years. This groundwater program is performed under a Consent Order and Agreement (COA) signed in 1987 between PADEP and Honeywell.

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

In the course of performing the statutory five-year review of the Site, EPA determined that institutional controls are necessary to assure long-term protection of human health and the environment and for the protection of the integrity of the on-site groundwater treatment system. Accordingly, EPA is modifying the remedy selected in the ROD to require institutional controls to ensure long-term protection of human health and the environment and to protect the integrity of the groundwater treatment system. Institutional controls are required in order to limit activities conducted on-site, as follows:

- 1) No activities shall be conducted on the Site that would in any manner disturb or interfere with any remedial systems at the Site, including the on-site groundwater treatment system which consists of filter houses, sumps, the recovery trench, piping, and monitoring wells except for improving, upgrading, or optimizing the performance of the on-site groundwater treatment system.

- 2) The installation of groundwater wells on-site for domestic purposes, including drinking water, and the use of current groundwater wells on-site for domestic purposes, including drinking water, shall be prohibited unless the groundwater is treated to comply with drinking water standards (Maximum Contaminant Levels in Safe Drinking Water Act).
- 3) The installation of groundwater wells on-site that would adversely affect the on-site groundwater treatment system and adversely affect the capture and containment of groundwater on-site for remedial purposes shall be prohibited.
- 4) Any excavation of soils on-site that may adversely affect the release or mobility of residual contamination in the soils including the glacial till shall be prohibited with the exception of general regrading of surficial soils.

The required institutional controls could be implemented through property use controls such as easements and restrictive covenants and/or governmental controls such as zoning ordinances. In addition, PADEP has the authority to issue 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.

The four limitations listed above address on-site contamination. For the groundwater contamination in the town of South Montrose, the 1987 PADEP Consent Order and Agreement (COA) will be the mechanism to ensure that the human population is protected by providing safe drinking water. The COA requires the off-site groundwater to be monitored and treated, as necessary. EPA will rely on the COA as a mechanism to ensure the groundwater is safe to consume for the people in the town of South Montrose. EPA and PADEP will continue to review the groundwater results.

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) minimize the amount of hazardous substances leaching into the groundwater, (2) treat groundwater both on-site and off-site to less than 1 ppb of TCE, and (3) protect the human population which utilizes groundwater for both contact and drinking water purposes. The operation of the on-site treatment system will continue to prevent the release of VOC contaminants, thereby protecting public health and the environment.

VI. SUPPORT AGENCY COMMENTS

The changes to the ROD as described in this ESD have been coordinated with PADEP pursuant to 40 C.F.R. § 300.435 (c)(2). PADEP supports the changes set forth herein. PADEP has submitted its concurrence on this ESD in a letter dated April 30, 2008.

VII. 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 and will meet the Federal and State requirements that are applicable or relevant and appropriate to the remedial action as described in the ROD. Since there are no ARARs associated with the implementation of institutional controls, the ARARs established at the time of the ROD remain in place in accordance with 40 C.F.R. § 300.430(f)(1)(ii)(B).

VIII. COMMUNITY INVOLVEMENT

The ESD and the information upon which it is based will be included in the Administrative Record. The Administrative Record is available for public review at the locations listed below:

EPA Public Reading Room 1650 Arch Street Philadelphia, PA 19103 (215) 814-3157 Please call to schedule an appointment.	Susquehanna Planning Commission 31 Public Avenue County Office Building Montrose, PA 18801 (570) 278-4600 ext. 290
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Or online at http://loggerhead.epa.gov/arweb/public/advanced_search.jsp


Questions concerning EPA's action and requests to review the Administrative Record at EPA's office should be directed to:

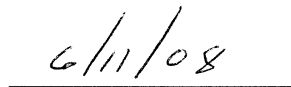
Kristine Matzko
Remedial Project Manager (3HS21)
U. S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
(215) 814-5719

IX. SIGNATURE

This Explanation of Significant Differences modifies the selected remedy for the Bendix Flight Systems Division Superfund Site to include institutional controls.

Approved By:


James J. Burke, Director
Hazardous Site Cleanup Division
EPA Region III


Date