



**Five-Year Review Report
Haviland Complex Site
Town of Hyde Park
Dutchess County, New York**

**Prepared by
U.S. Environmental Protection Agency**

September 2002

Five-Year Review Summary Form

SITE IDENTIFICATION

Site name (from WasteLAN): Haviland Complex

EPA ID (from WasteLAN): NYD980785661

Region: 2

State: NY

City/County: Hyde Park/Dutchess

SITE STATUS

NPL status: Final Deleted Other (specify) _____

Remediation status (choose all that apply): Under Construction Constructed Operating

Multiple OUs?* YES NO

Construction completion date: 08/1/1997

Has site been put into reuse? YES NO N/A (site involves groundwater plume and not real property)

REVIEW STATUS

Lead agency: EPA State Tribe Other Federal Agency _____

Author name: Kevin Willis

Author title: Remedial Project Manager

Author affiliation: EPA

Review period:** 08/1/1997 to 06/15/2002

Date(s) of site inspection: No inspection necessary

Type of review:

- Post-SARA Pre-SARA NPL-Removal only
 Non-NPL Remedial Action Site NPL State/Tribe-lead
 Policy Regional Discretion

Review number: 1 (first) 2 (second) 3 (third) Other (specify) _____

Triggering action:

- Actual RA Onsite Construction at OU # _____ Actual RA Start at OU# _____
 Construction Completion Previous Five-Year Review Report
 Other (specify) _____

Triggering action date (from WasteLAN): 08/01/1997

Does the report include recommendation(s) and follow-up action(s)? yes no

Is human exposure under control? yes no

Is contaminated groundwater under control? yes no

Is the remedy protective of the environment? yes no

* ["OU" refers to operable unit.]

** [Review period should correspond to the actual start and end dates of the Five-Year Review in WasteLAN.]

I. Introduction

This five-year review was conducted by Kevin Willis, U.S. Environmental Protection Agency (EPA) Remedial Project Manager (RPM). This review was conducted pursuant to Section 121(c) of the Comprehensive Environmental Response, Liability and Compensation Act (CERCLA), as amended, 42 U.S.C. Section 9601, et seq., and 40 C.F.R. 300.430(f)(4)(ii) and in accordance with the Comprehensive Five-Year Review Guidance, OSWER Directive 9355.7-03B-P (June 2001). The purpose of a five-year review is to ensure that implemented remedies are protective of public health and the environment and that they function as designed. This document will become part of the site file.

This is the first five-year review for the Haviland Complex site. The groundwater contamination which was a result of a release addressed by EPA under CERCLA is under control. All homes in the affected area have been connected to a public water supply. All appropriate fund-financed response actions under CERCLA have been implemented and no further response action is appropriate. In accordance with Close Out Procedures for National Priorities List (NPL) sites (OSWER 9320-2-09AP) it is recommended that EPA continue to review groundwater data and proceed with deletion activities for this site.

This site was addressed in two phases or operable units. Operable Unit 1 (OU1) addressed contaminated groundwater. The remedial actions to mitigate contaminated groundwater were not implemented because groundwater contaminant levels have decreased significantly. Operable Unit 2 (OU2), which addressed the source of the groundwater contamination, has been completed. This five-year review examines both operable units.

II. Site Chronology

Table 1, below, summarizes site-related events from discovery to construction completion.

| Table 1: Chronology of Site Events | |
|---|-------------|
| Event | Date |
| Volatile organic compounds detected at Haviland Complex | 1982 |
| Site placed on National Priorities List | 1986 |
| Record of Decision | 1987 |
| Remedial Design started | 1988 |
| Residential water treatment units installed | 1989 |
| Septic system cleaning | 1991 |
| Record of Decision Amendment | 1997 |
| Installation of additional monitoring wells | 1998 |
| County installs public water system | 2002 |

| Event | Date |
|---|------|
| NYSDEC connects Haviland Road residents to Public water system and removes carbon filters | 2002 |

III. Background

Physical Characteristics

The 275-acre Haviland Complex site consists of the Haviland Complex Apartments, the Hyde Park Middle School, the Smith School, the Haviland Shopping Center, and approximately 35 residences and small businesses located east of Route 9G in Hyde Park, New York (figure 1). Hyde Park has an estimated population of 21,000 people. Approximately 20% of the population are connected to a public sewer system, and most are served by County-wide public water supply system. The remaining population obtain water from residential wells. Groundwater in the study area flows southeasterly and discharges into Fall Kill Creek.

