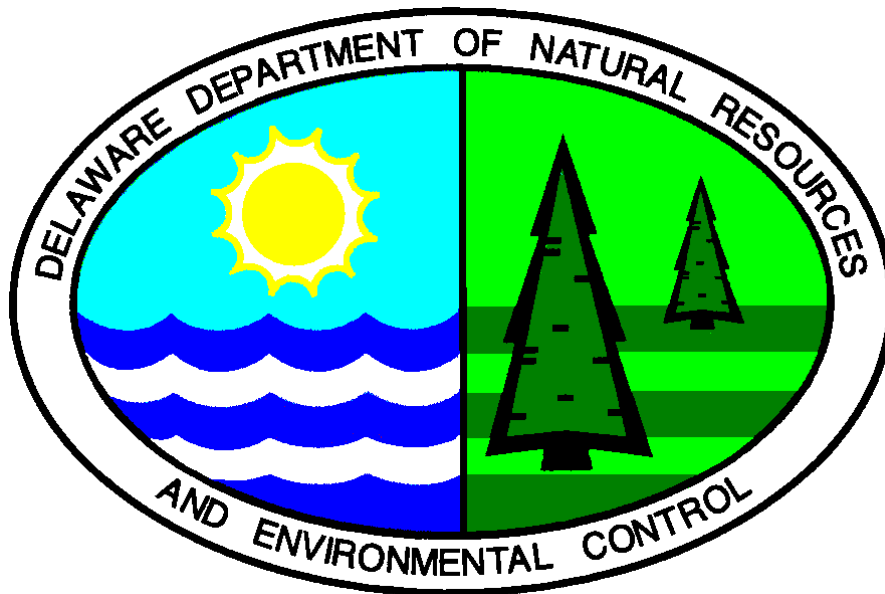


FINAL PLAN OF REMEDIAL ACTION

Naamans Road Site
Wilmington, DE

DE 1135



September 1999

Delaware Department of Natural Resources and Environmental Control
Division of Air and Waste Management
Site Investigation & Restoration Branch
391 Lukens Drive
New Castle, Delaware 19720

TABLE OF CONTENTS

I. INTRODUCTION	1
II. SITE DESCRIPTION AND HISTORY.....	2
III. INVESTIGATION RESULTS.....	2
IV. REMEDIAL ACTION OBJECTIVES	3
V. INTERIM RESPONSE ACTION.....	3
VI. FINAL PLAN OF REMEDIAL ACTION.....	4
VII. PUBLIC PARTICIPATION.....	4
VIII. DECLARATION.....	4
Figure 1: Site Map	5

I. INTRODUCTION

The Naamans Road Site (Site) is located in Wilmington, Delaware east of the intersection of Foulk and Naamans Road. The Site was formerly a Texaco gasoline station and is currently part of a Delaware Department of Transportation (DelDOT) road widening and wetland mitigation project.

In order to fulfill the requirements of the Department of Natural Resources and Environmental Control's (DNREC) Underground Storage Tank Branch, approximately 3,000 cubic yards of suspected petroleum contaminated soil were excavated and sent off-site for thermal treatment. Subsequent to the removal activities a soil investigation was conducted to ensure that all impacted soil was removed and to ensure that the wetland mitigation area would not be placed in an impacted area. The results of the investigation revealed that pesticide contamination was present on site. The DNREC – Site Investigation and Restoration Branch (DNREC-SIRB) then entered into a Voluntary Cleanup Program (VCP) Agreement with DelDOT under 7 Del. C. Chapter 91, the Delaware Hazardous Substance Cleanup Act (HSCA). Through this agreement, DelDOT agreed to investigate the potential risks posed to the public health, welfare, and the environment.

The purposes of the investigation were to: 1) understand the nature and extent of any soil and/or groundwater contamination at the site, 2) evaluate risks to public health, welfare, and the environment associated with identified contamination, and 3) perform a Feasibility Study (FS) that would identify and recommend a Remedial Action, if required by DNREC-SIRB. DelDOT expressed its desire to obtain a Certificate of Completion of Remedy from DNREC upon completion of all required tasks.

This document is DNREC'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 risk posed by the Site.

In accordance with the Regulations, DNREC-SIRB provided notice to the public and an opportunity for the public to comment on the Proposed Plan in accordance with Section 12 of the Regulations. At the conclusion of the public comment period, DNREC-SIRB reviews and considers all of the comments received and then issues a Final Plan of Remedial Action. The Final Plan of Remedial Action designates the selected remedy for the Site. The Proposed Plan, the comments received from the public, DNREC-SIRB's responses to those comments, and the Final Plan of Remedial Action will constitute the Remedial Decision Record.

Section II presents a summary of the site description, site history and previous investigations of the site. Section III provides a description of the facility evaluation results. Section IV presents a discussion of the remedial action objectives. Section V discusses the interim response action conducted at the Site. Section VI discusses public participation requirements.

