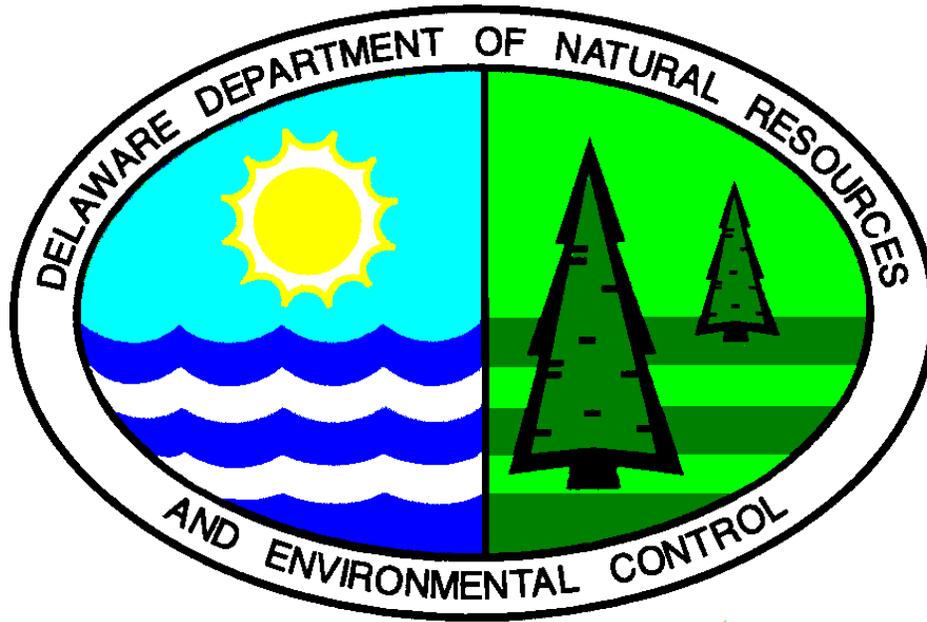


# FINAL PLAN OF REMEDIAL ACTION

Pencader Lot 30 Property  
Glasgow, DE  
DE 1098



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Delaware Department of Natural Resources and Environmental Control  
Division of Air and Waste Management  
Site Investigation & Restoration Branch  
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# **Final Plan of Remedial Action Pencader Lot 30 Property**

## **I. INTRODUCTION**

The Pencader Lot 30 property (the Site) is located in the Pencader Corporate Center approximately one mile north of the intersection of Routes 40 and 896 near Glasgow, Delaware (Figure 1). The property consists of a vacant parcel of approximately 24.43 acres. The property was historically maintained as farmland and has now been graded for commercial development. In order to determine the potential for environmental liability prior to purchase of the parcel, the Reybold Group entered into the DNREC Voluntary Cleanup Program (VCP). Through a VCP agreement, Reybold agreed to investigate the potential risks posed to the public health and environment. Reybold contracted WIK Associates, Inc. to perform a Facility Evaluation (FE) at the site.

The purposes of the FE were to: 1) understand the nature and extent of any soil and/or groundwater contamination at the site, 2) evaluate risks to public health and the environment associated with identified contamination, and 3) perform a feasibility study that would identify and recommend a remedial action, if required by DNREC. The potential purchaser of the property desired to obtain a Certificate of Completion of Remedy from DNREC upon completion of all required tasks.

This document is the Department's Final Plan of Remedial Action for the site. It is based on the results of the previous investigations performed at the site. This Final Plan is issued under the provisions of the Delaware Hazardous Substance Cleanup Act, 7 Del. C. Chapter 91 (HSCA) and the Regulations Governing Hazardous Substance Cleanup (the Regulations). It presents the Department's assessment of the potential health and environmental risks posed by the site.

Section II presents a summary of the site description, site history and previous investigations of the site. Section III provides a description of the FE results. Section IV presents a discussion of the remedial action objectives. Section V presents an analysis of remedial alternatives, including identification of and rationale for selection of alternatives and description of alternatives. Section VI discusses public participation requirements.

The Department provided public notice and opportunity to comment on the Proposed Plan in accordance with Section 12 of the Regulations. No comments were received during the comment period, which ran from November 17, 1998 through December 7, 1998. This Final Plan, together with the Proposed Plan and the investigation reports for the site, therefore constitute the "Remedial Decision Record".

Figure 1. Site Location Map  
From Facility Evaluation Report  
WIK Associates, September 1998

## II. SITE DESCRIPTION AND HISTORY

### *Site Setting*

The site primarily consists of undeveloped land in the northeast corner of the Pencader Corporate Center. Another undeveloped parcel is to the south of the Site. The parcels to the west and southwest are developed commercially. Route 896 lies immediately to the east. The former DuPont Glasgow facility (now Dade Behring) is located directly to the east across Rt. 896. The area to the north is primarily undeveloped forest with limited residential development. Muddy Run, a small third order stream, is located approximately 2000 feet to the southeast. Muddy Run flows towards the northeast approximately 2000 feet into Sunset Lake.

### *Site and Project History*

A Phase I Environmental Site Assessment was conducted by WIK in March 1998, followed by the Facility Evaluation conducted under the VCP Agreement.