Geology/Hydrogeology

The subsurface geology of the area shows glacial deposits overlaying eroded bedrock. The bedrock surface consists of southerly dipping trenches which control the groundwater flow before being influenced by Fall Kill Creek. Bedrock is exposed immediately north of the site and dips downwardly to the south. Outwash/Till overlays the bedrock and provides the source of most potable drinking water in the Site area.

Land and Resource Use

The Site is located within the Village of Hyde Park. The Village is largely residential, with some small businesses in the community. A municipal water system serves the Village, as well as a portion of Dutchess County from Poughkeepsie northward to Hyde Park. The construction of this portion of the water line which will service the Site area has been completed. The homes affected by the Site contamination have been connected into the public water system.

History of Contamination

The Dutchess County Health Department (DCHD) began to receive complaints concerning the groundwater quality in the site area in October 1981. A sampling program and septic system survey of the Haviland Complex area was initiated by DCHD in December 1981, which indicated that the Haviland Laundromat and Dry Cleaner and the Haviland Car Wash septic systems were failing. Subsequently, the car wash installed a new septic tank and the laundromat installed a pre-treatment system and a new tile field to handle its wastewater.

Initial Response and Basis for Taking Action

In December 1982, New York State Department of Health (NYSDOH) began sampling the Haviland area groundwater. The sampling data indicated that levels of tetrachloroethylene (PCE) and dichloroethene (DCE) in the septic discharge from the laundromat exceeded NYSDEC discharge standards. As a result, in 1983, the laundromat was ordered to disconnect the dry cleaning operation from the septic system and to dispose of all spent dry cleaning fluids at a permitted disposal facility. All residents in the area were advised to use bottled water. Water treatment units were installed on the wells servicing the Haviland Apartments and the laundromat in 1984 and 1985, respectively, to remove organic contaminants. In February 1989, NYSDEC installed individual activated-carbon treatment systems on homes with well water which exceeded State or Federal Maximum Contaminant Levels (MCLs), i.e., safe drinking water standards.

The site was proposed for inclusion on the National Priorities List (NPL) in October 1984, and placed on the NPL in June 1986. NYSDEC was designated as the lead agency for the Remedial Investigation and Feasibility Study (RI/FS).

IV. Remedial Actions

Remedy Selection

Based on the results of the RI/FS, a ROD was signed on September 30, 1987, identifying the following: 1) clean the contaminated septic systems identified as the source of contamination 2) extend public water from the nearby Harbour Hills Water District to ensure a potable supply of water to the residents on private wells (EPA would enter into an agreement with the Town of Hyde Park to upgrade this system to meet New York State drinking water standards) and 3) extract and treat contaminated groundwater.

The septic tanks at the Haviland Complex and the Haviland Middle School were cleaned out by EPA in 1991. This action was described in a 1991 Remedial Action Report.

Subsequent to the ROD, there was difficulty in agreeing on the source of the alternate water supply. On several occasions, Town of Hyde Park officials requested that EPA evaluate sources of water other than the Harbour Hills Water District. Also, since the signing of the ROD, the levels of groundwater contamination as measured in the monitoring wells have decreased significantly. Residential well sampling data also indicated that levels of contaminants entering impacted residential wells had decreased. It was determined that additional sampling and modeling of the groundwater regime was warranted. Consequently, EPA and NYSDEC decided to reevaluate the need for an alternate supply of public water in the site study area and the need for a groundwater extraction and treatment system.

Subsequently, a Record of Decision Amendment was issued in September 1997 which stated that the extraction and treatment of groundwater, and the provision of a public water system did not need to be implemented to ensure the protection of human health and the environment.

In response to requests made during the public comment period before the ROD Amendment was signed, monitoring wells were installed by EPA in 1998 immediately upgradient of the affected homes to observe any changes in the aquifer before the groundwater reached the potable wells. These wells have been sampled by EPA annually since their installation.

In Spring 1998, Dutchess County Department of Health (DCDOH) had acquired the public water portion of Hyde Park Fire and Water District. It was determined that it would be appropriate to connect the Town of Poughkeepsie public water system to the HPF system. By December 1998 DCDOH decided that the Harbour Hills Water District would also benefit from connecting into the larger system. The Harbour Hills district was acquired by DCDOH and the district was expanded to include the site area. This expanded Harbour Hills area was named "Zone D" and was submitted for a local Environmental Review process in August 1999.