II. SITE DESCRIPTION AND HISTORY

Site Setting

The site is located east of the intersection of Foulk and Naamans Road and is the former location of a Texaco gasoline station (see Figure 1). The F&N Shopping Village borders the Site to the south and west. To the north is Naamans Road and to the east is Naamans Creek.

The Site is generally rectangular in shape and covers less than one acre. The Site is clear of structures and is currently being used to store road construction materials.

Site and Project History

The following information is from the Interim Response Action Work Plan Former Texaco Station Naamans Road Wilmington, Delaware by EA Engineering, Science, and Technology.

Between February 1997 and January 1999, EA conducted a multi-phase investigation at the Texaco gasoline station, including the placement of 26 direct push soil borings to collect soil samples for screening and laboratory analysis.

During the 1997 investigation, petroleum impacted soil and groundwater was detected. In May 1998, approximately 3,000 cubic yards of suspected petroleum contaminated soil was excavated and sent off site for thermal treatment. Soil was removed to approximately 18 feet below grade. The excavated area was then backfilled with clean select material.

To confirm that the petroleum impacted soil was removed, EA conducted a soil sampling investigation in July 1998. The samples were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX), gasoline range organics (GRO), and diesel range organics (DRO). However, the laboratory analyst revealed that the BTEX, GRO, and DRO detected in the samples appeared to be a pesticide rather than a petroleum hydrocarbon.

Subsequent investigations were conducted in August 1998 and January 1999 to further delineate the nature and extent of the pesticide contamination.

III. INVESTIGATION RESULTS

As a result of the July 1998 investigation, a distinctive black soil layer was identified and suspected of containing the pesticide contamination. Additional investigations were conducted in August 1998 and January 1999 to further delineate the nature and extent of the pesticide contamination. The results of those investigations indicated that the contamination was confined to the black soil layer located approximately four to six feet below grade.

The nature and extent of the contamination is detailed in EA's March 1999 *Soil Characterization Analytical Results Summary, Former Texaco Station, Naamans Road, Wilmington, Delaware*.

IV. REMEDIAL ACTION OBJECTIVES

DNREC considers the data and information generated in the previous investigations of the Site to meet the criteria of a Remedial Investigation (RI), and hereby adopts the previous investigations as the RI. According to Section 8.4 (1) of the Regulations, 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 used as a wetland mitigation area, the qualitative objectives are to protect the wetland ecosystem from the effects of pesticides in the soil. Additionally, DNREC-SIRB seeks to minimize risk to site users such as construction workers and visitors by preventing human contact (dermal, inhalation, or ingestion) with contaminated soil.

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 are to ensure that soil containing pesticide contamination above the Delaware Uniform Risk Based Remediation Standards (URS) for protection of human health is removed. The URS values for protection of human health for the contaminants of concern in a non-critical water resource area with unrestricted use are:

Contaminant of Concern	Uniform Risk Based Standard For Protection of Human Health In soil (mg/kg)
Alpha-BHC (a.k.a. HCH-alpha)	0.1
Beta-BHC (a.k.a. HCH-beta)	0.4
Gamma-BHC (a.k.a. HCH (Lindane) gamma)	0.5
DDD	3.0
DDE	2.0
DDT	2.0

With regard to protection of the environment, DNREC-SIRB's concern is that ecologically sensitive receptors might come in contact with potentially contaminated *sediment* in the proposed wetland mitigation area. In these areas the practical quantitation limits for the contaminants of concern were utilized.

V. INTERIM RESPONSE ACTION

Based on the findings of the previous investigations, DelDOT proposed to address the contamination by removing it. DNREC-SIRB concurred and decided to address the soil removal as an interim response activity. The interim response activity was performed in compliance with Subsection 8.2 of the Regulations.

The soil removal was performed in accordance with the Interim Response Action Work Plan dated April 20, 1999.

The interim response activity was initiated on April 21, 1999 and completed on April 28, 1999. 3,075 tons of soil were removed and taken to TPS Technologies in Baltimore, Maryland for thermal treatment.

To confirm that all contaminated soil has been removed from the Site, soil samples were collected during the removal activity. Groundwater samples were also collected to confirm that the contamination did not impact it. The results of the interim response activity are detailed in the Environmental Remediation Report prepared by EA, Inc., dated May 1999.

VI. FINAL PLAN OF REMEDIAL ACTION

Based on the environmental investigations and the success of the soil removal activity, DNREC-SIRB plans No Further Action at this Site.

VII. PUBLIC PARTICIPATION

The Department actively solicited public comments and suggestions on the Proposed Plan of Remedial Action and welcomed opportunities to answer questions. The comment period began on July 14, 1999 and concluded at the close of business (4:30PM) on August 3, 1999. No comments from the public were received by DNREC-SIRB. However, DNREC-SIRB determined that it was necessary to further explain the remedial action objectives and re-issued the Proposed Plan of Remedial Action. The comment period for the re-issued Proposed Plan began on September 3, 1999 and concluded on September 24, 1999. No comments from the public were received by DNREC-SIRB.