The Phase I Environmental Site Assessment, which consisted primarily of interviews and a review of aerial photographs from 1937 through 1988/89, reported that the Site was historically farmland. The aerial photos (New Castle County Natural Resource Conservation Service series including the years 1937, 1954, 1962, 1968, 1977, 1982, and 1988/89) did not indicate the presence of any significant environmental liabilities. Commercial development began on the easterly adjacent parcel of Pencader corporate park between 1962 and 1968 and continued to the south and southwest between 1982 and 1989.

In order to obtain a Certificate of Completion of Remedy, the prospective purchaser entered into a VCP agreement with DNREC and performed the FE. The objectives of the FE were to evaluate the soil and groundwater quality of the Site, determine the potential risk to human health and the environment (based on the DNREC Remediation Standards), and if necessary, to perform a feasibility study. The FE included the excavation of ten test pits and drilling of six geoprobe borings across the property to inspect the soil and evaluate subsurface conditions and collection and analysis of soil and groundwater samples throughout the property to identify areas where remediation might be required. The work performed complied with the DNREC-approved Work Plan.

Field work for the FE was conducted in May 1998. Sporadically elevated readings on field instruments indicated the possible presence of volatile organic compounds (VOCs) in two locations, so samples were collected for verification. Trichloroethylene (TCE) and tetrachloroethylene (PCE) were detected at very low concentrations in one soil sample. An additional investigation was performed in July 1998 to assess the extent of the TCE and PCE contamination and the potential for impact to the environment, and to determine a source if possible. An additional fifteen trenches/test pits were dug and seven geoprobe borings were drilled in order to delineate the area of the TCE/PCE "hot spot". Nine surface and subsurface soil samples were collected for VOC screening analysis and one additional groundwater sample was collected and analyzed for volatile organic compounds. None of the screening analyses showed evidence of elevated VOC levels. However, five of the soil samples were analyzed in the lab for confirmation. One sample contained detectable concentrations of TCE, PCE, xylenes,

and 1,2 dichloropropane. However, the concentrations of these compounds were all well below the HSCA regulatory criteria for surface and subsurface soil under an unrestricted use human health scenario.

### **III. INVESTIGATION RESULTS**

The May 1998 FE sampling indicated possible trace concentrations of TCE and PCE in surface soils in the northwest corner of the Site. In one sampling location, the TCE concentration was 0.57 mg/kg, slightly exceeding the DNREC HSCA surface soil standard for an unrestricted use critical water resource area (0.5 mg/kg). The PCE concentration at the same location was 0.1 mg/kg, well below the HSCA standard of 0.5 mg/kg. No contaminants were detected in any other surface soil samples. Subsurface soil and groundwater samples were not contaminated.

The follow-up sampling conducted in July 1998, which was an attempt to isolate any VOC hot spots, resulted in detections at one location of TCE, PCE, xylene and 1,2 dichloropropane, all at concentrations well below HSCA remediation standards. The sample location of these VOC detections was in close proximity to the location at which the original TCE and PCE detections occurred. However, no VOCs were detected at the original location during the second round of sampling.

Based on the results of the two rounds of sampling and on geotechnical evaluation of the surface soil materials in the northwest corner of the Site, it was concluded that approximately one foot of fill was placed over the existing top soil layer in this area, presumably to provide enough material to complete grading of the property to facilitate later construction. Apparently, a small amount of this fill soil contained traces of volatile organics. The low concentrations of VOCs and the very limited area affected do not present any significant risk to human health or the environment.

Based on the information obtained from the previous environmental assessments and the FE performed at the Pencader Lot 30 site, no potential risk to the public, future workers, or the environment were attributable to the VOC contamination found at the site.

Remedial Action Objectives and a Final Plan of Remedial Action must be developed.

### **IV. REMEDIAL ACTION OBJECTIVES**

DNREC considers the FE for the Site to meet the criteria of a Remedial Investigation (RI), and hereby adopts the FE as an RI. According to the Regulations (Section 8.4 (1)), site-specific remedial action objectives must be established for all Plans of Remedial Action.

Qualitative objectives describe, in general terms, what the ultimate result of the remedial action at the facility should be. Considering the Site will be developed for commercial use, the qualitative objectives are to minimize risk to construction workers, future employees, and groundwater resources.

Quantitative objectives define specific levels of remedial action to achieve protection of human health and the environment. Based on the qualitative objectives, the quantitative objectives will be to ensure that no exposure occurs to any contaminants above concentrations specified in

HSCA remediation standards for an unrestricted use scenario for a critical water resource area. The following table compares the concentrations of the contaminants found in localized surface soils at the northwest corner of the Site, and their respective threshold remediation concentrations for surface soils.

Compound	Site Concentration (mg/kg)		Remediation Standard (mg/kg)
	May 1998	July 1998	
Trichloroethylene (TCE)	0.57	0.120	0.5
Toluene	Not detected	0.100	100
Xylene	Not detected	0.094	420
1,2 Dichloropropane	Not detected	0.100	0.5
Tetrachloroethylene (PCE)	0.100	0.100	0.5

## V. FINAL REMEDIAL ACTION PLAN

Since none of the contaminants detected at the Site exceeded the applicable Remediation Standard for an unrestricted use of the Site, no remedial action is required.

## VI. PUBLIC PARTICIPATION

The Department solicited public comments or suggestions on the Proposed Plan through legal advertisements. The comment period began on November 17, 1998 and ended December 7, 1998. No written comments were received.

## VII. DECLARATION

This Final Plan of Remedial Action for the Pencader Lot 30 site is protective of human health, welfare and the environment and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

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Nicholas A. Di Pasquale  
Director

Date