A Public Referendum to block the inclusion of Zone D into the greater system was enacted in December of 1999 and was defeated in April 2000. The Request for Bids (RFB) to design the water system construction was sent out immediately thereafter and the RFB for the construction was sent out in July 2001. The construction of the system began September 2001 and was completed in August 2002.

NYSDEC was informed that the DCDOH would be constructing a public water system into the site area in August 2001 and that all of the homeowners who had NYSDEC-maintained activated-carbon treatment systems had requested that they be connected into the new public water system. Consequently, NYSDEC decided that it would be cost-effective to provide the connection to the system and remove the carbon units. NYSDEC connected the Site-affected homes to the public water system on August 30, 2002.

System Operations/Operation and Maintenance

Six homes which were affected by the site contamination had carbon filters installed by NYSDEC. These filtration systems have been maintained and the potable water tested by NYSDEC twice annually. These homes were connected into the public water systems and the filtration systems removed.

V. Five-Year Review Process

Administrative Components

Interested parties including the State, Town of Hyde Park, Dutchess County Department of Health, and the affected residents were contacted by Kevin Willis of EPA.

No review team was formed and it was decided that a site inspection did not need to be conducted.

Community Involvement

The EPA Community Relations Coordinator for the Haviland Complex site published a notice in the *Poughkeepsie Journal*, a local newspaper, on August 2, 2002, notifying the community of the

initiation of the five-year review process. The notice indicated that EPA would be conducting a five-year review of the remedy for the site to ensure that the implemented remedy remains protective of public health and the environment. The public was also notified EPA may issue a Notice of Intent to Delete this site from the NPL. It was also indicated that once the five-year review is completed, the results would be made available in the local site repository. In addition, the notice included the RPM's address and telephone number for questions related to the five-year review process or the Haviland Complex site. A similar notice will be sent when the review is completed.

Document Review

The following documents, data, and information were reviewed in completing the five-year review:

- Remedial Investigation Report, EBASCO, July 1986
- Record of Decision, EPA, September 1987
- Remedial Action Report for Septic Cleanout At the Haviland Complex Site, November 1991
- Summary of Groundwater Investigations, EBASCO, July 1989
- Groundwater Modeling at the Haviland Complex Site, EPA, August 1992
- Report of Groundwater Sample Analysis Results Evaluation, EBASCO, June 1995
- Superfund Post-Decision Proposed Plan, EPA, August 1997 protectiveness of the remedy have been developed since EPA issued the ROD and the ROD Amendment.
- Record of Decision Amendment, EPA, September 1997
- EPA guidance for conducting five-year reviews and other guidance and regulations to determine if any new applicable or relevant and appropriate requirements relating to the site.

Data Review

The source removal is documented in a Remedial Action Report which indicates that the analytical results from the septic tank cleanout showed non-hazardous levels of contamination at the Haviland Complex and that the septic waste from the Haviland Middle School was hazardous. The hazardous waste was properly disposed of.

The groundwater monitoring network includes monitoring wells installed in the overburden zone of the aquifer. Since 1998, groundwater monitoring has been conducted on an annual basis.

The primary groundwater contaminants are PCE, trichloroethylene, 1,2-DCE, vinyl chloride, and chlorobenzene. Federal MCLs have been met fairly consistently for the past three years at all monitoring wells. State standards for chlorobenzene have not been met at wells MW-99-01 and MW-99-02.

Site Inspection

A site inspection was performed by Kevin Willis, of EPA, on July 18, 2002.

Interviews

Telephone interviews were conducted during May 2002. The purpose was to discuss the five-year

review and the potential deletion of this site. Among those contacted were Charles Rudick of NYSDEC, Geoff Lacetti and Stephanie Salmer of NYSDOH, Bridgette Barclay and Ed Mills of DCDOH, Mark Long for the Town of Hyde Park, and several residents along Haviland Road. No concerns were raised about the site or potential deletion.

VII. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

Yes. The CERCLA release was found to be discharges from inadequate septic systems which resulted in the contamination of the groundwater. Based on the monitoring of the groundwater and evaluation of the septic systems, these releases were addressed. All appropriate Fund-financed response actions under CERCLA have been implemented and no further response action is appropriate.