VIII. DECLARATION

This Final Plan of Remedial Action for the Naaman's Road Site (DE-1135) is protective of human health, welfare, and the environment, and is consistent with the requirements of the Delaware Hazardous Substance Cleanup Act.

William W. Hill, Acting Director	Date
Division of Air and Waste Management	

SRL/rm
SRL99072.doc
DE1135IIB8

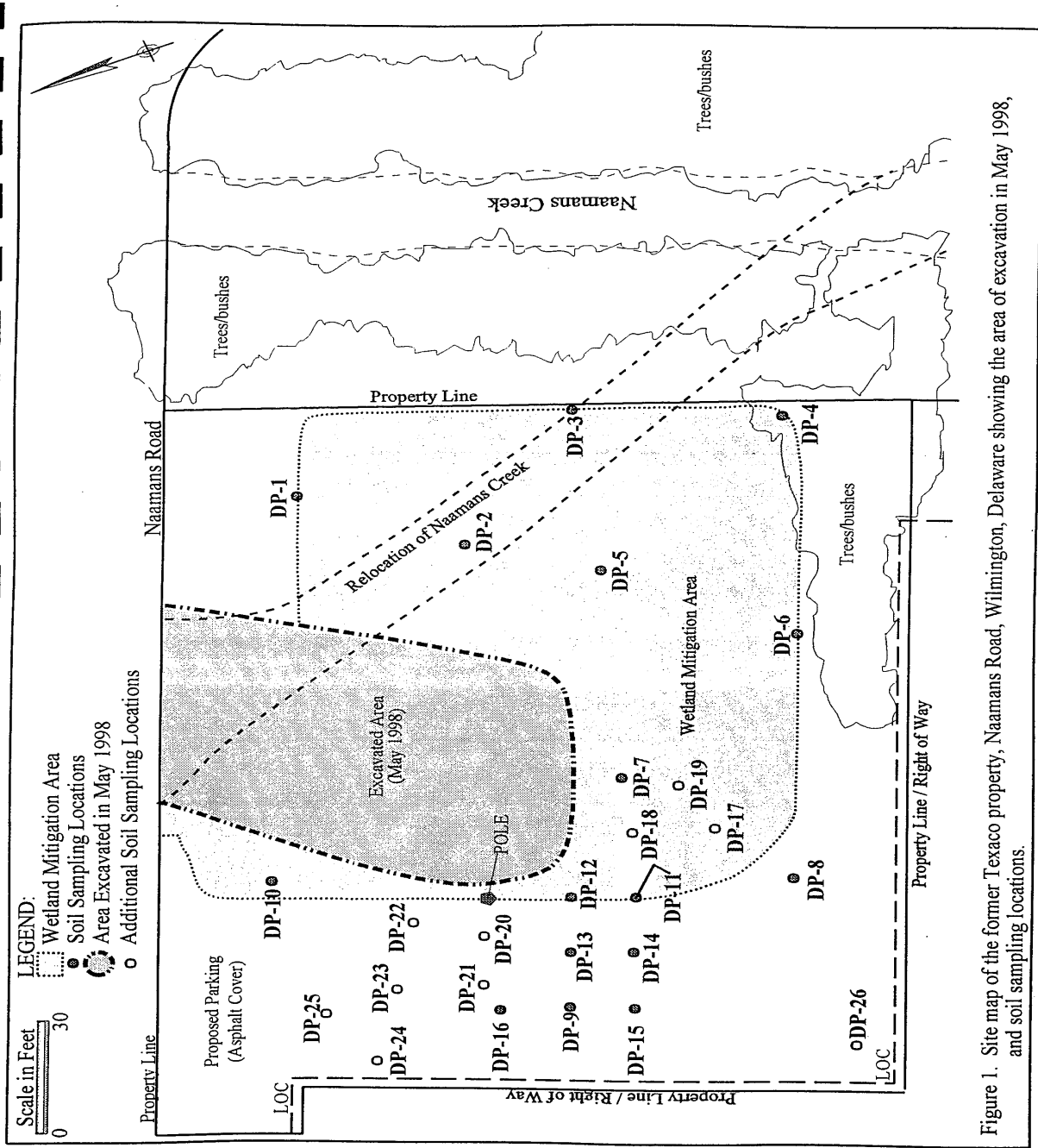


Figure 1. Site map of the former Texaco property, Naamans Road, Wilmington, Delaware showing the area of excavation in May 1998, and soil sampling locations.



Figure 1: Site Map

Prepared by EA Engineering, Science, and Technology, Inc.
September 1998.