EPA recognizes that other releases from septic systems could occur in the future and that groundwater quality throughout the aquifer may not meet drinking water standards without treatment. NYSDEC, DCDOH, and the Town have programs which are intended to address septic systems and drinking water. EPA finds these programs to be adequate to protect public health. Therefore, EPA is ending its federal involvement at this site and deferring to NYSDEC and local authorities as EPA proposes to delete the site from the NPL. All sites deleted from the NPL are eligible for fund-financed remedial actions should future conditions warrant such actions.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?

There have been no changes in the physical conditions of the site that would effect the protectiveness of the remedy. All of the affected homes have been connected to a public water system and no longer utilize the local groundwater. The residential wells were decommissioned in August 2002.

The annual groundwater monitoring from the past five years found that the maximum detected concentration of PCE in untreated groundwater exceeds the current federal Maximum Contaminant Level (MCL) and State Groundwater Quality Standard; the maximum detected concentrations of chlorobenzene, dichloroethene, and trichloroethylene exceed their State Groundwater Quality Standards. This information is presented in Table 2.

Soil vapor intrusion was evaluated based on the conservative (health protective) assumption that residences are located above the maximum detected concentrations and utilized the health-based criteria developed by the Vapor Intrusion Workgroup. The Workgroup provides calculations of concentrations in air associated with modeling the groundwater concentrations. Using the maximum concentration found at the site for all four chemicals, the estimated cancer risks and noncancer hazards are found to be in or below EPA's acceptable range. Based on this information, further investigation of soil vapor intrusion does not appear to be necessary.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No.

VIII. Recommendations and Follow-up Actions

It is recommended that EPA continue to review groundwater data and initiate deletion activities for this site.

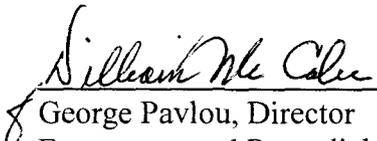
X. Protectiveness Statement

The groundwater contamination which was a result of a CERCLA release at the Haviland Complex site is under control. All homes in the affected area have been connected to a public water supply. The site is protective of human health and is expected to remain so. EPA defers to State and local authorities to ensure that septic systems, sewer systems, and drinking water supplies remain protective of human health. This site meets all the site completion requirements as contained in OSWER Directive 9320.209AP - Close Out Procedures for National Priorities List Sites.

XI. Next Review

The next five-year review for the Haviland Complex Site should be completed before August 2007. This review will evaluate whether levels of chlorobenzene, the only remaining contaminant measured at elevated concentrations in the aquifer, have declined to meet the State drinking water standards of 5 parts per billion.

Approved:

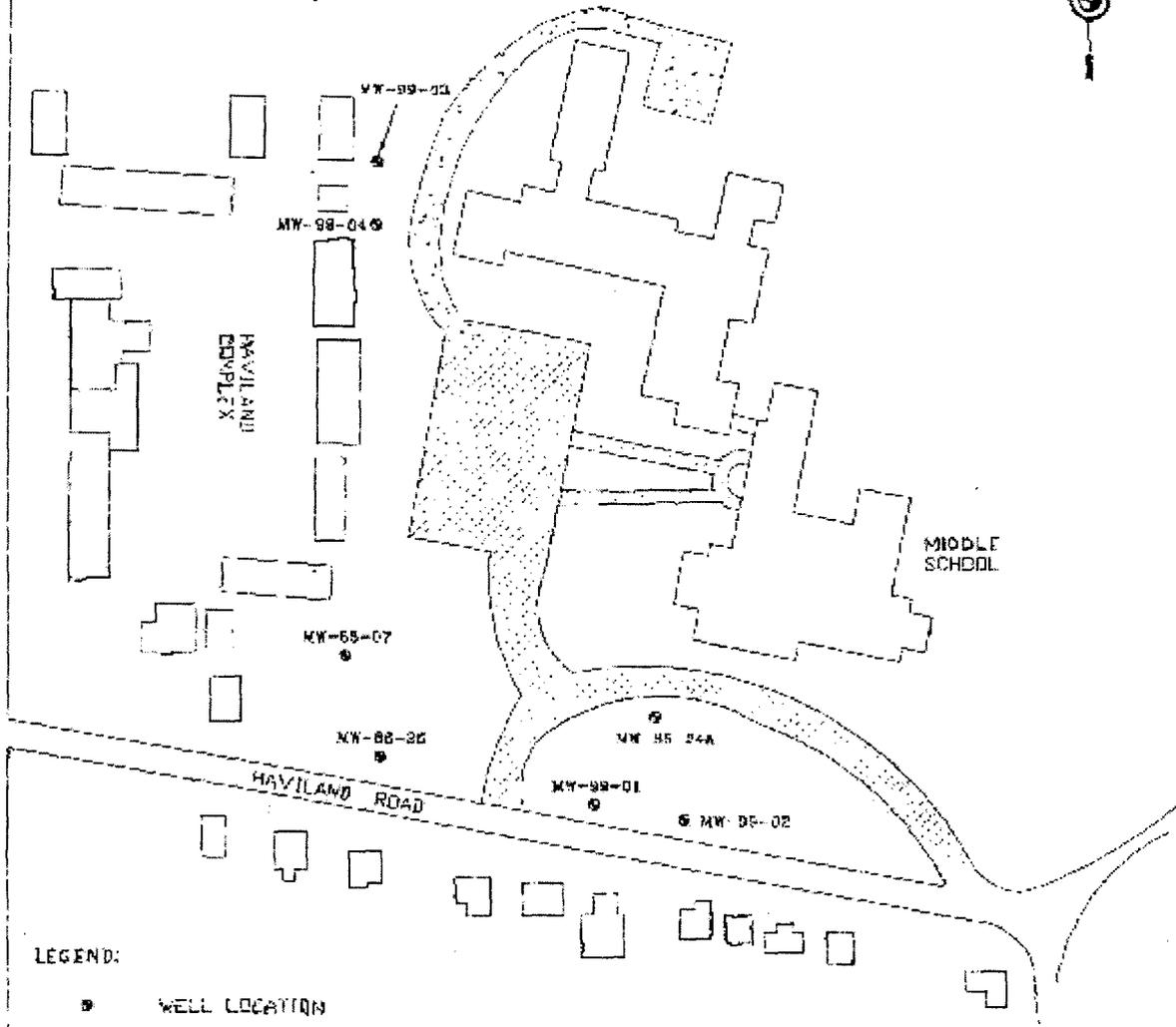


George Pavlou, Director
Emergency and Remedial Response Division

9-30-02
Date



ROUTE 96



- LEGEND:
- WELL LOCATION
 - [Stippled Area] GRAVEL ROAD
 - [Cross-hatched Area] ASPHALT

- DRAWING NOT TO SCALE -

| | |
|--|----------------|
| FIGURE 1 - GROUNDWATER SAMPLE LOCATIONS HAVILAND COMPLEX HYDE PARK, NEW YORK MARCH 9 & 10, 1999 | |
| US EPA REMOVAL ACTION BRANCH SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM CONTRACT# 48-MC-0014 | |
| DRAWN BY : | C. HAMPTON JR. |
| EPA TASK MONITOR: | M. PANE |
| START PROJECT MANAGER: | T. O'NEIL |

WESTON Roy F. Weston, Inc.
 FEDERAL PROGRAMS DIVISION

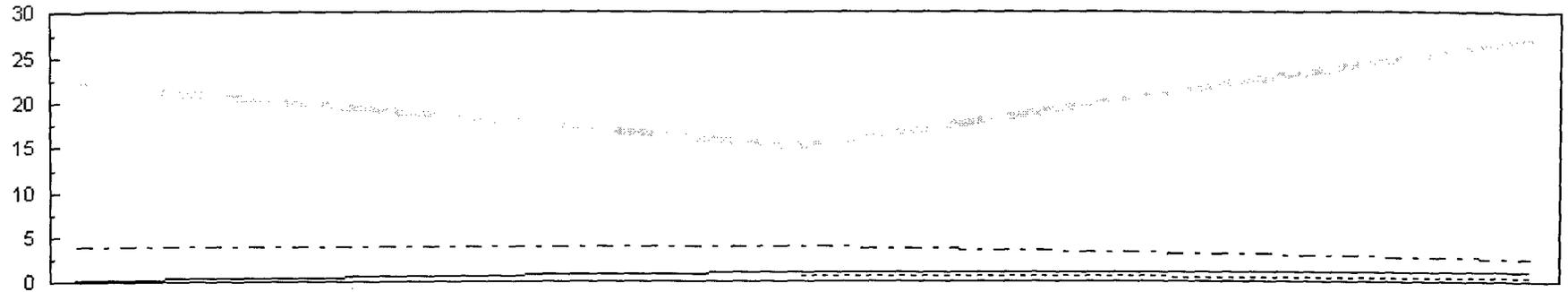
IN ASSOCIATION WITH PRC ENVIRONMENTAL MANAGEMENT, INC.,
 C.C. JOHNSON & MALHOTRA, P.C., RESOURCE APPLICATIONS, INC.,
 R.E. SARRERA ASSOCIATES, AND ORB ENVIRONMENTAL SERVICES, INC.

Table 2: Comparison of Concentrations in Groundwater Sampled During the Period 01/98 - Present to Federal and State MCLs

| Contaminant of Concern | Maximum Detected Concentration (ug/l) | Federal MCL (ug/l) | State Groundwater Quality Standard (ug/l) | Well Location (Sampling Date) |
|------------------------|---------------------------------------|--------------------|---|-------------------------------|
| Chlorobenzene | 27 | 100 | 5 | MW-99-01 (05/01) |
| Dichloroethene | 11 | 70/100* | 5 | 24 Haviland Road (07/98) |
| Tetrachloroethene | 47 | 5 | 5 | 24 Haviland Road (07/98) |
| Trichloroethene | 2 | 5 | 5 | MW-86-24A (04/00) |

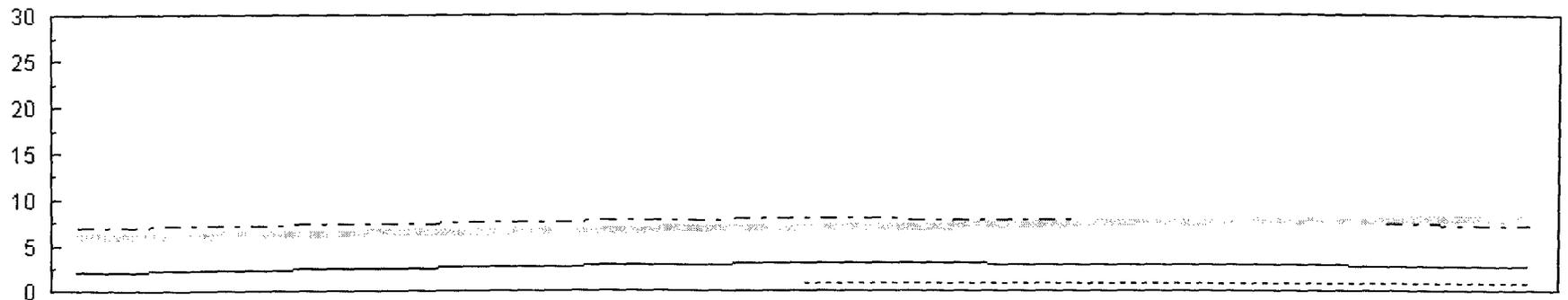
*The MCL of 70 ug/l is for cis-1,2-dichloroethene and the MCL of 100 ug/l is for trans-1,2-dichloroethene.

MW-99-01



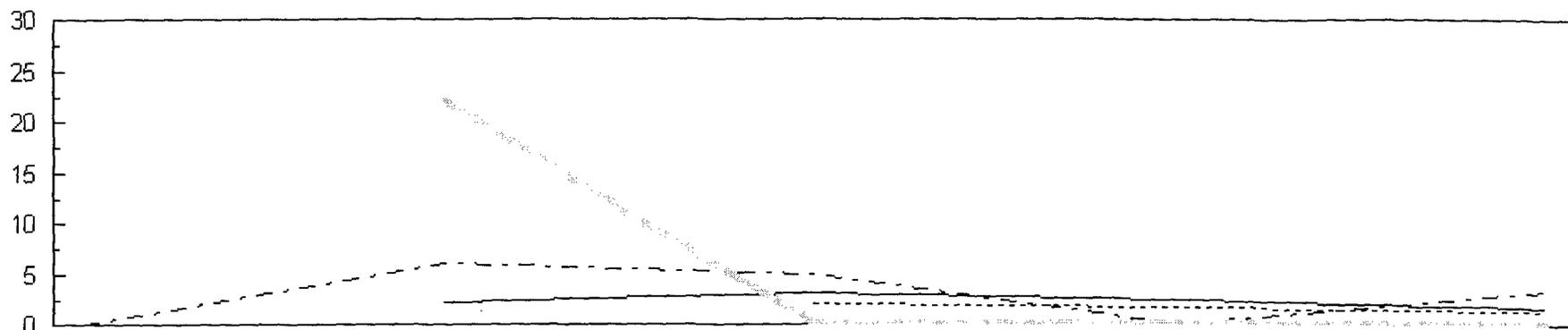
| | 3/1999 | | 4/2000 | | 5/2001 |
|-------|--------|--|--------|--|--------|
| - DCE | 0.0 | | 1.0 | | 1.0 |
| - TCE | | | 0.7 | | 0.6 |
| - PCE | 4.0 | | 4.0 | | 2.6 |
| CBZ | 22.0 | | 15.0 | | 27.0 |

MW-99-02



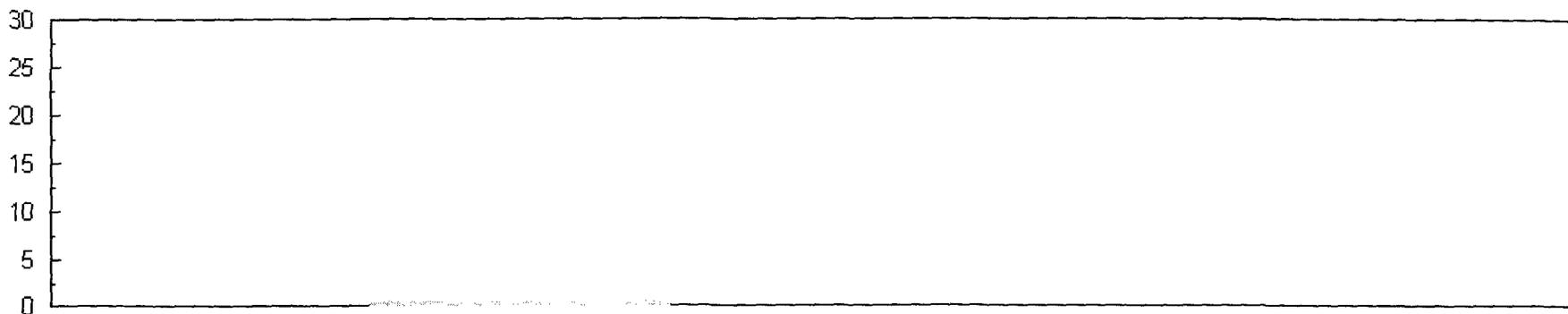
| | 3/1999 | | 4/2000 | | 5/2001 |
|-------|--------|--|--------|--|--------|
| - DCE | 2.0 | | 3.0 | | 2.6 |
| - TCE | | | 1.0 | | 0.9 |
| - PCE | 7.0 | | 8.0 | | 7.1 |
| CBZ | 6.0 | | 7.0 | | 7.9 |

MW-86-24A



| | | 3/1999 | 4/2000 | | 5/2001 |
|-------|-----|--------|--------|-----|--------|
| - DCE | | 2.0 | 3.0 | | 1.5 |
| - TCE | | | 2.0 | | 1.3 |
| - PCE | 0.0 | 6.0 | 5.0 | 0.0 | 3.4 |
| - CBZ | | 22.0 | 0.0 | | 0.0 |

MW-99-04



| | | 3/1999 | 4/2000 | | | |
|-------|-----|--------|--------|-----|-----|-----|
| - DCE | | 0.0 | 0.0 | | | |
| - TCE | | | 0.0 | | | |
| - PCE | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| - CBZ | | 0.0 | 0.0 | | | |

List of Acronyms

| | |
|--------|---|
| DCDOH | Dutchess County Department of Health |
| DCE | 1,2-Dichloroethene |
| EPA | (United States) Environmental Protection Agency |
| ESD | Explanation of Significant Differences |
| FS | Feasibility Study |
| MCL | Maximum Contaminant Level |
| NYSDEC | New York State Department of Environmental Conservation |
| PCE | Tetrachloroethene |
| OU | Operable Unit |
| RAO | Remedial Action Objective |
| RI | Remedial Investigation |
| ROD | Record of Decision |
| TCE | Trichloroethene |
| VOCs | Volatile organic compounds |